



COMMISSION MEETING MINUTES
November 22, 2022

No. Topic

[Call to Order](#)

[Roll Call of HRSD Commission](#)

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Ingalls Incorporated, Newport News Shipbuilding \(HII-NNS\)
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Initial Appropriation, Reduction in Scope and Appropriation, Rejection of Bid, Contract
Award \(>\\$200,000\), and Task Order \(>\\$200,000\)](#)
9. [Surry Hydraulic Improvements and Interceptor Force Main
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10. [Boat Harbor Pump Station Land Acquisition
Acquisition of Real Property for a Public Purpose
1201 Terminal Avenue, Newport News
Agreement Amendment](#)
11. [Lafayette Norview-Estabrook Pump Station Replacements – City Park Pump Station
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12. [Lafayette Norview-Estabrook Pump Station Replacements – Luxembourg
Acquisition of Real Property
City of Norfolk, GPIN: 1438561584](#)



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- | <u>No.</u> | <u>Topic</u> |
|------------|--|
| 13. | <u>Unfinished Business</u> |
| 14. | <u>New Business</u> |
| 15. | <u>Commissioner Comments</u> |
| 16. | <u>Public Comments</u> |
| 17. | <u>Informational Items</u> |
| 18. | <u>Closed Meeting</u> |
| 19. | <u>Reconvened Meeting</u> |



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The Chair called the meeting to order, and Ms. Cascio read the roll call of HRSD Commissioners.

Name	Title	Present for Item Nos.
Rodriguez, Stephen C.	Commission Chair	1-20
Elofson, Frederick N.	Commission Vice-Chair	1-20
Glenn, Michael E.	Commissioner	1-20
Lakdawala, Vishnu K.	Commissioner	1-20
Levenston, Jr., Willie	Commissioner	1-20
Stern, Nancy J.	Commissioner	1-20
Taraski, Elizabeth	Commissioner	1-20
Templeman, Ann	Commissioner	Absent

In accordance with Virginia Code § 2.2-3708.3 (B) and the HRSD Remote Participation Commission Adopted Policy Commissioners Lakdawala and Rodriguez requested approval to participate in today’s meeting from Cary, North Carolina; and Auburn, Alabama, respectively, due to the Commissioners are unable to attend the meeting in person due to out of town travel.

Moved: Michael Glenn
Seconded: Willie Levenston
Roll call vote:

Ayes: 7 **Nays:** 0

1. **Awards And Recognition**

Action: No action required.

Brief: HRSD is pleased to announce the following:

1. **Promotions**

- a. Ms. Jamie Heisig-Mitchell was recently promoted to Director of Water Quality. Jamie was hired in February 2001 as Water Quality Investigator and was promoted to Water Quality Specialist in April 2001. In March 2002, she was promoted to Water Quality Supervising Specialist, then to an Environmental Scientist in April 2006. She was again promoted in January 2012 to Chief of the Technical Services Division. Jamie holds both a Bachelor of Science degree and a master’s degree in biology from Old Dominion University. Jamie has been key in securing regulatory approval for the SWIFT program. She represents HRSD on the Virginia Association of Metropolitan Wastewater Agencies (VAMWA) Board and the Executive Board of Virginia Forever, is a graduate of Kenan Flagler Water and Wastewater Leadership program, and



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alumna of both the Virginia Natural Resources Leadership Institute and the Hampton Roads Civic Leadership Institute.

Paula Hogg will continue to work closely with Ms. Mitchell during this transition period until she retires on March 1, 2023.

- b. Ms. Amber Di Somma was recently promoted to Condition Assessment Manager in the Engineering Department. She started her career at HRSD as a Water Technology and Research Intern in the Operations department based out of the SWIFT Pilot Plant and later the SWIFT Research Center followed by the Atlantic Thermal Hydrolysis Process project. In February 2021, she started her first fulltime position as Water Quality Technician in the Pretreatment and Pollution Prevention division on North Shore helping regulate industrial dischargers. Amber holds a bachelor's degree in Civil Engineering from Old Dominion University and a master's degree in Environmental Engineering from Old Dominion University.

2. **New Employee**

Mr. Gene Rutledge was recently hired as an Interceptor Engineer in the South Shore Interceptors Division. Gene is returning to HRSD after 10 years at the federal government. Gene earned a bachelor's degree in Civil Engineer from Old Dominion University in 1998, has over 24 years of experience and is a licensed engineer in Virginia. He will be responsible for managing in-house projects, coordinating with Engineering on CIP projects and providing engineering support to South Shore Interceptors.

3. **Awards**

The Design-Build Institute of America (DBIA)'s national project/team awards are given annually to projects that exemplify the principles of Design-Build Done Right®. There are multiple sectors within each of the following award categories: Design-Build Merit Award, Design-Build Awards of Excellence, Chairman's Award and Project of the Year.



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This year, DBIA presented both the Merit Award and Award of Excellence in the Water/Wastewater sector to Crowder Construction and HRSD for the Providence Road Offline Storage Facility and Woodstock Park Improvements. The project video is available at the following link:

<https://www.youtube.com/watch?v=9TO22nmwNXQ&t=3s>



Public Comment: None



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2. **Consent Agenda**

Action: Approve the items listed in the Consent Agenda.

Moved: Willie Levenston

Seconded: Elizabeth Taraski

Roll call vote:

Ayes: 7

Nays: 0

Brief:

a. Approval of minutes from previous meeting.

B Contract Awards

1. [Cybersecurity Practice and Procedure Initiative](#) \$336,350

2. [Electronic Bill Distribution and other Related Financial Services, Maintenance and Support](#) \$355,000

3. [Recruitment Advertising Services](#) \$239,850

c. Contract Change Orders

1. [James River Treatment Plant MIFAS Conversion Emergency](#) \$220,980

2. [Larchmont Area Sanitary Sewer Improvements](#) Change Order \$162,643
Task Order \$2,529,296

d. Task Orders

1. [Birchwood Trunk 24-Inch and 30-Inch Force Main at Independence Boulevard Replacement Phase II](#) \$216,748

2. [SWIFT Program Management \(Boat Harbor Treatment Plant Projects\)](#) \$215,600

e. Sole Source

1. [APG-Neuros Turbo Blower Repairs and Parts](#)

2. [Boat Harbor Treatment Plant Pump Station Conversion HeadCell Grit Removal Equipment and Parts](#)

3. [Evoqua Water Technologies Primary Tank Conveyor Parts](#)



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- 4. [ProMinent® PolyRex Polymer System Parts](#)

- f. HRSD Use of Existing Competitively Awarded Contract Vehicle and Contract Award
 - 1. [Interceptor Systems Pump Station Control and SCADA Upgrades and Enhancements](#) \$257,666

 - 2. [OSIsoft Historian Software](#) \$206,872

Item(s) Removed for Discussion: None

Public Comment: None



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3. **Fiscal Year 2022 Annual Comprehensive Financial Report (ACFR)**

Action: No action is required. Receive the Finance Committee’s report on the Annual Comprehensive Financial Report for the fiscal year ended June 30, 2022.

Brief: Political subdivisions of the Commonwealth of Virginia are required to publish a complete set of audited financial statements. HRSD is also required by its Trust Agreement to prepare and distribute its financial statements within 150 days following the close of the fiscal year.

The Finance Department is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States. The financial statements were audited by Cherry Bekaert LLP who issued an unmodified (“clean”) opinion on them.

Commissioners Elofson (committee chair) and Levenston were appointed as the Commission’s Finance Committee in 2022 for Fiscal Year 2023. The Finance Committee, along with Commissioners Rodriguez, Lakdawala and Taraski (virtual) met with staff on November 10, 2022 to review the draft [Annual Comprehensive Financial Report](#) for fiscal year ended June 30, 2022. Staff provided a brief overview the [financial statements](#).

HRSD is pleased to announce the Government Finance Officers Association of the United States and Canada awarded a Certificate to HRSD for its Annual Comprehensive Financial Report for the fiscal year ended June 30, 2021. This was the 39th consecutive year that HRSD received this prestigious award and reflects the commitment and dedication of the Accounting Division in the Department of Finance.

Discussion Summary: Committee Chair Elofson recapped the November 10, 2022, Finance Committee meeting:

- The following Commissioners were in attendance in person: Committee members Frederick Elofson and Willie Levenston, who were joined by Commissioners Rodriguez and Lakdawala. Commissioner Taraski attended via Zoom.
- The independent audit firm, Cherry Bekaert, presented the preliminary results of the annual audit. Ms. Laura Hardin, Audit Director and Ray Millendez, Audit Manager reported on the audit process. No reportable deficiencies were identified, and an unmodified (clean) audit opinion has been provided.
- Staff presented the draft ACFR Report and highlighted the key items.
- Staff also presented a brief overview of the changes to the Financial Policy that are included in this month’s agenda. The Financial Policy is a “living” document and is reviewed and updated as necessary bi-annually. Staff reported that the Financial Policy continues to serve HRSD well and the changes are really administrative in nature



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The Committee Chair thanked staff for another great year. He also was pleased to report receipt of the Government Finance Officers Association (GFOA) Certificate of Achievement for Excellence in Financial Reporting for the 39th year in a row. He further stated FY-2022 financial results were strong, despite challenging times and significant inflationary pressures. HRSD also received and distributed nearly \$10.7 million in ratepayer relief American Rescue Plan Act (ARPA) funding.

During the discussion on HRSD spending (presentation [page 8](#)), a Commissioner asked how HRSD's spending compares to other agencies. Staff will research and provide the information to the Commission at a later date.

Public Comment: None



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4. **Financial Policy Revisions**
Commission Adopted Policy

Action: Approve the revised Financial Policy.

Moved: Willie Levenston

Seconded: Michael Glenn

Roll call vote:

Ayes: 7

Nays: 0

Brief: HRSD's Financial Policy is a comprehensive policy designed to help guide its financial operations. The policy was originally drafted in 2009 and most recently revised in 2020. The policy requires the Director of Finance, Bond Counsel and HRSD's Financial Advisor to review the policy every two years.

The Financial Policy is the primary document that places parameters and defines financial management practices that are acceptable to HRSD. The Policy covers reserves; budgetary principles, practices, and controls; key financial metrics; internal controls; risk management practices; debt affordability; and debt, derivative, and investment management practices. The Policy also covers fiduciary responsibility and investment parameters associated with the Retiree Health Plan Trust.

The recommended changes to the policy are mostly administrative in nature. Some changes specifically to note include:

1. Clarifying the definition of Arbitrage to include tax "advantaged" bonds not just tax-exempt bonds to encompass HRSD's Series 2009 Build America Bonds outstanding;
2. Clarifying and simplifying the definition of Operating Expenses;
3. Incorporating the Secured Overnight Financing Rate (SOFR) as the default replacement of the discontinued London InterBank Offered Rate (LIBOR);
4. Incorporating the definition of the WIFA Master Agreement; and
5. Adding cryptocurrencies as a prohibited investment in the Retiree Health Plan Trust.

The attached [Financial Policy](#) was reviewed by staff, HRSD's bond counsel and financial adviser.

Public Comment: None



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5. **Regional Wet Weather Capacity
Commission Adopted Policy**

Action: Adopt the policy.

Moved: Michael Glenn

Seconded: Elizabeth Taraski

Roll call vote:

Ayes: 7

Nays: 0

Brief: HRSD is responsible for regional wet weather capacity consistent with the 5th Amendment to the Consent Decree (CD) as agreed to in the Locality Memorandum of Agreement (MOA). Staff drafted the attached [Regional Wet Weather Capacity Policy](#) which references critical obligations that HRSD and the Localities have agreed to in the CD, MOA, and State Order by Consent (CO). The MOA and CD work in conjunction with the CO to form a coordinated regional approach to providing and maintaining regional wet weather capacity.

The policy draws from these documents to define a consistent and defensible approach for evaluating and resolving future wet weather capacity issues regardless of asset ownership. It also defines the criteria and procedures that will be used to evaluate wet weather capacity deficiencies in the regional system and the process for resolving these deficiencies. The proposed policy has been reviewed with all Localities party to the MOA as well as DEQ staff and HRSD legal counsel; all of whom are in favor of the policy.

The draft policy was presented at the October 25, 2022 meeting for review. Staff is not aware of any changes.

Public Comment: None



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6. **46th Street Diversion Sewer Rehabilitation/Replacement, Huntington Ingalls Incorporated, Newport News Shipbuilding (HII-NNS) Additional Appropriation**

Action: Appropriate additional funding in the amount of \$1,123,234.

Moved: Nancy Stern

Seconded: Michael Glenn

Roll call vote:

Ayes: 7

Nays: 0

CIP Project: BH014610

Regulatory Requirement: Rehab Action Plan Phase 2 (2025 Completion)

Budget	\$2,900,000
Previous Expenditures and Encumbrances	(\$0)
Available Balance	\$2,900,000
HII-NNS Proposed Contract Award to Contractor	(\$3,297,530)
Estimated Subtotal for CA/CI Services	(\$395,704)
Proposed Contingency	(\$330,000)
Project Shortage/Requested Additional Funding	(\$1,123,234)
Revised Total Project Authorized Funding	\$4,023,234

Type of Procurement: Competitive Bid by Others

In accordance with HII-NNS’s bidding procedures, HII-NNS solicited bids directly from potential bidders and received the following two bids on October 14, 2022:

Bidder	Bid Amount
Prism Contractors & Engineers, Inc.	\$3,297,529
Bridgeman Civil, Inc.	\$5,650,000

HRSD/Engineer Estimate: \$2,165,530

The design engineer, Ramboll, evaluated the bids based upon the requirements in the invitation for bid and recommends that HII-NNS award to the lowest responsive and responsible bidder, Prism Contractors & Engineers, Inc., in the amount of \$3,297,529.

Project Description: This project will involve the rehabilitation and/or replacement of the main sanitary sewer trunk line on Newport News Shipbuilding (NNS) property. This project has been split from CIP BH014600 which will include the installation of a new main sanitary sewer trunk line in the City right of way outside of NNS property to divert public flow from the sewer trunk line on HII-NNS property. The attached [map](#) depicts the project location.



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Project Justification: This project will address long standing conditional, access, encroachment and jurisdictional issues related to the James River Diversion Sewer. Splitting this portion of the work from CIP BH014600 will allow HII-NNS to bid out the project using their process and contractors and will allow BH014600 to be bid out and start construction sooner. Upon completion, this portion of the work will be owned and operated by HII-NNS.

Funding Description: A Cost Sharing Agreement approved by the Commission on April 26, 2022, was used to administer and fund this project. Terms of the Cost Sharing Agreement require that HRSD pay 100% of the costs associated with rehabilitation work and 50% of the costs associated with relocated or replaced facilities. This project consists of almost exclusively rehabilitated facilities. The request for initial appropriation, and approval of the Cost Sharing Agreement, submitted in April 2022, was based on an ACE Class 1 cost estimate provided at the 100% design stage and included an estimated 12% of the construction subtotal for Construction Administration/Construction Inspection (CA/CI) services and a 15% construction contingency. The estimate did not foresee the current market conditions as they relate to inflation, labor shortages and long lead times for materials. This request for additional appropriation includes a 10% contingency to accommodate any unforeseen conditions associated with working on HII-NNS property and maintains the estimated 12% of the construction subtotal for CA/CI services. Additional appropriation is being requested for construction contract award and approximated construction phase services. The amount for this work exceeds the balance available for this CIP project by \$1,123,234.

Analysis of Cost: Ramboll's construction cost estimate was approximately 34% lower than the low bid. The majority of the cost differential was attributed to two bid items: New Manhole Installation, accounting for 71% of the difference, and Replace/Raise Manhole Frame/Cover, accounting for 17% of the difference. The location of this project and a history of unforeseen conditions during excavation, coupled with an unstable market are driving contractors to include escalation factors in the bid to account for any future cost impacts are understood to be primary factors in the cost differential between the Engineer's estimate and the low bid.

<u>Schedule:</u>	Construction	January 2023
	Project Completion	August 2023

Public Comment: None



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7. **Nansemond Treatment Plant Interceptors Storage Yard
Initial Appropriation**

Action: Appropriate total project funding in the amount of \$2,211,000.

Moved: Willie Levenston

Seconded: Elizabeth Taraski

Roll call vote:

Ayes: 7

Nays: 0

CIP Project: NP014900

Regulatory Requirement: None

Project Description: This project will construct a new pipe storage yard located at the Nansemond Treatment Plant to service both North Shore and South Shore Interceptors. This project will also provide funding for the procurement of large diameter pipe and fittings to be warehoused at the storage yard. The attached [map](#) depicts the project location.

Project Justification: North Shore Interceptors will need to relocate pipes, fittings, valves and pumps from their existing location at 2401 G Avenue to a new location once the HRSD property is sold or leased. A temporary pipe storage area at the James River Treatment Plant also needs to be relocated due to upcoming SWIFT upgrades. South Shore Interceptors is also limited on space for large diameter pipe, fittings and valves and will use the proposed pipe yard for storage of their larger assets. This combined facility at the Nansemond Treatment Plant will increase inventory efficiency, consolidate inventory on-hand and be jointly maintained by Interceptor Operations. The proposed pipe and fittings to be purchased as part of this CIP will ensure a sufficient inventory of 10-inch to 54-inch materials to support an emergency repair on any pipes within the HRSD system.

Funding Description and Analysis of Cost: This project was initiated in August 2021 with Operational funding and the design services performed utilizing the Interceptor Systems Projects annual services agreement with Rummel, Klepper and Kahl (RK&K). Due to the increasing complexity and cost of the storage yard, this project was converted into a CIP project in FY-2023. As a result, the CIP funding will only cover the construction phase of this project.

The estimated total construction cost is \$2,211,000. It is based on a Class 2 construction cost estimate of \$1,121,000 for the storage yard, estimated engineering construction services of \$115,000, \$775,000 for pipe and fitting procurement and a 10 percent contingency allowance of \$200,000. Engineering services will be provided by RK&K and includes construction administration and construction inspection services only. The construction cost is higher than the originally proposed CIP project budget due to recent increases in market prices. Pipe costs, for example, have increased 25% in the past year alone.



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<u>Schedule:</u>	Bid	December 2022
	Construction	March 2023
	Project Completion	December 2023

Public Comment: None



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8. **Sanitary Sewer Replacement 1950 – Part 2
Initial Appropriation, Reduction in Scope and Appropriation, Rejection of Bid,
Contract Award (>\$200,000), and Task Order (>\$200,000)**

Actions:

- a. **Appropriate total project funding in the amount of \$20,833,818.**
- b. **Reduce scope and appropriation of the existing project VP014020 to \$1,029,497 and transfer the remaining appropriation of \$6,149,503 from VP014020 to VP014022.**
- c. **Approve rejection of the bid submitted by Tidewater Utility Construction, Inc. and find the bidder non-responsive.**
- d. **Award a contract to Bridgeman Civil, Inc. in the amount of \$17,274,540.**
- e. **Approve a task order with Gannett Fleming, Inc. in the amount of \$1,831,824.**

Moved: Michael Glenn
Seconded: Willie Levenston
Roll call vote:

Ayes: 7 **Nays:** 0

CIP Project: VP014022 and VP014020

Regulatory Requirement: Rehab Action Plan Phase 2 (2025 Completion)

Contract Status with Task Orders:	Amount
Original Contract with Engineer	\$143,869
Total Value of Previous Task Orders	\$1,208,371
Requested Task Order	\$1,831,824
Total Value of All Task Orders	\$3,040,195
Revised Contract Value	\$3,184,064
Engineering Services as % of Construction	10.6%

Type of Procurement: Competitive Bid

In accordance with HRSD’s competitive sealed bidding procedures, the Engineering Department advertised and solicited bids directly from potential bidders. The project was advertised on September 13, 2022, and two bids were received on October 13, 2022 as follows:



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Bidder	Bid Amount
Bridgeman Civil, Inc.	\$17,274,540
Tidewater Utility Construction, Inc.	\$19,235,350

Engineer Estimate: \$13,912,200

The bid from Tidewater Utility Construction was determined to be non-responsive because it did not include a bid bond as required in the Instructions to Bidders. The design engineer, Gannett Fleming, Inc., evaluated the bids and recommends award to the lowest responsive and responsible bidder, Bridgeman Civil, Inc. in the amount of \$17,274,540.

Project Description: This project will replace 850 feet of cast iron discharge force main, 2,900 feet of 18-inch gravity line, and 2,700 feet of 24-inch gravity line. The CIP project was originally presented and approved by the Commission in May 2017 as the Sanitary Sewer Project 1950 12-Inch Force Main and 24 and 18-Inch Gravity Replacement (VP014020). Due to scheduling concerns with the adjacent school, it was decided to separate the work into two construction contracts. Part 1 (VP014021) was approved in February 2022. Part 2 (VP014022) is the remainder of the work.

HRSD is partnering with the City of Chesapeake Public Utilities (City) to install 16 laterals and cleanouts on Byrd Avenue. The existing City sewer service is in an alley behind Byrd Avenue and the City has plans to relocate the sewers from the backyard alley to Byrd Avenue. HRSD will be installing a new 30-inch gravity sewer main along Byrd Avenue, and HRSD will install the new City laterals and cleanouts at the edge of the right-of-way. The City has provided a letter of commitment to enter into a Cost Sharing Agreement to reimburse HRSD \$106,400 for the cost of installing the laterals and clean-outs.

The attached [map](#) depicts the project location.

Project Justification: This project will evaluate and implement the replacement of HRSD force main and gravity sewer between Ferebee Avenue Pump Station and Park Avenue Pump Station.

Funding Description: The total cost for this project is estimated at \$20,833,818 based on actual bids received and includes a 10% contingency.

Task Order Description: This task order will provide contact administration and field engineering and inspection services during construction. A meeting was held to discuss the project and scope of services. A fee of \$1,831,824 was negotiated to provide the required oversight for the project. The cost of the task order is based upon an estimation of hours and rates to complete the work and is in agreement with other similar efforts from firms.



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Analysis of Cost: The low bid submitted by Bridgeman Civil is 20% higher than the Engineer's Estimate. Due to the volume of work in the region, fewer bids and higher prices have resulted. The limited pool of skilled trades and available subcontractors is resulting in higher prices as evidenced in this procurement.

<u>Schedule:</u>	Construction	December 2022
	Project Completion	March 2025

Public Comment: None



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9. **Surry Hydraulic Improvements and Interceptor Force Main
Additional Appropriation, Cost Sharing Agreement and Contract Change Order**

Actions:

- a. **Approve the terms and conditions of the Cost Sharing Agreement with Dominion Energy Virginia for the construction of a pump station, gravity sewer and force main, reimbursement of construction costs 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.**
- b. **Appropriate additional funding in the amount of \$10,703,277.**
- c. **Approve a change order to the contract with MEB in the amount of \$8,233,277.**

Moved: Michael Glenn

Seconded: Willie Levenston

Roll call vote: **Ayes:** 7 **Nays:** 0

CIP Project: SU010200

Regulatory Requirement: None

Budget	\$44,513,606
Previous Expenditures and Encumbrances	(\$43,069,278)
Available Balance	<u>\$1,444,328</u>
Proposed Change Order No. 6 to MEB	(\$8,233,277)
Existing Project Contingency	(\$1,444,328)
Contingency Budget (30% of Change Order #6)	(\$2,470,000)
Project Shortage/Requested Additional Funding	(\$10,703,277)
Revised Total Project Authorized Funding	<u>\$55,216,883</u>

Contract Status with Change Orders:	Amount	Cumulative % of Contract
Original Contract for Contractor Name	\$8,978,000	
Total Value of Previous Change Orders	\$31,535,488	285%
Requested Change Order	\$8,233,277	
Total Value of All Change Orders	\$39,768,765	226%
Revised Contract Value	\$48,746,765	

Time (Additional Calendar Days)	900
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Project Description: This project will include the design and construction of four new pump stations; replacement of three existing pump stations and upgrades of two existing pump stations in addition to electrical, instrumentation and controls, a generator at each new pump station, an equalization tank, approximately 169,200 linear feet of force main ranging from 4-inch to 10-inch in diameter; and the closure of both of the Surry County and Town of Surry Wastewater Treatment Plants (WWTPs). Flow will be conveyed to the existing HRSD infrastructure in the Town of Smithfield and ultimately to the Nansemond Treatment Plant. This change order will design and construct approximately seven miles of a 6-inch diameter force main and one pump station extending from the Surry Nuclear Power Plant to HRSD's Mount Ray Pump Station. The force main and pump station will allow Dominion Energy Virginia to close their existing WWTP at the Surry Nuclear Power Plant. The attached [map](#) shown in Exhibit 2 of the Agreement depicts the project location.

Agreement Description: The attached [Cost Sharing agreement](#) between HRSD and Dominion Energy Virginia was negotiated and details the reimbursement structure for this project. The agreement has been reviewed by HRSD and Dominion Energy Virginia legal counsels.

Project Justification and Change Order Description: The project will be funded through a cost sharing agreement with Dominion Energy Virginia. The Preliminary Engineering Report (PER) was completed by the engineering firm RK&K under the CIP project SU010400 Surry Force Main and Pump Station – Dominion Power Extension. Dominion Energy Virginia has reimbursed HRSD for the PER work. Based on the PER and discussions with Dominion Energy Virginia, the decision was made to move forward with the design and construction of the proposed force main and pump station by way of change order to the existing design/build contract for SU010200 Surry Hydraulic Improvements and Interceptor Force Main.

Dominion Energy Virginia will reimburse HRSD for the design and construction of the pipeline and pump station. Dominion Energy Virginia will turn over their James River nutrient credits allocated for their existing treatment plant to HRSD at the completion of the project. Dominion Energy Virginia will grant HRSD an easement for the pump station and the associated connection to be constructed on their property. HRSD will obtain easements from all affected property owners along the pipeline at Dominion Energy Virginia's expense.

Analysis of Cost: The cost for this Change Order is based on negotiated cost and is in agreement with other similar efforts from firms. The proposed 30% contingency budget of \$2,470,000 will be jointly managed by HRSD and Dominion Energy Virginia to address any unforeseen conditions.



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This work is in accordance with Service Area Expansion Commission Adopted Policy.

Schedule: Design/Build January 2023
 Project Completion August 2025

Public Comment: None



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10. **Boat Harbor Pump Station Land Acquisition
Acquisition of Real Property for a Public Purpose
1201 Terminal Avenue, Newport News
Agreement Amendment**

Action: Approve Amendment Number 3 to the Purchase, Sale, and Cost Sharing Option Agreement dated December 30, 2021, 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.

Moved: Willie Levenston

Seconded: Elizabeth Taraski

Roll call vote: **Ayes:** 7 **Nays:** 0

CIP Project: GN016345

Regulatory Requirement: Integrated Plan – SWIFT

Project Description: HRSD will close the Boat Harbor Treatment Plant in Newport News to further reduce nutrients discharged to the James River Basin, which will support local water quality and Chesapeake Bay restoration. Property near the Boat Harbor Treatment Plant has been identified upon which a new pump station and equalization storage will be constructed.

At the November 23, 2021, Commission meeting the General Manager was authorized to enter into a [Purchase, Sale, and Cost Sharing Option Agreement with River Port LLC \(DBA S23\)](#) for the purchase of a 4.7-acre portion of 1201 Terminal Avenue, Newport News. This Agreement was executed on December 30, 2021. At the January 25, 2022, Commission meeting [Amendment Number 1](#) to this Agreement was approved. [Amendment Number 2](#), dated May 5, 2022, extended the dates required for Stormwater Plan and Subdivision Plat submittals. Amendment 3 does not change the cost associated with executing the Agreement, but it does change the potential financial obligation of HRSD.

[Amendment Number 3](#) defines the following:

- Additional temporary easements for HRSD’s construction activities related to the force main installation and for construction support and material laydown north of the proposed pump station site
- Site work and gravel installation by HRSD in the laydown area north of the proposed pump station site
- Agreements regarding temporary and permanent access easements that have been refined in the past few months as design of the pump station evolved and was coordinated with the property owner's site design



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- Modifications to the cost-sharing terms for the design and construction of the Stormwater System. The revisions state that River Port LLC will pay for the costs up to \$1,008,018 and HRSD will pay for all costs above the stated value. The design of the Stormwater system has been reviewed by engineering consultants for HRSD and has been submitted to the City of Newport News.

The Amendment has been reviewed by HRSD staff and legal counsel. The deed of bargain and sale is forthcoming and will also be reviewed by HRSD staff and legal counsel before execution. A [Facility Orientation Map](#) is provided for clarification purposes.

Public Comment: None



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11. **Lafayette Norview-Estabrook Pump Station Replacements – City Park Pump Station Acquisition of Real Property
3500 Granby Street, Norfolk**

Action: Approve the acquisition of a portion of property currently owned by the City of Norfolk, located at 3500 Granby Street and identified as GPIN: 1438-26-7944; and approve the future vacation and conveyance of the existing property HRSD operates the City Park Pump Station on and identified as Parcel 1347, to occur after the construction of the new pump station, in accordance with the terms and conditions of the Transfer Agreement with City of Norfolk, and authorize the General Manager to execute same and related acquisition documents in accordance with those terms and conditions substantially as presented, together with such changes, modifications and deletions as the General Manager may deem necessary.

Moved: Michael Glenn
Seconded: Nancy Stern
Roll call vote:

Ayes: 7 **Nays:** 0

CIP Project: VP015400

Project Description: This project will rehabilitate and/or replace four pump stations (**City Park Pump Station # 106**, Chesapeake Boulevard Pump Station #105, Luxembourg Avenue Pump Station #113, and Ashland Circle Pump Station # 102), and associated force mains, in the Lafayette-Norview-Estabrook areas of the City of Norfolk

The current City Park (PS) #106 is operated by HRSD as a part of the South Shore Interceptor System. The station sits on the bank of the Lafayette River and the backside of the Virginia Zoological Park, in the City of Norfolk, and has been in service for 75 years (constructed in 1947). This station was identified in the Final Condition Assessment Report (FCAR) as needing to be rehabilitated or replaced by May 2025 as a part of HRSD’s Rehabilitation Action Plan (RAP) Phase 2.

The acquisition of the new parcel across the street from the existing City Park PS site, will allow for a new and larger capacity pump station to be constructed nearby, minimizing costs and disruptions to the public. During construction of the new site, the existing pump station will remain in service allowing for continued service to the public. Once construction is complete, the existing smaller station will be taken out of service, demolished, the property will be restored and returned to the City of Norfolk.

Agreement Description: The draft [Transfer of Property Agreement](#), which requires final approval by City Council and signing by the City Manager, is attached. Upon both entities’ approval, the final Deeds will be reviewed by HRSD staff and HRSD real estate legal counsel before execution. A [map](#) is provided for clarification purposes.



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Analysis of Cost: These properties will be exchanged one for the other, with the site HRSD currently operates being restored and enhanced to improve the local aesthetics. There is no monetary value being exchanged for these two sites.

Public Comment: None



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12. **Lafayette Norview-Estabrook Pump Station Replacements – Luxembourg
Acquisition of Real Property
City of Norfolk, GPIN: 1438561584**

Action: Approve the purchase of property identified as GPIN: 1438561584 and associated acquisition costs of \$18,000 in accordance with the terms and conditions of the Purchase Agreement with City of Norfolk (Seller), and authorize the General Manager to execute same and related acquisition documents in accordance with those terms and conditions substantially as presented, together with such changes, modifications and deletions as the General Manager may deem necessary.

Moved: Nancy Stern

Seconded: Michael Glenn

Roll call vote: **Ayes:** 7 **Nays:** 0

CIP Project: VP015400

Regulatory Requirement: Rehab Action Plan Phase 2 (2025 Completion)

Budget	\$18,495,895
Previous Expenditures and Encumbrances	(\$2,757,403)
Available Balance	\$15,738,492

Project Description: This project will rehabilitate and/or replace four pump stations (City Park Pump Station #106, Chesapeake Boulevard Pump Station #105, **Luxembourg Avenue Pump Station #113**, and Ashland Circle Pump Station #102) and associated force mains in the Lafayette Norview-Estabrook areas of the City of Norfolk.

Luxembourg (PS) #113 is owned and operated by HRSD as a part of the South Shore Interceptor System. The station is adjacent to the Lafayette River within the Lafayette-Winona neighborhood in the City of Norfolk and has been in service for 73 years (constructed in 1949). This station was identified in the Final Condition Assessment Report (FCAR) as needing to be rehabilitated or replaced by May 2025 as a part of HRSD’s Rehabilitation Action Plan (RAP) Phase 2.

The acquisition of the additional land that surrounds the existing Luxembourg Pump Station will allow for a new and larger capacity pump station to be constructed on the same site, minimizing costs and disruptions to the public. During construction, bypass sewer services will be implemented to ensure continued service while the existing pump station is taken out of service, demolished and the new pump station is brought online.

Agreement Description: The draft [Purchase and Sale Agreement](#), which requires final approval by City Council and signing by the City Manager, is attached. Upon both entities’



COMMISSION MEETING MINUTES
November 22, 2022

approval, the final Deed will be reviewed by HRSD staff and HRSD real estate legal counsel before execution. A [Map](#) is provided for clarification purposes.

Analysis of Cost: The appraised value of \$18,000 reflects the values of properties with similar attributes when negotiations began in 2020 for this site.

Public Comment: None



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13. **Unfinished Business - None**

14. **New Business – None**

15. **Commissioner Comments – None**

16. **Public Comments Not Related to Agenda – None**

17. **Informational Items**

Action: No action required.

Brief: The items listed below were presented for information.

- a. [Management Reports](#)
- b. [Strategic Planning Metrics Summary](#)

Public Comment: None

18. **Closed Meeting**

Action: Approve a motion to go into closed meeting to consider the following items as provided for in Code of Virginia §2.2-3711A:

- Item a. : Disposition of publicly held real property located in the City of Chesapeake
- Purpose : Briefing and consultation
- Specific Exemptions : §2.2-3711.A3

- Item b. : Legal matters concerning actual litigation
- Purpose : Briefing and consultation
- Specific Exemptions : §2.2-3711.A7

Moved: Willie Levenston

Seconded: Michael Glenn

Roll call vote: **Ayes:** 5 **Nays:** 0

Commissioners Lakdawala and Rodriguez we unable to vote due to connection issues.



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Exemption Descriptions:

A3. Discussion or consideration of the disposition of publicly held real property, where discussion in an open meeting would adversely affect the bargaining position or negotiating strategy of the public body.

A7. Consultation with legal counsel and briefings by staff members pertaining to probable or actual litigation, where such consultation or briefing in open meeting would adversely affect the negotiating or litigating posture of the public body. For the purposes of this subdivision, "probable litigation" means litigation that has been specifically threatened or on which the public body or its legal counsel has a reasonable basis to believe will be commenced by or against a known party. Nothing in this subdivision shall be construed to permit the closure of a meeting merely because an attorney representing the public body is in attendance or is consulted on a matter.

19. **Reconvened Meeting**

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

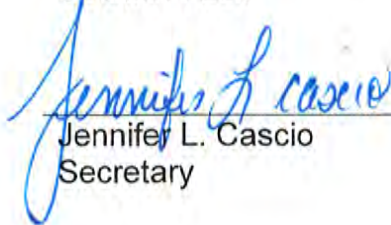
Roll call vote: **Ayes:** 7 **Nays:** 0

Action: No action required.

Next Commission Meeting Date: December 20, 2022 at the HRSD South Shore Operations Complex, 1434 Air Rail Avenue, Virginia Beach, VA 23455

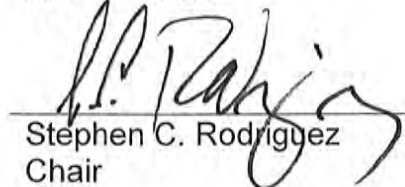
Meeting Adjourned: 11:01 a.m.

SUBMITTED:



Jennifer L. Cascio
Secretary

APPROVED:



Stephen C. Rodriguez
Chair

HRSD Commission Meeting Minutes
November 22, 2022
Attachment #1

2. Consent Agenda

CONSENT AGENDA ITEM 2.b.1. – November 22, 2022

Subject: Cybersecurity Practice and Procedure Initiative
Contract Award (>\$200,000)

Recommended Actions: Award a contract to Dispel, LLC in the amount of \$67,270 for one year with four annual renewal options and an estimated cumulative value in the amount of \$336,350.

CIP Project: AD012500

Regulatory Requirement: None

Budget	\$15,500,000
Previous Expenditures and Encumbrances	(\$4,918,681)
Available Balance	<u>\$10,581,319</u>

Type of Procurement: Sole Source

HRSD Estimate: \$67,270

Project Description: This project will provide for the development of a sustainable comprehensive framework for secure computing and data management utilizing a variety of hardware, software, and professional contractual services.

Project Justification: IT staff has coordinated an IT security and vulnerability assessment. This project will address the assessment's recommendations for minimizing risk exposure.

Contract Description and Analysis of Cost: This contract is an agreement for services to provide all-in-one secure remote access system that is required to access, manage, and control industrial control systems by HRSD operations employees and verified third parties. Dispel will provide installation, training and ongoing support virtually for the system. The cost for this system is based on a 10 percent discount for a 5-year agreement and is in line with similar services.

This work is in accordance with Commission Adopted Procurement Policy.

CONSENT AGENDA ITEM 2.b.2. – November 22, 2022

Subject: Electronic Bill Distribution and other Related Financial Services, Maintenance and Support
Contract Award (>\$200,000)

Recommended Action: Award a contract to Fiserv Solutions LLC DBA Fiserv, Inc. in the estimated amount of \$71,000 for year one with four annual renewal options and an estimated cumulative value in the amount of \$355,000.

Regulatory Requirement: None

Type of Procurement: Sole Source

All services were previously approved as a sole source with Fiserv, Inc. in July of 2017.

HRSD Estimate: \$71,000

Contract Description and Analysis of Cost: This contract is an agreement for services that include electronic distribution of bills to customers who prefer to manage bills with their financial institutions; online bill pay services. Fiserv currently provides electronic bill distribution for 33,000 HRSD customers. Electronic data-fed billing and payment process reduces print and mail costs, improves payment accuracy while reducing exceptions and improves customer satisfaction by offering convenience. The cost for this service is considered fair and reasonable based on previous contract pricing.

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

CONSENT AGENDA ITEM 2.b.3. – November 22, 2022

Subject: Recruitment Advertising Services
Contract Award (>\$200,000)

Recommended Action: Award a contract to Tribune Publishing Company, LLC DBA Virginia Media Group in the estimated amount of \$91,250 for year one with four annual renewal options and an estimated cumulative value in the amount of \$239,850.

Regulatory Requirement: None

Type of Procurement: Sole Source

All services were previously approved as a sole source with Virginian-Pilot Media Companies, LLC in October of 2015.

HRSD Estimate: \$91,250

Contract Description and Analysis of Cost: This contract is an agreement for recruitment advertising services to include newspaper ads, online postings on Career Connection, local career fairs, and other services. The Virginian-Pilot is the only local newspaper of general circulation in Hampton Roads. Costs are considered fair and reasonable based on previous annual spend. The cumulative contract value is estimated at a lower value for years two through five due to additional Talent Management staff and use of other recruitment advertisement services. The actual costs will be based on services provided and should be significantly less than estimated.

Other recruitment sources include:

- American Society for Civil Engineers (ASCE)
- American Water Works Association (AWWA)
- Career Connection
- CareerBuilder
- College and Career Academy at Pruden
- Dice
- Diversity Inc.
- Facebook, Instagram, HRSD.com
- Glassdoor.com
- Green Employer
- Hampton Roads Society for Human Resource Management (HRSHRM)
- Hampton Roads Workforce Council
- Indeed.com
- Indian Creek Correctional Center
- Jobs2Careers.com
- LinkedIn
- Military One Source
- National Future Farmers of America (FFA)
- National Society for Black Engineers (NSBE)
- New Horizons Regional Education Center
- Newport News Sheriff's Office Re-entry Program
- Nexxt.com

- Universities and Colleges:
 - Christopher Newport University
 - Hampton University
 - Norfolk State University
 - Old Dominion University
 - Peninsula Community College
 - Tidewater Community College
 - Virginia Commonwealth University
 - Virginia Tech
 - Virginia Wesleyan University
- Public School Systems: Chesapeake, Suffolk, Virginia Beach
- Skills USA
- Society for Human Resource Management (SHRM)
- Society of Hispanic Professional Engineers (SHPE)
- Society of Women Engineers (SWE)
- Virginia Department for Aging and Rehabilitative Services (DARS)
- Virginia Employment Commission
- Virginia Values Veterans (V3)
- Virginia Water Environment Association (VWEA)
- Water Environment Federation (WEF)
- WVEC Channel 13
- ZipRecruiter.com

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

CONSENT AGENDA ITEM 2.c.1. – November 22, 2022

Subject: James River Treatment Plant MIFAS Conversion Emergency
Contract Change Order (>25% or \$50,000)

Recommended Action: Approve a change order with Colonial Welding LLC. in the amount of \$220,980.

CIP Project: JR013401

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

Budget	\$5,000,000
Previous Expenditures and Encumbrances	(\$4,166,124)
Available Balance	\$833,876

Contract Status:	Amount	Cumulative % of Contract
Original Contract with Colonial Welding LLC.	\$665,000	
Total Value of Previous Change Orders	\$166,240	25%
Requested Change Order No. <u>4</u>	\$220,980	
Total Value of All Change Orders	\$387,220	58.23%
Revised Contract Value	\$1,052,220	

Time (Additional Calendar Days)	0
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Project Description: This project will modify the James River Treatment Plant (JRTP) integrated fixed-film activated sludge (IFAS) basins 1, 2, 3, 4, 6, 7, and 9 (seven tanks) by adding a second anoxic zone to achieve partial denitrification-annamox (PdNA). The installation in each tank should be identical to the moving-media integrated fixed-film activated sludge (MIFAS) demonstration tank (tank 5).

As part of the James River Treatment Plant Advanced Nutrient Reduction Improvements (ANRI) (JR013400) project, it was decided to upgrade the JRTP aeration tanks from an A2O configuration to a 5-stage with PdNA MIFAS in a newly created second anoxic zone. PdNA MIFAS provides considerable operational cost savings, but more importantly, this is needed to meet nitrogen limits in the future for the James River SWIFT Facility (GN016360) and to meet new total nitrogen discharge requirements. The only time available for PdNA MIFAS construction to occur is immediately before the JR013400 construction project begins to avoid significant conflicts with the larger design-build project performing construction in the same space to upgrade the secondary clarifiers.

This project was declared an emergency on February 11, 2022.

Project Justification: PdNA MIFAS (moving media integrated fixed-film activated sludge) provides considerable operational cost savings, but more importantly, this is needed to meet nitrogen limits in the future for James River SWIFT and to meet new total nitrogen discharge requirements.

Change Order Description: This change order includes the fabrication and installation of 18” high aluminum screen containment guards at the top of each MIFAS zone to retain media under peak wet weather conditions in case a hydraulic restriction occurs downstream which forces flow up out of the tanks.

Analysis of Cost: The cost of this change order is based on a negotiated price between HRSD and Colonial Welding LLC and is in agreement with other similar efforts from other suppliers.

This work is in accordance with Commission Adopted Procurement Policy.

<u>Schedule:</u>	Design	February 2022
	Construction	March 2022
	Project Completion	December 2022

CONSENT AGENDA ITEM 2.c.2. – November 22, 2022

Subject: Larchmont Area Sanitary Sewer Improvements
Contract Change Order (>25%) and Task Order (>\$200,000)

Recommended Actions:

- a. Approve a change order with Ulliman Schutte Construction, LLC in the amount of \$162,643.
- b. Approve a task order with Gannett Fleming, Inc. in the amount of \$2,529,296.

CIP Project: VP015320**Regulatory Requirement:** Rehab Action Plan Phase 2 (2025 Completion)

Budget	\$38,734,000
Previous Expenditures and Encumbrances	\$7,105,729
Available Balance	\$31,628,271

Contract Status:	Amount	Cumulative % of Contract
Original CM Contract with Ulliman Schutte	\$397,500	
Total Value of Previous Change Orders	\$10,529	2.6%
Requested Change Order No. 3	\$162,643	
Total Value of All Change Orders	\$173,172	43.6%
Revised Contract Value	\$570,672	

Contract Status:	Amount
Original Contract with Gannett Fleming	\$361,938
Total Value of Previous Task Orders	\$4,660,234
Requested Task Order	\$2,529,296
Total Value of All Task Orders	\$7,189,530
Revised Contract Value	\$7,551,468
Engineering Services as % of Construction	28%

Project Description: This project involves design and construction of five new sanitary sewer pump stations, approximately 3,700 linear feet of 6-inch, 8-inch, and 10-inch force mains, and approximately 10,000 linear feet of 8-inch and 10-inch gravity mains and appurtenances. The new infrastructure will replace (a) five existing HRSD pump stations: Monroe Place PS#114, Powhatan Avenue PS#122, Richmond Crescent PS#124, Hanover Avenue PS#141, and Jamestown Crescent PS#142; (b) three City of Norfolk pump stations: Larchmont Eleanor Court PS#112, Larchmont Walnut Hill Street PS#113, and Larchmont Westwood Terrace PS#11, and (c) install new gravity trunk lines to divert the flow to the new pump station locations.

As a result of significant forecasted project construction cost escalation exceeding \$61 million (as compared to the construction cost estimate of approximately \$29 million at the PER stage), HRSD and the City of Norfolk jointly approved alternate design and construction concepts included in a Value Engineering effort that are intended to produce mutually agreeable outcomes while satisfying the material risk of failure requirements under the EPA Phase 2 Rehabilitation Action Plan for the five HRSD pump stations listed above.

The attached [Map](#) depicts the project location.

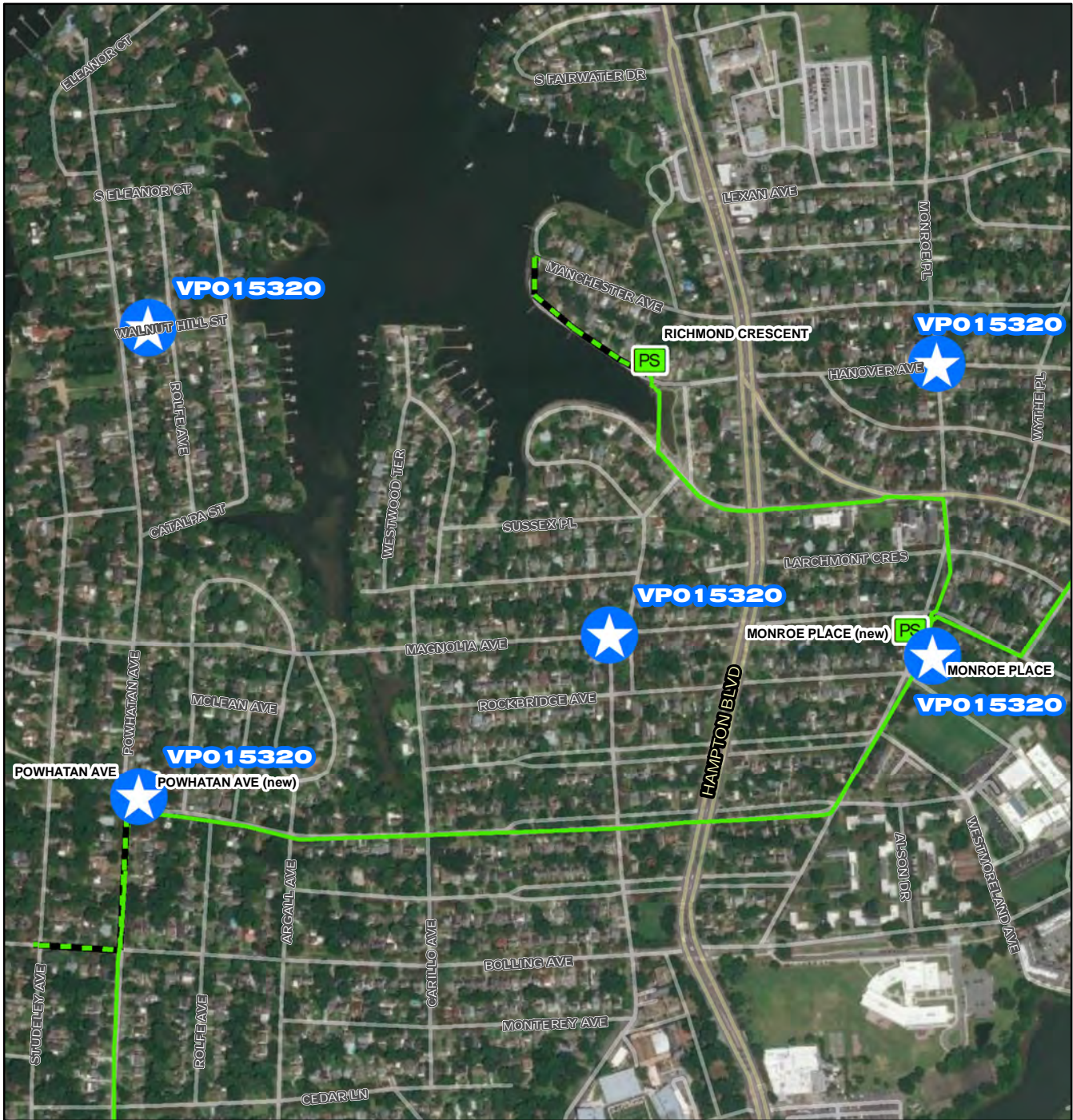
Project Justification: This project was initially identified by HRSD as part of a condition assessment program to address aging infrastructure concerns related to structural, electrical, and pump performance operation. It was also identified to mitigate the risks from tidal flooding during wet weather conditions and from sea level rise due to climate change. HRSD and City jointly funded a comprehensive sanitary sewer master plan for the Larchmont sanitary sewer service area that encompassed pump station facilities and gravity collection systems associated with these pumping facilities. Hazen was commissioned to perform the comprehensive study on behalf of HRSD and City. HRSD and City are entering into a cost sharing agreement with the intent to plan, design, and construct the recommended improvements. Elements of the Project identified under the VIP-R10 in HRSD's EPA Rehabilitation Action Plan Phase 2 will need to reach Substantial Completion by May 5, 2025.

Change Order Description: This change order will provide additional preconstruction phase services based on accepted recommendations from the Value Engineering effort and described as follows: Walnut Hill St PS #113 replacement, Powhatan Ave PS #122 rehabilitation, Richmond Crescent PS #124 rehabilitation, Hanover Ave PS #165 replacement, Jamestown Crescent PS #142 rehabilitation, Monroe Place PS #166 replacement, and associated gravity mains and force mains.

Task Order Description: This task order will provide revised design efforts based on accepted recommendations from the Value Engineering effort.

Analysis of Cost: A total redesign fee of \$3,731,907 was negotiated with Gannett Fleming. Remaining unused design phase fee for Gannett Fleming from the original design agreement is \$1,202,611. Therefore, additional design fee funding less this remaining balance is \$2,529,296. Design development based on the original scope of work for this project had progressed to ninety percent completion for all pump stations and sixty percent completion for all service area improvements before the project was paused for a Value Engineering effort. The redesign fee (\$3,731,907) to the revised construction cost (\$26.7 million) ratio is similar to the original design amendment for Gannett Fleming as compared to the construction cost estimate at the start of the initial design efforts.

<u>Schedule:</u>	PER	July 2020
	Design	June 2021
	Bid	October 2023
	Construction	November 2023
	Project Completion	July 2026

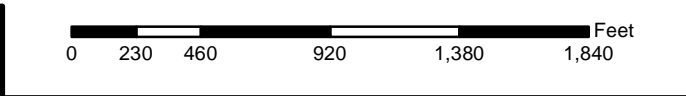


VP015320

- 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



VP015320

Larchmont Area Sanitary Sewer Improvements

N
W — E
S

CIP Location

CONSENT AGENDA ITEM 2.d.1. – November 22, 2022

Subject: Birchwood Trunk 24-Inch and 30-Inch Force Main at Independence Boulevard
Replacement Phase II
Task Order (>\$200,000)

Recommended Action: Approve a task order with Rummel, Klepper & Kahl, LLP (RKK) in the amount of \$216,748.

CIP Project: CE011300

Regulatory Requirement: Rehab Action Plan Phase 2 (2025 Completion)

Budget	\$1,702,700
Previous Expenditures and Encumbrances	(\$85,450)
Available Balance	\$1,617,250

Contract Status:	Amount
Original Contract with RKK	\$0
Total Value of Previous Task Orders	\$85,450
Requested Task Order	\$216,748
Total Value of All Task Orders	\$302,198
Revised Contract Value	\$302,198
Engineering Services as % of Construction	11.2%

Project Description: This project includes replacement of approximately 350 linear feet of 24-inch reinforced concrete pipe crossing Independence Boulevard just south of Cleveland Street in the City of Virginia Beach.

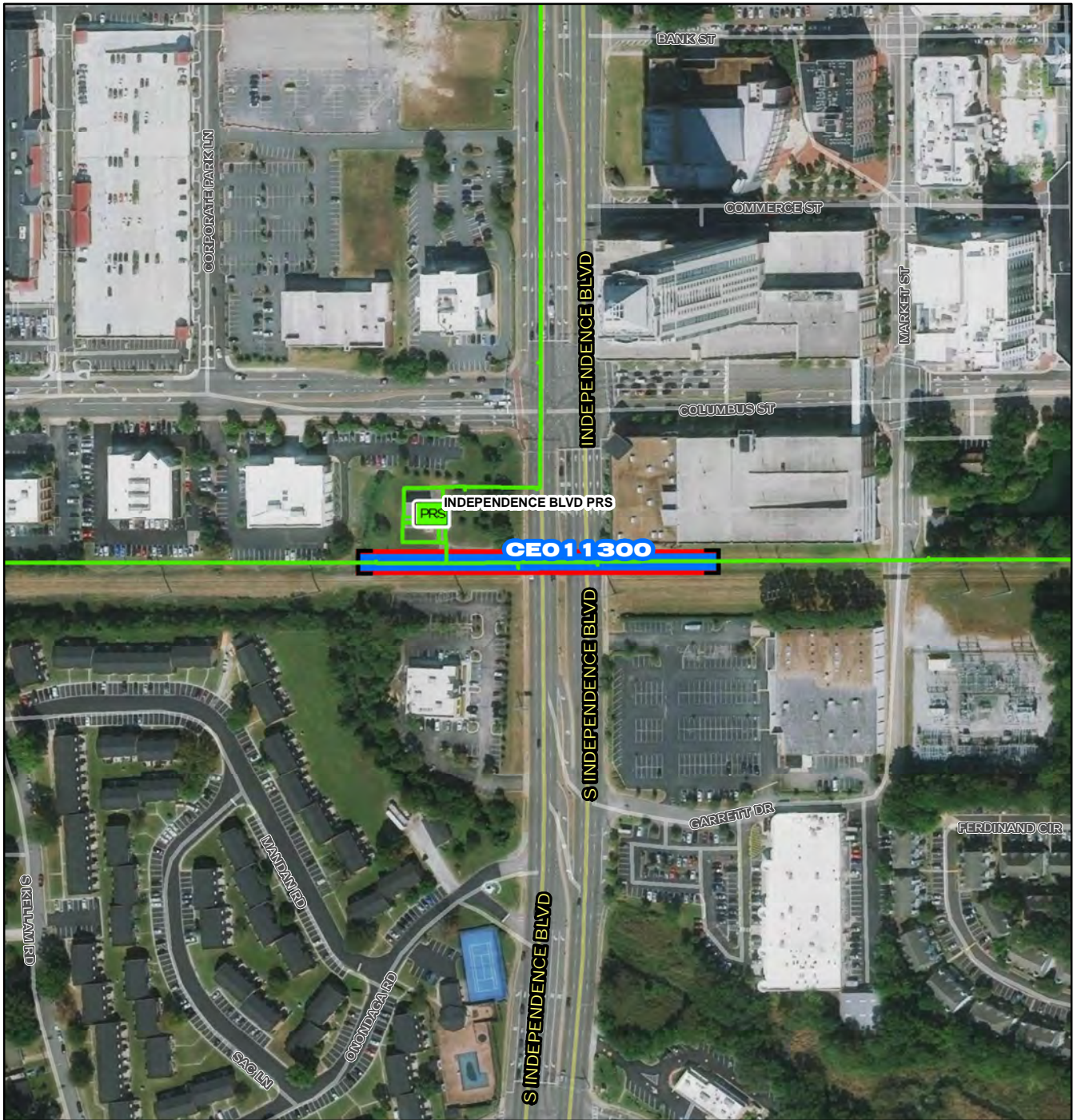
The attached [map](#) depicts the project location.

Project Justification: A leak was identified on this force main in December 2009 and repaired under an emergency designation with a recommendation to replace the entire roadway crossing. Condition assessment activities indicate that this asset, late 1960's era, presents a material risk of failure due to physical condition defects.

Task Order Description: This task order will provide final design and bid phase services in accordance with the approved recommendations from the Preliminary Engineering Report.

Analysis of Cost: The cost for this task order is based on a negotiated scope and an estimation of hours and existing rates in RKK's annual services contract for Interceptor System Projects. The design fee is 11.2% of the estimated construction cost which is reasonable when compared to other similar projects.

<u>Schedule:</u>	PER	November 2021
	Design	November 2022
	Bid	August 2023
	Construction	November 2023
	Project Completion	July 2024

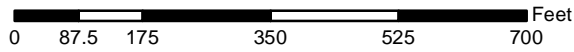


CEO 11300

- 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



CEO 11300

Birchwood Trunk 24-Inch 30-Inch Force Main at Independence Boulevard Replacement Phase II



CIP Location



Virginia Beach

CONSENT AGENDA ITEM 2.d.2. – November 22, 2022

Subject: SWIFT Program Management (Boat Harbor Treatment Plant Projects)
Task Order (>\$200,000)

Recommended Action: Approve a task order with AECOM in the amount of \$215,600.

CIP Project: GN016320

Regulatory Requirement: Integrated Plan – SWIFT

Budget	\$80,000,000
Previous Expenditures and Encumbrances	(\$43,320,454)
Available Balance	\$36,679,546

Contract Status:	Amount
Original Contract with Name of Engineer/Contractor	\$5,264,440
Total Value of Previous Task Orders	\$37,643,570
Requested Task Order	\$215,600
Total Value of All Task Orders	\$37,859,170
Revised Contract Value	\$43,123,610

Project Description: The SWIFT Full-Scale Implementation Program (FSIP) Management team is managing the delivery of the advance water treatment facilities to take HRSD's already highly treated wastewater and produce SWIFT water. The Program Management team is also delivering 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: Virginia Department of Environmental Quality (DEQ) guidance allows for Water Quality Improvement Fund (WQIF) grant funding of conveyance projects that will be completed to avoid more expensive nutrient management projects at treatment plant. The grant application requires that preliminary engineering is conducted to provide justification of the per-unit process costs for proposed nutrient management upgrades. An existing 2011 report documents upgrades proposed as needed to upgrade Boat Harbor Treatment Plant (BHTP) to meet effluent nutrient discharge requirements. HRSD has requested that the Program Management team confirm the report approach and update the preliminary costs to reflect the current economic conditions

Task Order Description: This task order will provide professional engineering services to generate a conceptual facility cost estimate, design report update, and grant application documentation for the BHTP SWIFT FSIP conveyance projects to support HRSD's WQIF grant application related to BHTP closure.

Analysis of Cost: The professional engineering services task order is based on a negotiated scope and fee. The proposed activities and number of hours associated with each task are a reasonable estimate of the effort required. The labor rates for each staff category in the proposed fee are in accordance with the Professional Services Agreement with AECOM, as approved for FY-2023. The program management rate schedule is comparable with the typical rate schedule of HRSD's General Engineering Services providers. The proposed scope and budget fee are reasonable considering the level of effort and the potential benefit of receiving grant funding for the BHTP closure projects. Compensation for this task order will be on a time and materials basis

Schedule: Program Services Task November 2022

CONSENT AGENDA ITEM 2.e.1. – November 22, 2022

Subject: APG-Neuros Turbo Blower Repairs and Parts
Sole Source (>\$10,000)

Recommended Action: Approve the use of APG-Neuros Turbo Blower Repairs and Parts by APGN, Inc. at HRSD.

Regulatory Requirement: None

Sole Source Justification:

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

Details: Product includes the purchase of replacement parts for the existing APG-Neuros turbo blower. The high-efficiency turbo blowers reduce the amount of power used during the aeration process.

The Commission previously approved limited sole source authority for APG-Neuros Turbo Blower Repairs for all HRSD facilities. This action supersedes previous actions and expands the scope to cover parts for the blowers as needed.

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

CONSENT AGENDA ITEM 2.e.2. – November 22, 2022

Subject: Boat Harbor Treatment Plant Pump Station Conversion
HeadCell Grit Removal Equipment and Parts
Sole Source (>\$10,000)

Recommended Actions: Approve the use of HeadCell® Grit Removal Equipment and parts by Hydro International at the Boat Harbor Pump Station (BHPS).

CIP Project: BH015700

Regulatory Requirement: Integrated Plan – SWIFT
Enhanced Nutrient Reduction Certainty Program (2023-2032 Completion)

Sole Source Justification:

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

Details: Product includes the purchase of HeadCell® primary grit removal unit, and associated package equipment including start up services.

The Boat Harbor Pump Station (BHPS) will serve as the headworks facility for the portion of Nansmond Treatment Plant (NTP) influent generated in the existing Boat Harbor Service Area. The BHPS will convey screened and dewatered raw wastewater under the James River to NTP. Wastewater from the Boat Harbor service area will enter NTP downstream of the existing NTP headworks facility and no additional screening or dewatering of this water will be provided. Existing NTP and BH flows will be combined prior to primary clarification at NTP and will be treated together in the remainder of the NTP treatment processes.

The condition within the HRSD service area where a remote headworks facility (i.e. the BHPS) will provide screening and dewatering for a significant portion of a treatment plant's raw wastewater influent is unique. Highly efficient removal of sand-sized grit particles that are characteristic of HRSD's raw wastewater influents is needed to (a) protect the subaqueous transmission force main under the James River between the BHPS and NTP, and (b) to minimize additional grit loading on NTP following BHPS closure.

HRSD has previously performed computational fluid dynamics (CFD) modeling and large-scale piloting of grit removal technologies to determine the removal efficiencies of grit of various sizes and densities. That work demonstrated, both by CFD modeling and large-scale pilot performance, that a stacked tray grit removal system has superior removal efficiency under for the relevant range of sand-sized grit particles (105-297µm nominal diameter) under dry and wet weather operation. As the Hydro International HeadCell® grit removal equipment is the only known application of a stacked tray grit removal system, a sole source was approved for the Army Base Treatment Plant Improvements Phase III in July 2009.

Due to the unique condition of the BHPS providing grit removal upstream of the critical subaqueous crossing between BHPS and NTP and the need to control grit loading on NTP, the need for highly efficient removal of sand-sized grit particles warrants a sole source of Hydro International's HeadCell® grit removal equipment for installation at the BHPS.

This work is in accordance with Commission Adopted Procurement Policy.

CONSENT AGENDA ITEM 2.e.3. – November 22, 2022

Subject: Evoqua Water Technologies Primary Tank Conveyor Parts
Sole Source (>\$10,000)

Recommended Action: Approve the use of Evoqua Water Technologies LLC Primary Tank Conveyor Parts by EWT Holdings III Corp dba Evoqua Water Technologies LLC at all HRSD facilities.

Regulatory Requirement: None

Sole Source Justification:

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

Details: Product includes the purchase of Evoqua Water Technologies LLC (Evoqua) primary tank conveyor parts. VIP uses a drive shaft system due to the depth of the cross conveyor screw and a unique adapter coupling from the output of a submerged right angle gearbox. Evoqua is the only known supplier who makes this unique ball bushing shaft and housing adapter joint.

This work is in accordance with Commission Adopted Procurement Policy.

CONSENT AGENDA ITEM 2.e.4. – November 22, 2022

Subject: ProMinent® PolyRex Polymer System Parts
Sole Source (>\$10,000)

Recommended Action: Approve the use of ProMinent® PolyRex Polymer System Parts by Heyward Inc at all HRSD facilities.

Regulatory Requirement: None

Sole Source Justification:

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

Details: Product includes the purchase of ProMinent® PolyRex Polymer System parts. The ProMinent® PolyRex Polymer System feeds polymer into the sludge mixture before it enters the Centrifuge. The system ensures the polymer is mixed properly.

The polymer system was purchased via competitive solicitation accepting equals in 2021.

This work is in accordance with Commission Adopted Procurement Policy.

CONSENT AGENDA ITEM 2.f.1. – November 22, 2022

Subject: Interceptor Systems Pump Station Control and SCADA Upgrades and Enhancements
HRSD Use of Existing Competitively Awarded Contract Vehicle and Contract Award
(>\$200,000)

Recommended Actions:

- a. Approve the use of the Virginia Association of State College & University Purchasing Professionals Contract# 7365172JC for Cisco Products and Services.
- b. Award a contract to Savant Ltd. in the amount of \$257,666.

HRSD Estimate: \$257,666

CIP Project: GN012800

Regulatory Requirement: None

Budget	\$28,034,079
Previous Expenditures and Encumbrances	(\$23,862,807)
Available Balance	<u>\$4,171,272</u>

Project Description: The Interceptor System SCADA was implemented in the 1990's and has been maintained by HRSD staff since installation. This project will replace and improve components of the SCADA system to ensure that compliance with regulatory requirements is maintained and that supervisory control is provided. Components of the system that will be evaluated for replacement and/or improvements include: PLC control, differential pressure cells/other wet well level monitoring, CCTV security, panel gauge upgrades (digital display of WW levels), pressure switch abandonment, telemetry equipment, computer software and hardware.

Project Justification: HRSD owns and operates approximately 81 pump stations and pressure reducing stations. Local control and SCADA equipment is in need of assessment and replacement for operational improvements and in response to EPA's unilateral Administrative Order. The current system utilizes various control scenarios from advanced VFD with PLC control to maintain wet well levels and pressures to the reliable but dated technology of pressure switches for on/off stations. These systems need to be assessed and updated to meet future capacity optimization control regimes, including RTC (real time control) and/or predictive measures. The current design and operation of the pump station controls and SCADA system do not promote proper data acquisition, supervisory control, or emerging control technologies.

Contract Description and Analysis of Cost: This contract is for the installation and configuration of Cisco routers for use on new construction SCADA projects. The Cisco routers are used to maintain product conformity on all SCADA projects. By utilizing the cooperative contract through Virginia Association of State College & University Purchasing, HRSD is receiving 51 percent cost savings.

CONSENT AGENDA ITEM 2.f.2. – November 22, 2022

Subject: OSIssoft Historian Software
HRSD Use of Existing Competitively Awarded Contract Vehicle and Contract Award
(>\$200,000)

Recommended Actions:

- a. Approve the use of the Virginia Association of State College & University Purchasing Professionals contract# UVA1482501 for IT Products/Software/Services.
- b. Award a contract for OSIssoft Historian Software to Carahsoft Technology Corporation in the estimated amount of \$51,718 for year one with three annual renewal options and an estimated cumulative value in the amount of \$206,872.

HRSD Estimate: \$51,718

Regulatory Requirement: None

Contract Description and Analysis of Cost: This contract is for the purchase of OSIssoft Historian software licenses and annual maintenance. The software enables digital transformation of operations data. It is used to easily create custom reports and views to monitor processes and troubleshoot on the spot such as comparing downtime events and batch datasets to identify patterns and replicate best practices. It serves as the data historian for HRSD's Telog data and delivers analysis-ready operations data to analytics tools and algorithms to derive useful insights on operations data. By utilizing the cooperative contract through Virginia Association of State College & University Purchasing Professionals (VASCUPP), HRSD is receiving 25 percent cost savings.

HRSD Commission Meeting Minutes
November 22, 2022
Attachment #2

3. Annual Comprehensive Financial Report



Fiscal Year – 2022
Annual Comprehensive Financial
Report
Commission Meeting
November 22, 2022



- Awarded 39 Consecutive Years
- Disclosures and requirements becoming more complex and burdensome
- Dedication of service from the entire Department of Finance, especially the Accounting Division

- Unmodified (clean) opinion
- No disagreements with management and no significant difficulties in performing audit
- One uncorrected, immaterial audit misstatement related to spare parts inventory on statements of net position

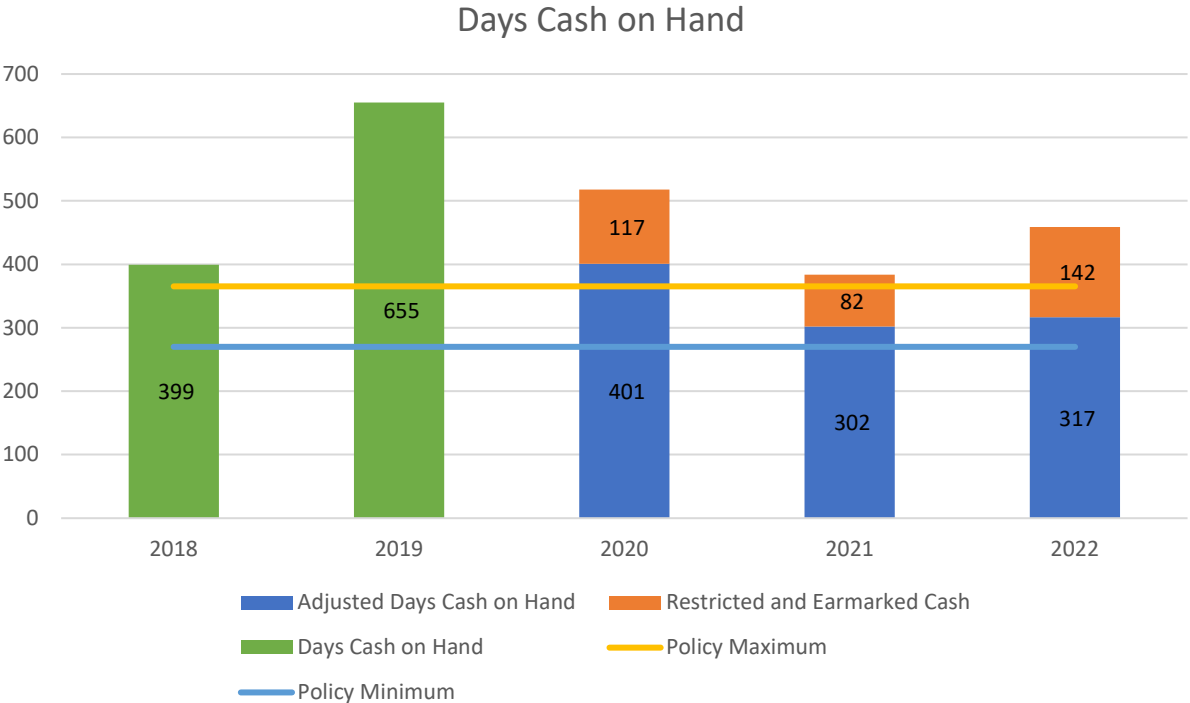
- Liquidity indicates financial flexibility to pay near-term obligations and margin of safety
- Adjusted Days Cash on Hand (ADCOH)
 - Excludes reserves and PAYGO for CIP
- How many days can you operate with available cash if no revenue is coming in?

$$\text{ADCOH} = \frac{\text{Unrestricted Cash and Investments}}{\text{Operating Expenses} \div 365 \text{ days}}$$

(EXCLUDES RESERVES AND PAYGO FOR CIP)

HRSD POLICY - Min = 270 ADCOH, Max = 365 ADCOH

Adjusted Days Cash on Hand (DCOH)



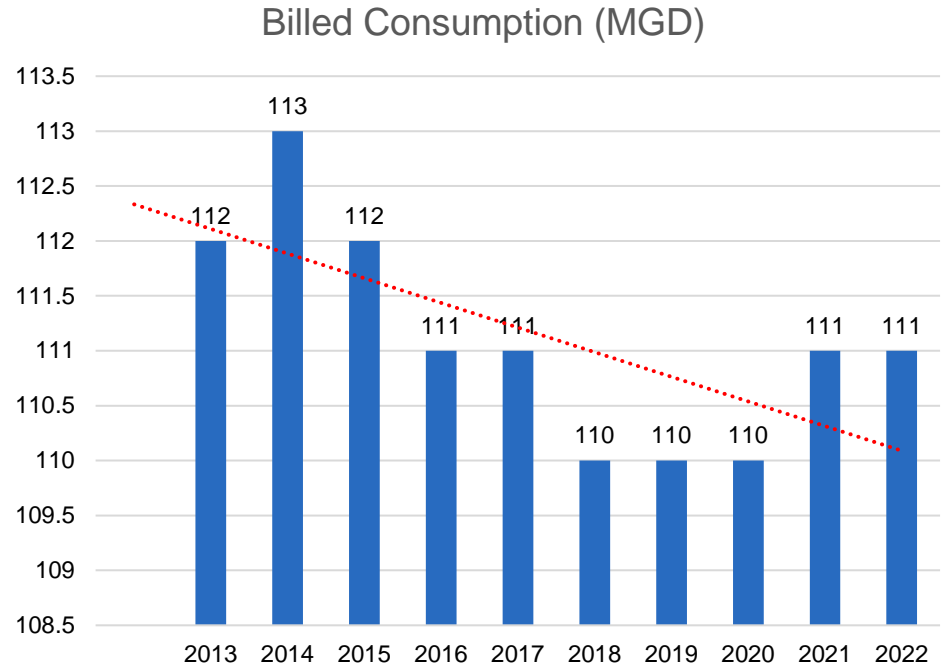
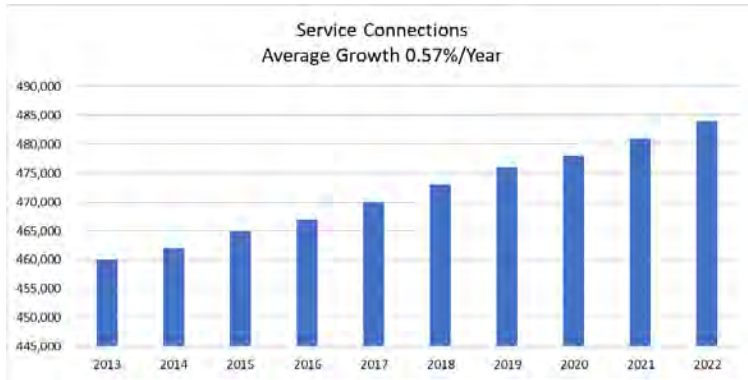
Fitch 2021 Medians	Total
AAA	559
AA	581
A	647
All	571
Large	538

HRSD Ratings	Senior	Subordinate
Moody's	Aa1	Aa1
S&P	AA+	AA+
Fitch	AA+	AA

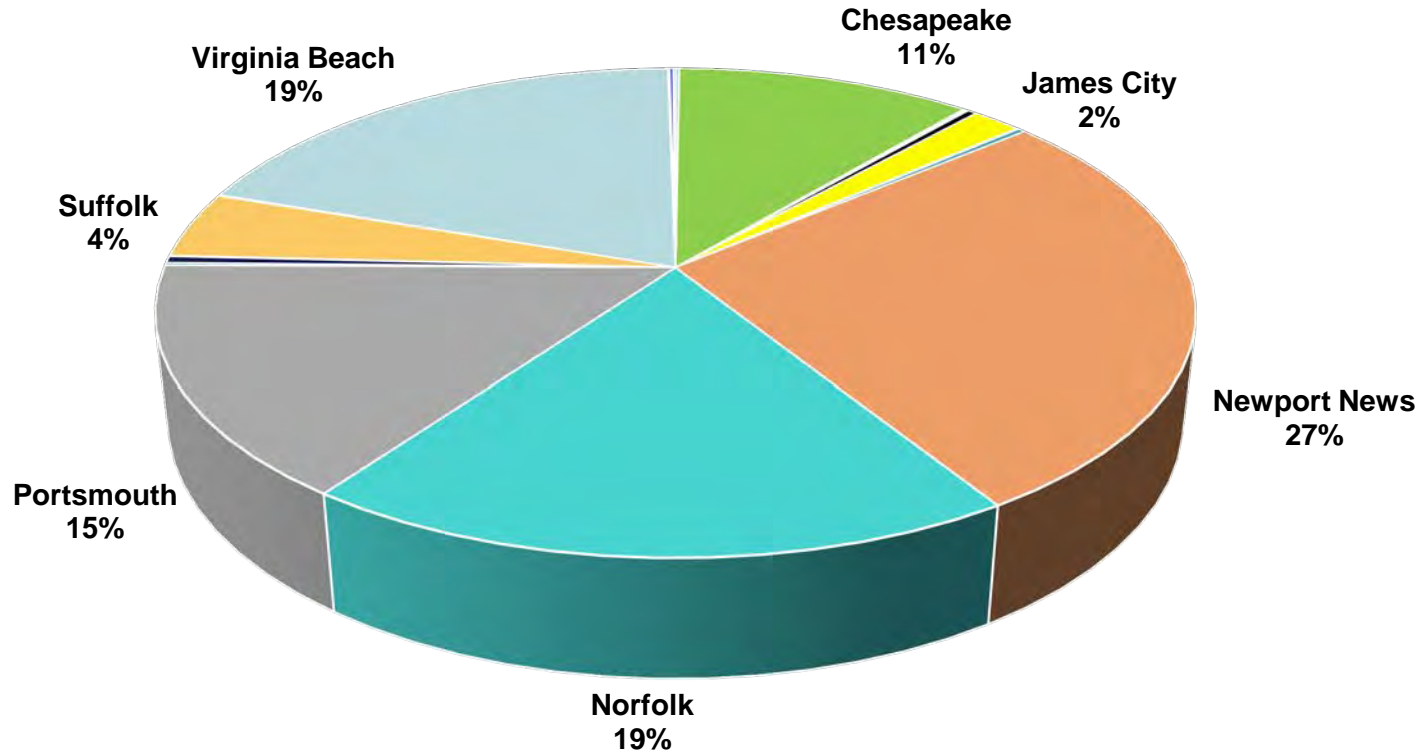


Wastewater Treatment Changes

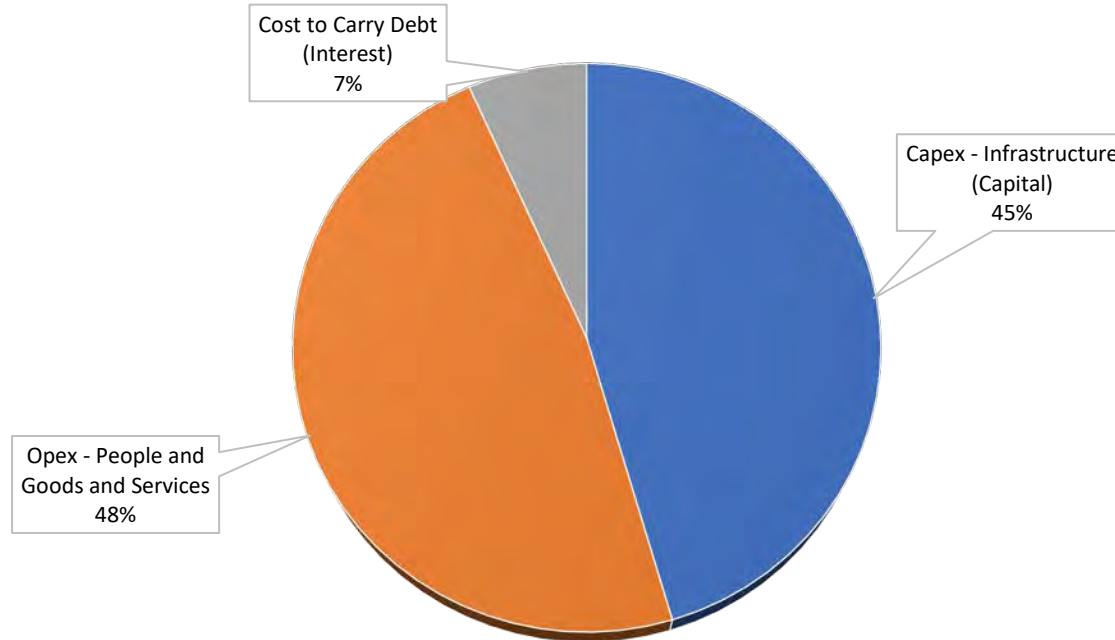
- 96.4% All Revenues are Wastewater Treatment Charges



Received >\$11M in ARPA ratepayer relief money



Where do we spend our money?



Cost Increases by Category

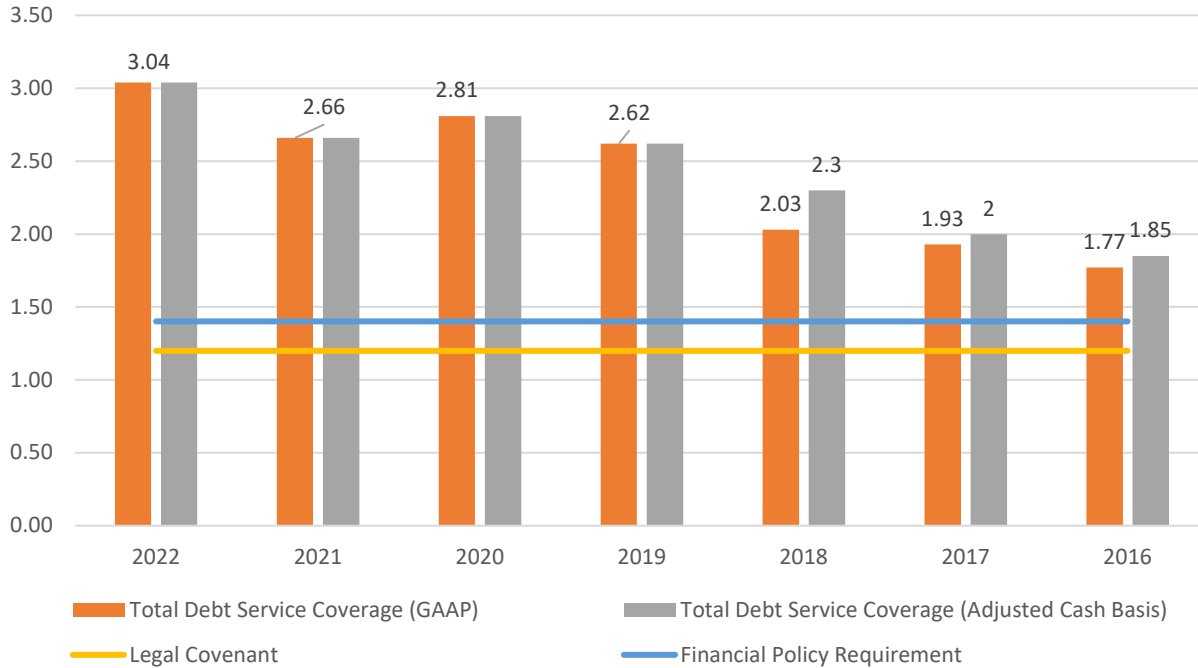
Operating Expenses	2022	2021	\$ Change	% Change	
Personal Services	\$ 61,157	\$ 60,250	\$ 907	2%	Salary increase offset by retirements and separations
Fringe Benefits	20,467	23,879	(3,412)	-14%	Benefit cost increases offset by large (\$5.5 million) VRS pension adjustment
Materials and Supplies	9,495	11,413	(1,918)	-17%	\$1.8 million expense of inventory adjustment in 2021
Transportation	1,380	1,100	280	25%	
Utilities	13,762	12,947	815	6%	Inflationary pressures = significant utility rate increases
Chemical Purchases	10,044	8,719	1,325	15%	Inflationary pressures = Chemical cost increases
Contractual Services	41,904	37,278	4,626	12%	\$9.2 capital projects expensed from capital plan costs included in MR/R, Contractual Services, etc
Major Repairs	8,853	6,758	2,095	31%	
Capital Assets	2,029	1,567	462	29%	
Miscellaneous	2,385	2,685	(300)	-11%	
	\$ 171,476	\$ 166,596	\$ 4,880	3%	

$$\text{Debt Service Coverage Ratio} = \frac{\text{REVENUES} - \text{EXPENSES}}{\text{Principal} + \text{Interest}}$$

- *How much income will you have to pay Debt Service (principal + interest)?*
- *Measure of sufficiency of revenues and rates to meet obligations*
- *Quantifies **RISK** - Likelihood bond investors get paid back?*

Debt Service Coverage

Subordinate Trust Agreement



Fitch 2021 Medians	DSCR
AAA	3.3
AA	2.6
A	2.1
All	2.6
Large	2.4

HRSD Ratings	Senior	Subordinate
Moody's	Aa1	Aa1
S&P	AA+	AA+
Fitch	AA+	AA

- Financial health is sound, but headwinds exist
 - Future water consumption trends
 - Expenses are impacted by rising inflation, supply chain issues
 - Capital Plan remains largely regulatorily driven and expansive
 - Losses in Pension and RHP will drive up contribution requirements



HRSD

Annual Comprehensive Financial Report

for the Fiscal Years Ended June 30, 2022 and 2021
Hampton Roads Sanitation District

(A Component Unit of the Commonwealth of Virginia)



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HAMPTON ROADS SANITATION DISTRICT

ANNUAL COMPREHENSIVE FINANCIAL REPORT
FOR THE FISCAL YEARS ENDED JUNE 30, 2022 AND 2021

PREPARED BY THE FINANCE DEPARTMENT



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A blue-tinted photograph of a rocky coastline. The foreground shows dark, jagged rocks with white foam from waves crashing against them. The background is a hazy, blue sky and sea. The overall mood is serene and natural.

Introductory Section



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November 14, 2022

Hampton Roads Sanitation District Commission
Virginia Beach, Virginia

Dear Commissioners:

Political subdivisions of the Commonwealth of Virginia are required to publish a complete set of audited financial statements. This report fulfills that requirement for the fiscal year ended June 30, 2022.

Hampton Roads Sanitation District's (HRSD) management assumes full responsibility for the completeness and reliability of the information contained in this report, based on a comprehensive framework of internal control it has established for this purpose. Because the cost of internal control should not exceed anticipated benefits, the objective is to provide reasonable, rather than absolute, assurance that the financial statements are free of material misstatements.

Cherry Bekaert LLP, Certified Public Accountants, has issued an unmodified ("clean") opinion on HRSD's financial statements for the year ended June 30, 2022. The independent auditors' report is located at the front of the financial section of this report.

Management's Discussion and Analysis (MD&A) immediately follows the Report of Independent Auditor and provides a narrative introduction, overview and analysis of the basic financial statements. The MD&A, which complements this letter of transmittal, should be read in conjunction with it.

PROFILE OF HRSD

HRSD is an independent political subdivision of the Commonwealth of Virginia (the Commonwealth) created by referendum on November 5, 1940. HRSD was established to abate water pollution in the Hampton Roads area by providing a system of interceptor mains and wastewater treatment plants.

Approximately 1.9 million individuals, more than one-fifth of Virginia's population, reside in HRSD's service area, which is in the southeastern corner of the Commonwealth. HRSD's territory of approximately 5,000 square miles encompasses nine cities, eleven counties and several large military facilities. A brief history of HRSD is provided on page 6. HRSD is required by its Enabling Act to meet its obligations by charging user fees for its wastewater treatment services; no taxing authority is authorized by the Enabling Act. Currently, HRSD provides service and bills to approximately 484,000 service connections.

A board of eight commissioners (the Commission), appointed by the Governor of Virginia, governs HRSD. Commission members, who serve four-year staggered terms, can be reappointed without limitation and may be suspended or removed by the Governor at his pleasure. The Commission appoints a General Manager, who appoints the senior staff.

HRSD owns and operates 16 treatment plants as of June 30, 2022. The eight major plants in Hampton Roads have design capacities ranging in size from 15 to 54 million gallons per day (MGD). Four of the major plants are located south of the James River and four are north of the James River (see map on page 6). The combined capacity of these eight plants is approximately 225 MGD. HRSD's eight small rural treatment plants have a combined capacity of 1.75 MGD.

HRSD maintains 538 miles of pipelines ranging from six inches to sixty-six inches in diameter. Interceptor pipelines, along with 89 pump stations in Hampton Roads, interconnect into two independent systems, one south of the James River and one north of the James River. The system allows some flow diversions to provide for maintenance or emergency work. HRSD owns and maintains 44 pump stations in the Small Communities.

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

Local Economy

HRSD's service area includes nearly all the Virginia Beach-Norfolk-Newport News Metropolitan Statistical Area (MSA). It is the eighth largest MSA in the southeastern United States and the thirty-seventh largest in the nation. Unlike many metropolitan areas, Hampton Roads' population nucleus is not confined to one central city. Instead, the approximately 1.9 million residents are spread among several cities and counties. Virginia Beach is the most populous city in the Commonwealth, with Norfolk and Chesapeake second and third, respectively. Suffolk is the largest city by land area. Unemployment rates remain below national averages in the region, which has a civilian labor force of 850,000 as of June 2022.

The regional economy is supported by one of the highest military concentrations in the nation, diverse manufacturing and service sectors, shipbuilding and repair work, international port activities and tourism. Several state and private colleges and a large healthcare infrastructure also lend stability to the region.

A diverse customer base allows HRSD to maintain stable revenues. The ten largest customers account for only 8.6 percent of wastewater revenues for fiscal year 2022. In addition, HRSD's 2022 revenues contained only limited reliance (1.9 percent) on new customer connections.

Long-Term Financial Planning

HRSD's Financial Policy helps it maintain its solid fiscal health. Budgetary principles include using ongoing revenues to pay for ongoing expenses and establishing annual cash contribution goals of at least 15 percent of budgeted capital costs. Under the Financial Policy, senior debt service coverage and total adjusted debt service coverage ratios should not be less than 1.5 and 1.4 times annual debt service, respectively with a goal of maintaining 2.0. Operating and ten-year capital improvement budgets are adopted annually. Included in the operating budget is a long-range financial forecast, which is guided by projections of operating and capital needs and the aforementioned Financial Policy requirements.

Major Initiatives

HRSD continues its ambitious \$3.1 billion, ten-year Capital Improvement Program. Regulatory requirements to reduce nutrient discharges, initiatives to ensure appropriate wet weather capacity exists within the regional sanitary sewer system, major plant upgrades and replacements of interceptor pipelines drive the capital program. Major projects are currently under construction at the Army Base, Boat Harbor, Nansemond and the Virginia Initiative Treatment Plants. To minimize the impacts of its capital investments on ratepayers, HRSD continues to pursue grant and joint venture opportunities when available.

Awards and Acknowledgments

The Government Finance Officers Association (GFOA) awarded a Certificate of Achievement for Excellence in Financial Reporting to HRSD for its comprehensive annual financial report (Annual Report) for the fiscal year ended June 30, 2021. This was the 39th consecutive year that HRSD has received this prestigious award. In order to be awarded a Certificate of Achievement, HRSD must publish an easily readable and efficiently organized Annual Report that satisfies both generally accepted accounting principles and applicable legal requirements.

A Certificate of Achievement is valid for a period of one year only. We believe our current Annual Report continues to meet the Certificate of Achievement Program's requirements, and we are submitting it to the GFOA to determine its eligibility for another certificate.

The preparation of this Annual Report was made possible by the dedicated service of the entire Department of Finance staff. All members of the department have our sincere appreciation for their contributions to the preparation of this report. Credit must also be given to the Commission for their support for maintaining the highest standard of professionalism in the management of HRSD's finances.

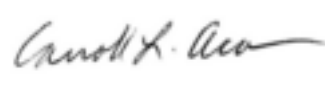
Respectfully submitted,



Jay A. Bernas, P.E
General Manager



Steve de Mik
Deputy General Manager/CFO



Carroll L. Acors, CPA
Chief of Accounting



Government Finance Officers Association

Certificate of
Achievement
for Excellence
in Financial
Reporting

Presented to

**Hampton Roads Sanitation District
Virginia**

For its Annual Comprehensive
Financial Report
For the Fiscal Year Ended

June 30, 2021

A handwritten signature in black ink that reads "Christopher P. Morrill". The signature is written in a cursive style.

Executive Director/CEO

Principal Officials
June 30, 2022

COMMISSIONERS

Frederick N. Elofson, CPA, Chair

Stephen C. Rodriguez, Vice-Chair

Michael E. Glenn

Vishnu K. Lakdawala, PhD

Willie Levenston, Jr.

Nancy J. Stern

Elizabeth A. Taraski, PhD

Ann W. Templeman

COMMISSION SECRETARY

Jennifer L. Cascio

SENIOR STAFF

Jay A. Bernas, MBA, PE
General Manager

Vacant
Director of Finance and Treasurer

Charles B. Bott, PhD, PE, BCEE
Director of Water Technology And
Research

Donald C. Corrado
Director of Information Technology

Steven G. de Mik, MBA,
CPA
Director of Operations

Dorissa Pitts-Paige, PHR,
IPMA-SCP, SHRM-SCP
Director of Talent Management

Bruce W. Husselbee, PhD,
PE, DBIA
Director of Engineering

Paula A. Hogg
Director of Water Quality

Leila E. Rice, APR
Director of Communications

COUNSEL

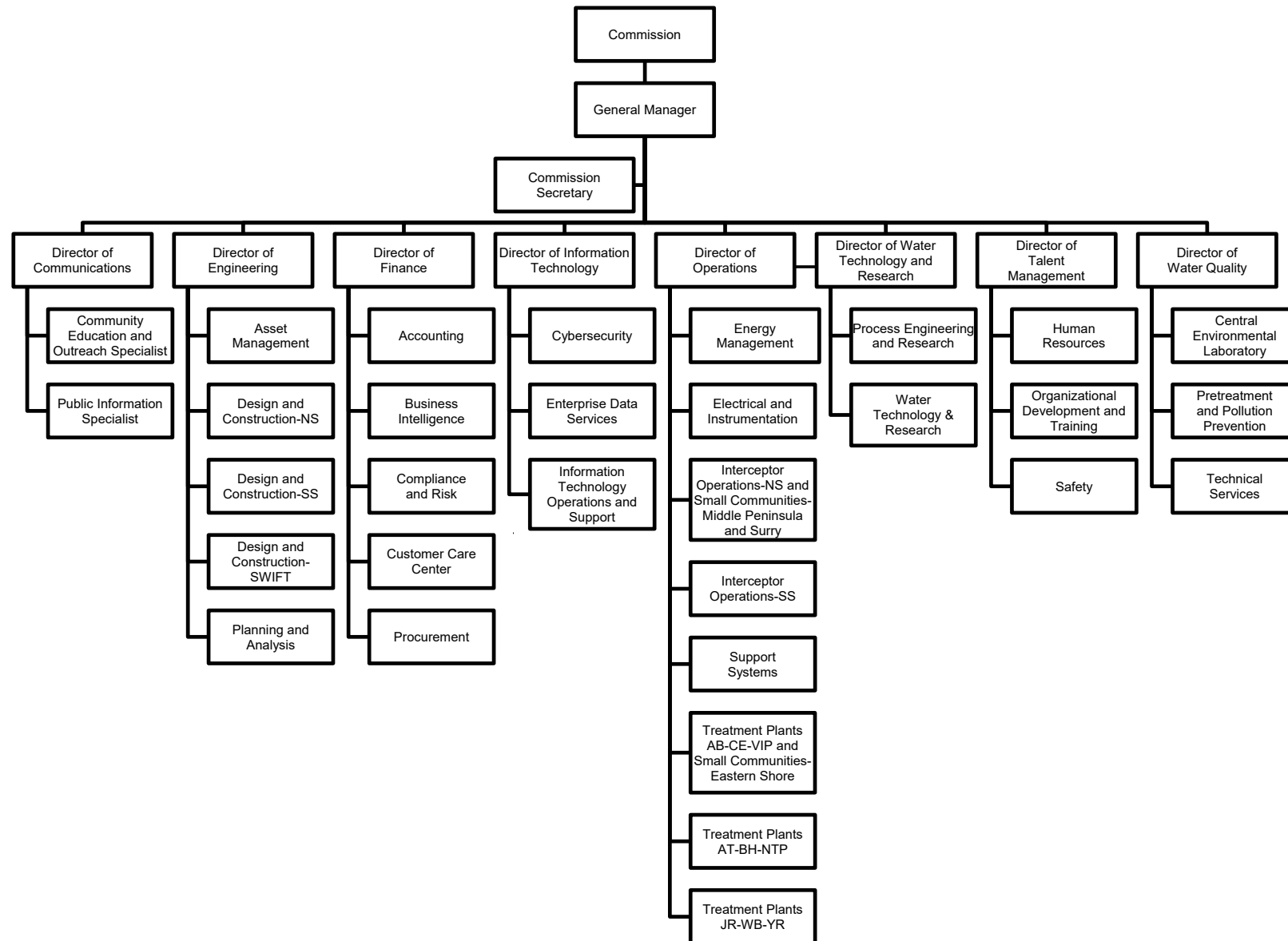
Sands Anderson, PC
General Counsel

AquaLaw, PLC
Special Counsel

Norton Rose Fulbright US, LLP
Bond Counsel

HRSD Organization Chart

June 30, 2022



HRSD Service Area



HRSD History

June 30, 2022

HRSD can trace its beginnings to 1925 when the Virginia Department of Health condemned a large oyster producing area in Hampton Roads. The closure resulted in the Virginia General Assembly creating in 1927 a “Commission to Investigate and Survey the Seafood Industry of Virginia.” Other studies recommended a public body to construct and operate a sewage system in the area. HRSD was named after Hampton Roads, a ship anchorage used for five centuries located near the convergence of the James, Elizabeth and Nansemond Rivers, before they flow into the Chesapeake Bay in southeastern Virginia.

In 1934, the Virginia General Assembly created the Hampton Roads Sanitation Disposal Commission with instructions to plan the elimination of pollution in Hampton Roads. Recommendations were made to the General Assembly, which resulted in the Sanitary Districts Law of 1938, along with “an Act to provide for and create the Hampton Roads Sanitation District.” This Act required the qualified voters within HRSD to decide in a general election on November 8, 1938, if they favored creation of such a District. This referendum failed to gain a majority by about 500 votes out of nearly 20,000 votes cast. This led to a revision of the Act and another referendum was held on November 5, 1940, which resulted in a majority vote for the creation of the Hampton Roads Sanitation District.

The Enabling Act provides for HRSD to operate as a political subdivision of the Commonwealth of Virginia for the specific purpose of water pollution abatement in Hampton Roads by providing a system of interceptor mains and wastewater treatment plants. Its affairs are controlled by a Commission of eight members appointed by the Governor for four-year terms. Administration is under the direction of a General Manager, supported by department directors and their staff.

HRSD began operations on July 1, 1946, using facilities acquired from the United States Government. The Warwick County Trunk Sewer, HRSD’s first construction project, began on June 26, 1946, and was funded by HRSD’s \$6.5 million Primary Pledge Sewer Revenue Bonds, dated March 1, 1946. The first treatment plant, the Army Base Plant, began operation on October 14, 1947. Since that time, the facilities of HRSD have grown to provide sanitary sewer service to all major population centers in southeastern Virginia. The population served has increased from nearly 288,000 in 1940 to about 1.9 million in 2021.

Throughout its rich history HRSD has earned many of its industry’s most prestigious awards. This tradition continued as the National Association of Clean Water Agencies (NACWA) presented Peak Performance Awards for outstanding compliance with National Pollutant Discharge Elimination System (NPDES) permits to the following HRSD treatment plants during the year ended June 30, 2022: Atlantic— Platinum Award (7 consecutive years of compliance), Boat Harbor—Platinum (20 consecutive years), James River—Platinum (8 consecutive years), Nansemond—Platinum (20 consecutive years), Virginia Initiative Plant—Platinum (26 consecutive years), Williamsburg—Platinum (27 consecutive years) and York River— Platinum (14 consecutive years).

Additional awards and honors received during the year ended June 30, 2022 include the American Council of Engineering Companies (ACEC) Virginia 2022 Grand Award and the Construction Risk Partners Build America Merit Award for the Providence Road Offline Storage Facility Woodstock Park Improvements Project, and the Elizabeth River Project’s Sustained Distinguished Performance Award.



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Financial Section



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Report of Independent Auditor

To the Commissioners
Hampton Roads Sanitation District

Report on the Audit of the Financial Statements

Opinions

We have audited the accompanying financial statements of the major fund and the aggregate remaining fund information of the Hampton Roads Sanitation District (“HRSD”), as of and for the years ended June 30, 2022 and 2021, and the related notes to the financial statements, which collectively comprise HRSD’s basic financial statements as listed in the table of contents.

In our opinion, the financial statements referred to above present fairly, in all material respects, the respective financial position of the major fund and the aggregate remaining fund information of HRSD, as of June 30, 2022 and 2021, and the respective changes in financial position and, where applicable, cash flows thereof for the years then ended, in accordance with accounting principles generally accepted in the United States of America.

Basis for Opinions

We conducted our audits in accordance with auditing standards generally accepted in the United States of America, the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States, and the *Specifications for Audits of Authorities, Boards, and Commissions*, issued by the Auditor of Public Accounts of the Commonwealth of Virginia (the “Specifications”). Our responsibilities under those standards and Specifications are further described in the *Auditor’s Responsibilities for the Audit of the Financial Statements* section of our report. We are required to be independent of HRSD, and to meet our other ethical responsibilities, in accordance with the relevant ethical requirements relating to our audit. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinions.

Responsibilities of Management for the Financial Statements

Management is responsible for the preparation and fair presentation of the financial statements in accordance with accounting principles generally accepted in the United States of America, and for the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is required to evaluate whether there are conditions or events, considered in the aggregate, that raise substantial doubt about HRSD’s ability to continue as a going concern for twelve months beyond the financial statement date, including any currently known information that may raise substantial doubt shortly thereafter.

Auditor’s Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor’s report that includes our opinions. Reasonable assurance is a high level of assurance, but is not absolute assurance and therefore is not a guarantee that an audit conducted in accordance with generally accepted auditing standards, *Government Auditing Standards*, and the Specifications will always detect a material misstatement when it exists. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control. Misstatements are considered material if there is a substantial likelihood that, individually or in the aggregate, they would influence the judgment made by a reasonable user based on the financial statements.

In performing an audit in accordance with generally accepted auditing standards, *Government Auditing Standards*, and the Specifications, we:

- Exercise professional judgment and maintain professional skepticism throughout the audit.
- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, and design and perform audit procedures responsive to those risks. Such procedures include examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of HRSD 's internal control. Accordingly, no such opinion is expressed.
- Evaluate the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluate the overall presentation of the financial statements.
- Conclude whether, in our judgment, there are conditions or events, considered in the aggregate, that raise substantial doubt about the HRSD 's ability to continue as a going concern for a reasonable period of time.

We are required to communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit, significant audit findings, and certain internal control-related matters that we identified during the audit.

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis and required supplementary information, as listed in the table contents, be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board, who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Other Information

Management is responsible for the other information included in the annual report. The other information comprises the Introductory, Statistical, and Other Supplemental Sections, but does not include the basic financial statements and our auditor's report thereon. Our opinions on the basic financial statements do not cover the other information, and we do not express an opinion or any form of assurance thereon.

In connection with our audit of the basic financial statements, our responsibility is to read the other information and consider whether a material inconsistency exists between the other information and the basic financial statements, or the other information otherwise appears to be materially misstated. If, based on the work performed, we conclude that an uncorrected material misstatement of the other information exists, we are required to describe it in our report.

Other Reporting Required by Government Auditing Standards

In accordance with *Government Auditing Standards*, we have also issued our report dated November 14, 2022, on our consideration of HRSD's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is solely to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the effectiveness of HRSD's internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering HRSD's internal control over financial reporting and compliance.



Virginia Beach, Virginia
November 14, 2022

MANAGEMENT'S DISCUSSION AND ANALYSIS (Unaudited)

This narrative overview and analysis of the financial activities of the Hampton Roads Sanitation District (HRSD) for the fiscal years ended June 30, 2022 and 2021, is provided by HRSD's management. Readers of the accompanying financial statements are encouraged to consider this information in conjunction with that furnished in the transmittal letter, which can be found on pages 1 through 2 of this report.

FINANCIAL HIGHLIGHTS

- Total net position increased by \$108.7 million, or 11.4 percent, in 2022 as a result of this year's operations.
- Total revenues increased by \$25.6 million, or 7.5 percent, mainly due to a \$28.2 million increase in operating revenues generated from an increase in wastewater treatment rates. This increase was offset slightly by a \$2.1 million decrease in investment income primarily due to continued market volatility and lower interest rates. Additionally, there was a \$0.3 decrease in facility charges and \$0.1 decrease in bond interest subsidy in 2022.
- Operating expenses decreased by \$0.6 million, or 0.3 percent, due to a \$1.3 million increase in wastewater treatment expenses, a \$1.1 million increase in depreciation and amortization, \$3.0 million decrease in general and administrative expenses.
- Restricted cash and cash equivalents increased \$2.7 million, or 8.8 percent, due to an increase in cash restricted for debt service. Unrestricted cash and cash equivalents increased \$35.1 million, or 18.4 percent, primarily due to utilizing debt to fund capital construction projects in FY22.
- Net Property, Plant and Equipment increase of \$110.3 million, or 6.9 percent, due to \$25.3 million net increase in depreciable assets, \$12.5 million increase in land purchases and \$72.5 increase in capital projects in progress.

OVERVIEW OF FINANCIAL STATEMENTS

HRSD's Basic Financial Statements are comprised of the financial statements and the notes to the financial statements. This report also contains required supplementary information and other supplementary information in addition to the Basic Financial Statements.

The Basic Financial Statements, found on pages 20 through 23 of this report, are designed to provide readers with a broad overview of HRSD's finances in a manner similar to a private sector business.

The Statements of Net Position, found on pages 20 and 21 of this report, present information on all of HRSD's assets, deferred outflows of resources, liabilities, and deferred inflows of resources; the difference between these components is reported as net position. Over time, changes in net position may serve as a useful indicator of whether the financial position of HRSD is improving or deteriorating.

The Statements of Revenues, Expenses and Changes in Net Position, found on page 22 of this report, present all of HRSD's revenues and expenses, showing how HRSD's net position changed during the year. All changes in net position are reported as soon as the underlying event takes place, thus giving rise to the changes, regardless of the timing of the cash flows. Thus, revenues and expenses are reported for some items that will only result in cash flows in future fiscal periods.

The Statements of Fiduciary Net Position and Statement of Changes in Fiduciary Net Position, found on pages 24 and 25, provide information on the control of assets for which HRSD has a fiduciary responsibility and the beneficiaries with whom a fiduciary responsibility exists. These statements are required by accounting principles generally accepted in the United States of America (GAAP), as discussed in Notes 2 and 14.

The Notes to Financial Statements, found on pages 26 through 58 of this report, provide additional information that is essential to a full understanding of the data provided in the financial statements.

In addition to the Basic Financial Statements and the related notes, this report also presents certain required supplementary information concerning HRSD's progress in funding its obligations to provide pension and other postemployment benefits to its employees.

Required Supplementary Information can be found beginning on page 61 of this report.

FINANCIAL ANALYSIS

As noted earlier, net position may serve over time as a useful indicator of HRSD's financial position. Total assets and deferred outflows of resources exceeded total liabilities and deferred inflows of resources by \$1,059.5 million at June 30, 2022 and by \$950.8 million at June 30, 2021.

By far, the largest portion of HRSD's net position (78.6 percent and 81.6 percent at June 30, 2022 and 2021, respectively) reflects its net investment in capital assets (e.g. land, buildings, machinery and equipment) less any related debt used to acquire those assets still outstanding, net of unspent bond proceeds. HRSD uses these capital assets to provide services to its customers; consequently, these assets are not available for future spending. Although HRSD's net investment in its capital assets is reported net of related debt, it should be noted that the resources needed to repay this debt must be provided from other sources, because the capital assets themselves cannot be liquidated to reduce these liabilities.

HRSD's net position is summarized in the following condensed Statements of Net Position as of June 30:

HRSD's Condensed Statements of Net Position

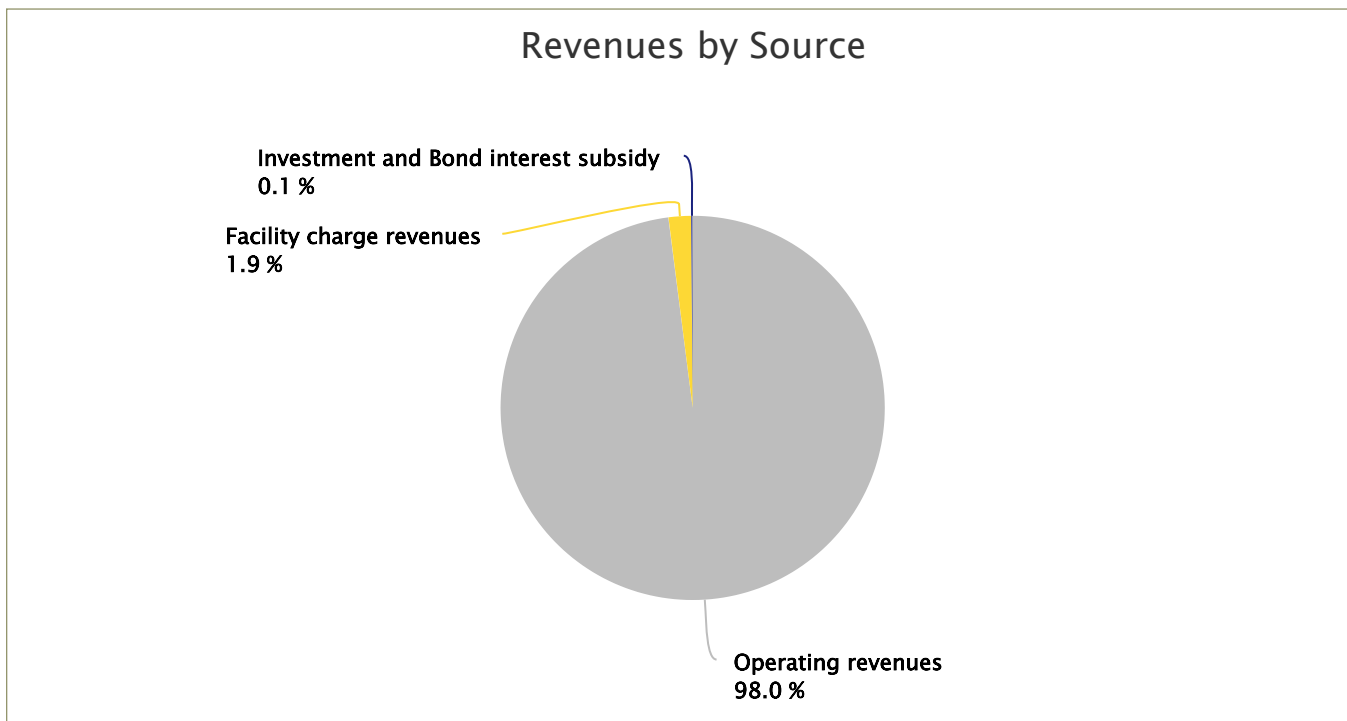
(in thousands)	2022	2021	2020	2022 vs. 2021	
				Dollars	Percent
Capital assets	\$ 1,715,108	\$ 1,604,841	\$ 1,457,955	\$ 110,267	6.9%
Current and noncurrent assets	346,767	311,141	337,233	35,626	11.5%
Total assets	2,061,875	1,915,982	1,795,188	145,893	7.6%
Deferred outflows of resources	42,611	42,277	37,592	334	0.8%
Long-term liabilities	796,272	794,371	791,705	1,901	0.2%
Current liabilities	211,670	195,162	157,752	16,508	8.5%
Total liabilities	1,007,942	989,533	949,457	18,409	1.9%
Deferred inflows of resources	37,060	17,902	13,416	19,158	107.0%
Net investment in capital assets	832,427	776,253	646,505	56,174	7.2%
Restricted for debt service	33,134	30,455	28,155	2,679	8.8%
Unrestricted	193,923	144,116	195,247	49,807	34.6%
Total net position	\$ 1,059,484	\$ 950,824	\$ 869,907	\$ 108,660	11.4%

At June 30, 2022 and 2021, HRSD had no unspent bond proceeds. The increase in capital assets and the increase in current assets is primarily due to an increase in the utilization of debt to fund and complete capital improvement projects.

The changes in HRSD’s net position can be determined by reviewing the following condensed Statements of Revenues, Expenses and Changes in Net Position:

HRSD’s Condensed Statements of Revenues, Expenses and Changes in Net Position

(in thousands)	2022	2021	2020	2022 vs. 2021	
				Dollars	Percent
Revenues:					
Operating revenues	\$ 357,946	\$ 329,769	\$ 322,032	\$ 28,177	8.5%
Facility charge revenues	7,072	7,379	6,444	(307)	(4.2%)
Investment income, net	(1,651)	471	5,876	(2,122)	(450.5%)
Bond interest subsidy	2,052	2,167	2,205	(115)	(5.3%)
Total revenues	365,419	339,786	336,557	25,633	7.5%
Operating expenses:					
Wastewater treatment	134,135	132,820	122,393	1,315	1.0%
General and administrative	45,673	48,691	46,949	(3,018)	(6.2%)
Depreciation and amortization	54,357	53,278	51,383	1,079	2.0%
Total operating expenses	234,165	234,789	220,725	(624)	(0.3%)
Non-operating expenses:					
Bond issuance costs	311	682	1,290	(371)	(54.4%)
Capital distributions to localities	13	376	-	(363)	(96.5%)
Disposal of capital assets	-	-	739	-	-
Interest expense	25,007	25,339	26,179	(332)	(1.3%)
Total non-operating expenses	25,331	26,397	28,208	(1,066)	(4.0%)
Total expenses	259,496	261,186	248,933	(1,690)	(0.6%)
Income before capital contributions	105,923	78,600	87,624	27,323	34.8%
Capital contributions	2,737	2,317	578	420	18.1%
Change in net position	108,660	80,917	88,202	27,743	34.3%
Total net position - beginning	950,824	869,907	781,705	80,917	9.3%
Total net position - ending	\$ 1,059,484	\$ 950,824	\$ 869,907	\$ 108,660	11.4%



Operating revenues increased by \$28.2 million, or 8.5 percent, in 2022 and by \$7.7 million, or 2.4 percent, in 2021. The primary increase in 2022 was due to wastewater rate increase. The 2021 increase was due to an increase in consumption. Net Investment income decreased \$2.1 million in 2022, or 450.5 percent, primarily due to FY22 market volatility and reduced cash balances, compared to a \$5.4 million decrease, or 92.0 percent, in 2021.

Operating expenses decreased by \$0.6 million, or 0.3 percent in 2022 and by \$14.1 million, or 6.4 percent, in 2021. Decreases in 2022 were due to a \$1.3 million increase in wastewater treatment expenses, a \$1.1 million increase in depreciation and amortization, and \$3.0 million decrease in general and administrative expenses. Increases in 2021 were principally due to a \$2.6 million increase in pension expense, a \$2 million increase in material and supplies, \$3.5 million increase in contractual services, \$1.8 million increase in depreciation expense and a \$4.3 million increase in capital construction projects expense in FY21.

In 2022 and 2021, HRSD received \$2.7 million and \$2.3 million, respectively, in capital contributions to help finance its capital improvement program.

CAPITAL ASSETS AND DEBT ADMINISTRATION

Capital Assets

At the end of 2022 and 2021, HRSD had approximately \$1.7 billion and \$1.6 billion, respectively, invested in a broad range of capital assets, including land, wastewater treatment plants, interceptor systems, pump stations, administrative and maintenance buildings, equipment and software. These amounts represent a net increase of \$110.3 million, or 6.9 percent in 2022 and a net increase of \$146.9 million, or 10.1 percent in 2021.

The following summarizes HRSD's capital assets, net of accumulated depreciation, as of June 30:

HRSD's Capital Assets

(in thousands)	2022	2021	2020
Land	\$ 56,170	\$ 43,658	\$ 12,229
Treatment plants	666,215	696,176	654,809
Interceptor systems	537,431	522,400	447,372
Buildings	43,553	26,021	27,305
Small community facilities	15,882	16,123	16,672
Office equipment	787	788	754
Automotive	1,368	1,715	1,716
Other equipment	38,116	13,999	4,309
Software and intangible assets	-	815	2,204
	<u>1,359,522</u>	<u>1,321,695</u>	<u>1,167,370</u>
Construction in progress	355,586	283,146	290,585
Net property, plant and equipment	\$ 1,715,108	\$ 1,604,841	\$ 1,457,955

The following summarizes the changes in capital assets for the years ended June 30:

(in thousands)	2022	2021	2020
Balance at beginning of year	\$ 1,604,841	\$ 1,457,955	\$ 1,358,327
Additions	92,184	207,603	156,518
Transfers/Retirements	(1,460)	-	(1,819)
Depreciation and amortization	(54,357)	(53,278)	(51,383)
Accumulated depreciation retired	1,460	-	258
Net increase (decrease) in construction in progress	72,440	(7,439)	(3,946)
Balance at end of year	\$ 1,715,108	\$ 1,604,841	\$ 1,457,955

The largest increase in capital assets over the past several years has been in treatment plant construction and interceptor system construction, which includes pipeline replacements, pump station rehabilitations and other improvements to the infrastructure. HRSD's total capital expenditures were \$171.7 million during 2022 and \$213.4 million during 2021. The largest FY22 expenses are attributed to Nansmond and York River Treatment Plant Nutrient Reduction projects, Eastern Shore treatment plant improvements, and SWIFT projects. Fiscal year 2021 expenses were primarily due to SWIFT project expansion expenses, in treatment plants and interceptor systems expansion and improvements projects and land purchases.

LongTerm Debt

At June 30, 2022, HRSD had a total of \$868.5 million in revenue bonds outstanding versus \$835.0 million in 2021, a 4.01% increase over prior year. Draws on existing approved bonds, in the amount of \$72.0 million, were offset by payments on existing senior and subordinate debt and amortization of bond premiums, in the amount of \$38.5 million.

The following summarizes HRSD’s outstanding debt principal at June 30:

HRSD’s Outstanding Debt

(in thousands, excluding unamortized bond premiums)

	2022	2021	2020
Senior revenue bonds	\$ 183,899	\$ 198,670	\$ 214,212
Subordinate revenue bonds	668,031	616,533	597,745
Total outstanding debt	\$ 851,930	\$ 815,203	\$ 811,957

HRSD’s financial strengths are reflected in its high credit ratings listed below:

Ratings Agency	Senior Debt	Subordinate Long-term	Subordinate Short-term
Standard & Poor’s	AA+	AA+	A-1+
Fitch Ratings	AA+	AA	F1+
Moody’s Investors Service	Aa1	Aa1	n/a

The development of HRSD’s Capital Improvement Program and its related debt programs are governed by revenue Trust Agreements. The Senior Trust agreement requires the senior debt coverage to be 1.2 times maximum annual debt service and total debt service coverage of 1.0 times maximum annual debt service, both on a Generally Accepted Accounting Principles basis. The Amended and Subordinate Trust agreement was amended in 2016 to account for future Consent Decree expenses related to Locality wet weather improvements that HRSD will not own. In the Amended Trust, Operating Expenses were redefined as shown below for the purposes of calculating an “Adjusted” debt service coverage on a cash basis:

“Operating Expenses” as defined by the Enabling Act and as used in the Senior Trust Agreement, operating expenses includes the cost of maintaining, repairing and operating such system or systems or sewer improvements and to provide such reserves therefore as may be provided in the resolution providing for the issuance or such revenue bonds or in the trust agreement securing the same. As defined in the Subordinate Trust Agreement, Operating Expenses includes those expenses required to pay the cost of maintaining, repairing and operating the Wastewater System, including, but not limited to, reasonable and necessary usual expenses of administration, operation, maintenance and repair, costs for billing and collecting the rates, fees and other charges for the use of or the services furnished by the Wastewater System, insurance premiums, credit enhancement and liquidity support fees, legal, engineering, auditing and financial advisory expenses, expenses and compensation of the Trustee, and deposits into a self-insurance program. Operating Expenses shall exclude allowance for depreciation and amortization and expenditures for extraordinary maintenance or repair or improvements. Operating Expenses shall also exclude expenses for improvements that will not be owned by HRSD but which will, in the reasonable determination of the Commission, as evidenced by a resolution thereof, maintain or improve the integrity of the Wastewater System.

The Amended and Subordinate Trust agreement requires total debt service coverage to be 1.2 times current year debt service on an Adjusted basis. HRSD’s Financial Policy and operating and capital improvement plans were developed with the intent to maintain coverage ratios in excess of these requirements. HRSD’s Financial Policy requires senior debt service coverage to be 1.5 times and total debt service coverage to be 1.4 times.

	Senior Debt Service Coverage		Total Debt Service Coverage	
	GAAP	Adjusted	GAAP	Adjusted
Senior Trust Agreement	1.20x (MADS)	None	1.00x (MADS)	None
Amended Subordinate Trust Agreement	None	None	None	1.20x (Current Year)
Financial Policy	None	1.50x (Current Year)	None	1.40x (Current Year)

More detailed information regarding HRSD's capital assets and long-term debt is presented in Notes 5 and 9, respectively.

ECONOMIC FACTORS AND RATES

The five-year rolling average billed consumption continues to remain relatively constant. This may be due to pandemic related water consumption as the economy reopened with vaccines being administered and working from home became more common.

HRSD implemented a wastewater treatment rate increase for the 2022 fiscal year. Despite a boost in activity as COVID-19 infections dropped worldwide, economic growth remained subdued in 2022 and HRSD continued to reprioritize planned investments, obtained relief from federal and state regulatory schedules, took advantage of historically low interest rates and judiciously used reserves previously set aside for unexpected needs. HRSD will continue to monitor the COVID-19 impact on our ratepayers and make further adjustments to investment plans should the economic conditions warrant.

CONTACTING HRSD'S FINANCIAL MANAGEMENT

This financial report is designed to provide a general overview of HRSD's finances for all those with an interest. Questions concerning the information provided in this report or any requests for additional information should be addressed to the Director of Finance, 1434 Air Rail Avenue, Virginia Beach, Virginia 23455.

**STATEMENTS OF NET POSITION
AS OF JUNE 30, 2022 AND 2021**

ASSETS AND DEFERRED OUTFLOWS OF RESOURCES

(in thousands)

	2022	2021
CURRENT ASSETS		
Cash and cash equivalents	\$ 163,051	\$ 125,838
Cash and cash equivalents - restricted	33,134	30,455
Accounts receivable, net	59,493	57,130
Other current assets	2,860	4,619
TOTAL CURRENT ASSETS	258,538	218,042
NONCURRENT ASSETS		
Cash and cash equivalents	62,932	65,054
Inventory	25,297	25,032
Net OPEB asset	-	3,013
	88,229	93,099
NET PROPERTY, PLANT AND EQUIPMENT		
Land	56,170	43,658
Treatment plants	1,464,740	1,460,238
Interceptor systems	754,692	725,600
Buildings	67,266	48,236
Small community facilities	25,936	25,625
Office equipment	45,353	45,049
Automotive	18,801	19,933
Other equipment	75,004	48,899
Software and intangible assets	40,074	40,074
	2,548,036	2,457,312
Less: Accumulated depreciation and amortization	1,188,514	1,135,617
	1,359,522	1,321,695
Construction in progress	355,586	283,146
NET PROPERTY, PLANT AND EQUIPMENT	1,715,108	1,604,841
TOTAL NONCURRENT ASSETS	1,803,337	1,697,940
TOTAL ASSETS	2,061,875	1,915,982
DEFERRED OUTFLOWS OF RESOURCES		
Deferred loss on debt refunding, net	19,513	21,717
Differences between expected and actual experience:		
OPEB plans	6,518	5,129
Pension plan	261	525
Changes of assumptions:		
OPEB plans	208	251
Pension plan	7,406	4,149
Net difference between projected and actual earnings on:		
OPEB plans investments	4,778	160
Pension plan investments	-	6,456
Change in proportion, OPEB plans	75	30
Contributions subsequent to the measurement date:		
OPEB plans	411	407
Pension plan	3,441	3,453
TOTAL DEFERRED OUTFLOWS OF RESOURCES	42,611	42,277
TOTAL ASSETS AND DEFERRED OUTFLOWS OF RESOURCES	\$ 2,104,486	\$ 1,958,259

See Accompanying Notes to Financial Statements

**STATEMENTS OF NET POSITION
AS OF JUNE 30, 2022 AND 2021**

LIABILITIES, DEFERRED INFLOWS OF RESOURCES AND NET POSITION

(in thousands)

	2022	2021
CURRENT LIABILITIES		
Trade and contracts payable	\$ 53,237	\$ 57,054
Contract retention	5,859	8,778
Accrued salaries and wages	3,536	3,395
Current portion of bonds payable	42,609	38,419
Variable rate demand bonds	50,000	50,000
Notes payable	33,721	15,299
Current portion of compensated absences	6,495	5,765
Debt interest payable	8,602	8,532
Other liabilities	7,611	7,920
TOTAL CURRENT LIABILITIES	211,670	195,162
LONG-TERM LIABILITIES		
Compensated absences	1,723	3,139
Net OPEB liability	16,523	5,529
Net pension liability	2,163	39,116
Bonds payable	775,863	746,587
TOTAL LONG-TERM LIABILITIES	796,272	794,371
TOTAL LIABILITIES	1,007,942	989,533
DEFERRED INFLOWS OF RESOURCES		
Differences between expected and actual experience:		
OPEB plans	4,739	5,541
Pension plan	761	1,226
Changes of assumptions:		
OPEB plans	1,663	1,574
Pension plan	-	526
Net difference between projected and actual earnings on:		
OPEB plans investments	843	8,984
Pension plan investments	29,013	-
Change in proportion, OPEB plans	41	51
TOTAL DEFERRED INFLOWS OF RESOURCES	37,060	17,902
NET POSITION		
Net investment in capital assets	832,427	776,253
Restricted for debt service	33,134	30,455
Unrestricted	193,923	144,116
TOTAL NET POSITION	1,059,484	950,824
TOTAL LIABILITIES, DEFERRED INFLOWS OF RESOURCES AND NET POSITION	\$ 2,104,486	\$ 1,958,259

See Accompanying Notes to Financial Statements

**STATEMENTS OF REVENUES, EXPENSES AND CHANGES IN NET POSITION
FOR THE FISCAL YEARS ENDED JUNE 30, 2022 and 2021**

(in thousands)	2022	2021
OPERATING REVENUES		
Wastewater treatment charges	\$ 352,414	\$ 325,817
Miscellaneous	5,532	3,952
TOTAL OPERATING REVENUES	357,946	329,769
OPERATING EXPENSES		
Wastewater treatment	134,135	132,820
General and administrative	45,673	48,691
Depreciation and amortization	54,357	53,278
TOTAL OPERATING EXPENSES	234,165	234,789
OPERATING INCOME	123,781	94,980
NON-OPERATING REVENUES (EXPENSES)		
Wastewater facility charges	7,072	7,379
Investment income	(1,651)	471
Bond interest subsidy	2,052	2,167
Bond issuance costs	(311)	(682)
Capital distributions to localities	(13)	(376)
Interest expense	(25,007)	(25,339)
NET NON-OPERATING EXPENSES	(17,858)	(16,380)
INCOME BEFORE CAPITAL CONTRIBUTIONS	105,923	78,600
CAPITAL CONTRIBUTIONS		
State capital grants received	200	-
Other capital contributions	2,537	2,317
CAPITAL CONTRIBUTIONS	2,737	2,317
CHANGE IN NET POSITION	108,660	80,917
TOTAL NET POSITION - Beginning	950,824	869,907
TOTAL NET POSITION - Ending	\$ 1,059,484	\$ 950,824

See Accompanying Notes to Financial Statements

STATEMENTS OF CASH FLOWS
FOR THE FISCAL YEARS ENDED JUNE 30, 2022 and 2021

(in thousands)	2022	2021
CASH FLOWS FROM OPERATING ACTIVITIES		
Cash received from customers	\$ 337,432	\$ 302,160
Cash received from CARES and ARPA	11,409	4,163
Other operating revenues	5,532	3,952
Cash payments to suppliers for goods and services	(120,651)	(119,627)
Cash payments to employees for services	(61,703)	(59,675)
Net cash provided by operating activities	<u>172,019</u>	<u>130,973</u>
CASH FLOWS FROM NONCAPITAL FINANCING ACTIVITIES		
Capital distributions to localities	(13)	(376)
CASH FLOWS FROM CAPITAL AND RELATED FINANCING ACTIVITIES		
Wastewater facility charges	7,072	7,379
Acquisition and construction of property, plant and equipment	(173,292)	(180,623)
Proceeds from capital debt	90,377	60,751
Bond interest subsidy	2,052	2,167
Principal paid on capital debt	(35,228)	(42,206)
Other capital contributions	2,737	2,317
Bond issuance costs	(311)	(682)
Fees paid on interim financing	(202)	(82)
Interest paid on capital debt	(25,790)	(27,007)
Net cash used in capital and related financing activities	<u>(132,585)</u>	<u>(177,986)</u>
CASH FLOWS FROM INVESTING ACTIVITIES		
Interest and dividends on investments	(1,651)	471
NET INCREASE (DECREASE) IN CASH AND CASH EQUIVALENTS AND CASH AND CASH EQUIVALENTS - RESTRICTED	37,770	(46,918)
CASH AND CASH EQUIVALENTS, AND CASH AND CASH EQUIVALENTS - RESTRICTED, AT BEGINNING OF YEAR	<u>221,347</u>	<u>268,265</u>
CASH AND CASH EQUIVALENTS, AND CASH AND CASH EQUIVALENTS - RESTRICTED, AT END OF YEAR	<u>\$ 259,117</u>	<u>\$ 221,347</u>
Reconciliation of Operating Income to Net Cash Provided by Operating Activities		
(in thousands)		
Operating income	\$ 123,781	\$ 94,980
Adjustments to reconcile operating income to net cash provided by operating activities:		
Depreciation and amortization	54,357	53,278
(Increase) decrease in operating assets:		
Accounts receivable	(2,363)	(17,952)
Inventory	(265)	1,825
Other current assets	1,759	(1,686)
Increase (decrease) in operating liabilities:		
Trade and contracts payable	1,930	1,212
Accrued salaries and wages	141	241
Compensated absences	(686)	334
Other liabilities	(309)	(657)
OPEB liabilities and related deferred inflows and outflows	(870)	(3,240)
Pension liabilities and related deferred inflows and outflows	(5,456)	2,638
NET CASH PROVIDED BY OPERATING ACTIVITIES	<u>\$ 172,019</u>	<u>\$ 130,973</u>
Noncash Capital and Related Financing Activities:		
Accrual for capital expenditures	\$ (5,749)	\$ 18,388
Amortization of premium	(3,261)	(3,719)
Amortization of deferred loss on bond refunding	(2,204)	(2,312)

See Accompanying Notes to Financial Statements

**STATEMENTS OF FIDUCIARY NET POSITION
FOR THE FISCAL YEARS ENDED JUNE 30, 2022 and 2021**

(in thousands)

	Retiree Health (OPEB) Trust Fund		Coronavirus Relief Custodial Fund	
	2022	2021	2022	2021
ASSETS				
Cash and cash equivalents	\$ 4,189	\$ 98	\$ -	\$ 1,542
Investments at fair value				
Domestic equity	21,186	29,467	-	-
International equity	9,179	15,208	-	-
Fixed income	19,965	22,058	-	-
Other income	3,985	2,632	-	-
Real return	3,633	2,203	-	-
Total investments	57,948	71,568	-	-
TOTAL ASSETS	\$ 62,137	\$ 71,666	\$ -	\$ 1,542
NET POSITION				
Restricted for:				
Postretirement benefits other than pensions	62,137	71,666	-	-
CARES ACT payments for utility customers	-	-	-	1,542
TOTAL NET POSITION	\$ 62,137	\$ 71,666	\$ -	\$ 1,542

Note: American Rescue Plan Funds were received and distributed during the 2022 fiscal year. Therefore, there is no balance to record at June 30, 2022.

**STATEMENTS OF CHANGES IN FIDUCIARY NET POSITION
FOR THE FISCAL YEARS ENDED JUNE 30, 2022 and 2021**

(in thousands)

	Retiree Health (OPEB) Trust Fund		Coronavirus Relief Custodial Fund		American Rescue Plan Fund *
	2022	2021	2022	2021	2022
ADDITIONS:					
Contributions:					
Employers	\$ 2,260	\$ 1,963	\$ -	\$ -	\$ -
CARES Act	-	-	51	9,053	-
ARPA	-	-	-	-	10,678
Total contributions	2,260	1,963	51	9,053	10,678
Net investment earnings	(9,730)	14,354	-	-	-
Total additions	(7,470)	16,317	51	9,053	10,678
DEDUCTIONS:					
Benefit payments for participants	1,902	1,425	-	-	-
Investment related expenses	157	138	-	-	-
Payments for customers	-	-	1,593	7,511	10,678
Total deductions	2,059	1,563	1,593	7,511	10,678
Net increase in fiduciary net position	(9,529)	14,754	(1,542)	1,542	-
Net position - beginning	71,666	56,912	1,542	-	-
NET POSITION - ENDING	\$ 62,137	\$ 71,666	\$ -	\$ 1,542	\$ -

* American Rescue Plan Funds were received and distributed during the 2022 fiscal year. No comparative analysis is available.

NOTES TO FINANCIAL STATEMENTS

NOTE 1 - GENERAL INFORMATION

Organization and Administration

The Hampton Roads Sanitation District (HRSD) was created by the Virginia General Assembly in 1940, as a political subdivision of the Commonwealth of Virginia (the Commonwealth), to construct, maintain, and operate a wastewater treatment system in the Hampton Roads area. The Hampton Roads Sanitation District Commission (the Commission) is HRSD’s governing body and consists of eight members, appointed by the Governor. The Commission’s functions were updated by Chapter 66 of the Acts of the Assembly of Virginia of 1960, as amended. The administration of HRSD is under the direction of a General Manager, supported by eight department directors.

Regulatory Oversight

HRSD’s operations are subject to regulations established by the United States Environmental Protection Agency and the Virginia Department of Environmental Quality. HRSD currently meets all of its permit requirements. Changes in these regulations could require HRSD to modify its treatment processes and require additional capital investment and/ or incur additional costs.

Purpose of HRSD

HRSD was created for the specific purpose of abating pollution in the Hampton Roads area through the interception of wastewater outfalls, installation of interception service into new areas as necessary and providing treatment facilities. HRSD provides points of interception throughout the region. The responsibility of providing lateral sewers and subtrunk facilities to carry sewage from industries, residences and businesses is generally the responsibility of the local municipal governments.

Corporate Limits of HRSD

The geographical limits of HRSD include:

City of Chesapeake	City of Virginia Beach	King William County
City of Hampton	City of Williamsburg	Mathews County
City of Newport News	Accomack County	Middlesex County
City of Norfolk	Gloucester County	Northampton County
City of Poquoson	Isle of Wight County	Surry County*
City of Portsmouth	James City County	York County
City of Suffolk	King and Queen County	*Excluding the Town of Claremont

NOTE 2 – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Reporting Entity

HRSD is a political subdivision of the Commonwealth and a government instrumentality. The Commission is granted corporate powers by the *Code of Virginia*. The Governor of the Commonwealth appoints the Commission members, who serve at his pleasure. HRSD is reported in the Commonwealth’s Annual Comprehensive Financial Report as a discretely presented component unit. The Commonwealth is not obligated to repay HRSD’s debt. HRSD derives its revenues primarily from charges for wastewater treatment services. HRSD has no taxing authority. The Retiree Health Plan, as further described under Postemployment Benefits Other Than Pensions in this note and in Note 7, meets the requirements of GASB 84 for inclusion in the fiduciary fund financial statements and, since HRSD has assumed responsibility to make contributions to the plan, it also meets the requirements of a fiduciary component unit.

Basis of Accounting

The accompanying financial statements report the financial position and results of operations of HRSD in accordance with accounting principles generally accepted in the United States of America (GAAP). Because HRSD is a

political subdivision of the Commonwealth, the preparation of HRSD's financial statements are governed by the pronouncements of the Governmental Accounting Standards Board (GASB). These statements are prepared on an enterprise fund basis and present HRSD's operating revenues and expenses in a manner similar to a private business, where the costs, including depreciation, of providing services to the general public on a continuing basis are financed or recovered primarily through user charges.

An enterprise fund, a proprietary fund type, is accounted for on an economic resources measurement focus. All assets and liabilities, whether current or noncurrent, associated with its activities are included on its Statements of Net Position. Proprietary fund type operating statements present increases (revenues) and decreases (expenses) in fund equity. The financial statements are presented using the accrual basis of accounting, whereby revenues are recognized when earned and expenses are recognized when incurred.

Budgetary Accounting and Control

HRSD operates in accordance with annual operating and capital budgets prepared on a basis of accounting that is different from generally accepted accounting principles. The operating budget is adopted by department, with budgetary controls exercised administratively by management at the department level. The General Manager is authorized to transfer funds among departments without further approval by the Commission. The Capital Budget represents a ten-year plan. Funds for the Capital Budget are appropriated throughout a fiscal year on a project basis. Transfers among projects require approval by the Commission. Appropriations for these budgets continue until the purpose of the appropriation has been fulfilled.

Fiduciary Activities

HRSD adopted GASB Statement No. 84, *Fiduciary Activities*, during the fiscal year ended June 30, 2021. The accompanying financial statements for the fiscal years ended June 30, 2022 and 2021 include information on the Retiree Health Plan, one of HRSD's three postemployment benefits other than pensions (other postemployment benefits, or OPEB) plans, information on funds held by HRSD to apply toward customer accounts under the Coronavirus Aid, Relief, and Economic Securities Act, and information on funds held by HRSD to apply toward customer accounts under the American Recovery Plan Act. The Retiree Health plan is discussed in Note 7, and the Coronavirus Aid, Relief, and Economic Securities Act and the American Recovery Plan Act are discussed in Note 14.

Cash Equivalents

All short-term investments that are highly liquid are considered to be cash equivalents. Cash equivalents are readily convertible to cash, and at the day of purchase, have an original maturity date of no longer than three months. Current restricted cash and cash equivalents are for debt service payments payable within the next year. Money market investments include the VACo/VML Virginia Investment Pool's (VIP) 1-3 Year High Quality Bond Fund and Stable NAV Liquidity Pool, which are recorded at amortized cost, which approximates fair value. See Note 3 and Note 13 for additional discussion of cash and cash equivalent and investment valuations.

Investments

Investments, which consist of U.S. government obligations including agencies, FDIC-guaranteed corporate notes, other corporate notes and bonds, and municipal bonds, are reported at fair value. HRSD's investment practices are governed by its formal investment policy. The HRSD Retiree Health Plan (RHP) investments consist of domestic equity, international equity, fixed income, other income, real return funds and money market instruments. See Notes 3 and 7 for additional information on RHP investments.

Allowance for Uncollectible Accounts

HRSD provides an allowance for estimated uncollectible accounts receivable based on its bad debt experience. The balance in the allowance for uncollectible accounts is considered by management to be sufficient to cover anticipated losses on reported receivable balances.

Inventory

Inventory is carried at the lower of cost or market value and consists primarily of operating and maintenance materials.

Property, Plant and Equipment

HRSD funds its capital improvement program through the issuance of debt and its own resources. The proceeds of debt are reported as restricted assets. Generally, for projects funded with both debt proceeds and other resources, it is HRSD's policy to use available debt proceeds to pay project expenditures prior to using its own resources.

NOTES TO THE FINANCIAL STATEMENTS

Property, plant and equipment purchased or constructed are reported at cost, including interest cost on funds borrowed to finance the construction of major capital additions. The capitalization threshold is \$5,000. Donated assets are reported at acquisition value at the date of donation. Property, plant and equipment are depreciated using the straight-line method over the following estimated useful lives:

Treatment plants, buildings and facilities	30 years
Interceptor systems	50 years
Office furniture and equipment	5-10 years
Software and intangible assets	5-7 years
Automotive	5 years

Depreciation and amortization recognized on property, plant and equipment is an operating expense.

Deferred Outflows and Inflows of Resources

In addition to assets, the Statements of Net Position reports a separate section for deferred outflows of resources. This separate financial statement element, deferred outflows of resources, represents a consumption of net position that applies to future periods and so will not be recognized as an outflow of resources (expenses) until then. HRSD has ten items that qualify for reporting in this category. The first is the deferred loss on refunding reported in the Statements of Net Position. A deferred loss on refunding results from the difference in the carrying value of refunded debt and its reacquisition price. This amount is deferred and amortized over the shorter of the life of the refunded or refunding debt. The second through eighth amounts are: differences between expected and actual experience for other postemployment benefits (OPEB) and pension plans; the changes of OPEB and pension assumptions; the net difference between projected and actual earnings on OPEB and pension plan investments; and change in proportion for OPEB plans. These differences will be recognized in pension expense in future reporting periods. The ninth and tenth deferred charges are for OPEB and pension contributions to the Virginia Retirement System (VRS) made subsequent to the measurement dates of June 30 2021 and 2020. These contributions will be recognized as reductions of the Net OPEB and Net Pension Liabilities during the years ended June 30, 2023 and 2022, respectively.

In addition to liabilities, the Statements of Net Position reports a separate section for deferred inflows of resources. This separate financial statement element, deferred inflows of resources, represents an acquisition of net assets that applies to a future period and so will not be recognized as an inflow of resources (revenue) until that time. HRSD has seven items that qualify for reporting in this category: the differences between expected and actual experience for OPEB and pension plans; the changes of OPEB and pension assumptions; the net difference between projected and actual earnings on OPEB and pension plan investments; and change in proportion for OPEB plans. These items will be recognized in pension expense in future reporting periods.

Revenue Recognition

Generally, wastewater treatment charges are computed based on a user’s water consumption. These charges are recognized as revenue when billed. Revenues earned but unbilled through June 30 of each fiscal year are accrued at year-end. Wastewater facility charges are computed based on a new connection’s water meter size and potential for high strength pollutant discharges, and are recognized as revenue prior to the issuance of a building or operating permit.

Operating and Non-operating Revenues and Expenses Recognition

HRSD distinguishes operating revenues and expenses from non-operating items. Operating revenues and expenses result from providing services and producing and delivering goods in connection with HRSD’s principal service of providing wastewater treatment. The majority of operating revenues are from wastewater treatment, but other associated miscellaneous income from other related services and charges are also included. Revenues and expenses not meeting the operating definition are reported as non-operating. These consist mainly of wastewater facility charges, investment income, capital contributions and interest expense.

Compensated Absences

All permanent employees earn leave upon starting a full-time position. The amount and type of leave earned is based upon the employee’s date of hire and years of service and is expensed as employees earn the right to these benefits.

Permanent employees hired prior to January 1, 2014 earn from 15 to 27 days of annual leave per year. The maximum annual leave an employee may accumulate at year-end varies by the years of service, with the maximum being 54 days. An employee has a vested right to their annual leave when earned. These employees also earn eight hours per month of sick leave regardless of the number of years of service. The amount of sick leave that may be accumulated is unlimited. After five years of service with HRSD, an employee has vested rights to 35 percent of accumulated sick leave to a maximum of \$10,000. For these employees, long-term disability (LTD) insurance is an optional employee paid benefit that replaces part of their income if the employee suffers a serious illness or injury and can't work for an extended period of time.

Permanent employees hired after January 1, 2014 earn 8 hours of paid time off for each two-week pay period. Employees may use accumulated paid time off for any type of absence from work, subject to supervisor approval. The maximum paid time off an employee may accumulate at year-end is 208 hours. After five years of service with HRSD, an employee has vested rights to 50 percent of their accumulated paid time off at separation. For these employees, HRSD also provides a state mandated long-term disability (LTD) benefit since these employees are not eligible for disability retirement benefits through VRS. The long-term disability benefit provides income replacement for employees who become disabled and unable to work for an extended period of time due to a non-work-related or work-related condition (as determined under the Virginia Workers' Compensation Act). Long-term disability benefits begin at the expiration of an additional state mandated employer paid short-term disability (STD) benefit period of 125 days.

Postemployment Benefits Other Than Pensions (OPEB)

HRSD employees participate in three postemployment benefits other than pensions (other postemployment benefits or OPEB) plans:

The HRSD RHP is a single employer, defined benefit plan that provides health and dental benefit plans for eligible members through a self-funded plan administered by a third-party vendor. HRSD administers the Plan through the Hampton Roads Sanitation District Retiree Health Trust. For purposes of measuring the net OPEB liability, deferred outflows of resources and deferred inflows of resources related to OPEB, and OPEB expense, information about the fiduciary net position of the RHP and additions to/deductions from the plan's fiduciary net position have been determined on the same basis as they are reported by the RHP. For this purpose, the RHP recognizes benefit payments when due and payable in accordance with the benefit terms.

The VRS Political Subdivision Health Insurance Credit Program (HIC) is a multiple-employer, agent-defined benefit plan that provides a credit toward the cost of health insurance coverage for retired political subdivision employees of participating employers. The Political Subdivision HIC Program was established pursuant to §51.1-1400 et seq. of the Code of Virginia, as amended, and which provides the authority under which benefit terms are established or may be amended. For purposes of measuring the net HIC OPEB liability, deferred outflows of resources and deferred inflows of resources related to the HIC OPEB, and the HIC OPEB expense, information about the fiduciary net position of the VRS HIC, and the additions to/deductions from the VRS HIC's fiduciary net position have been determined on the same basis as they were reported by VRS. For this purpose, benefit payments are recognized when due and payable in accordance with the benefit terms. Investments are reported at fair value.

The VRS Group Life Insurance (GLI) Program is a multiple employer, cost sharing plan, that provides coverage to state employees, teachers, and employees of participating political subdivisions. The GLI Program was established pursuant to §51.1-500 et seq. of the Code of Virginia, as amended, and which provides the authority under which benefit terms are established or may be amended. The GLI Program is a defined benefit plan that provides a basic group life insurance benefit for employees of participating employers. For purposes of measuring the net GLI Program OPEB liability, deferred outflows of resources and deferred inflows of resources related to the GLI Program OPEB, and GLI Program OPEB expense, information about the fiduciary net position of the VRS GLI Program OPEB and the additions to/deductions from the VRS GLI Program OPEB's fiduciary net position have been determined on the same basis as they were reported by VRS. In addition, benefit payments are recognized when due and payable in accordance with the benefit terms. Investments are reported at fair value.

Pensions

HRSD employees participate in an agent multiple-employer defined benefit pension plan administered by the VRS, which acts as a common investment and administrative agent for political subdivisions in the Commonwealth. For purposes of measuring the net pension liability, deferred outflows of resources and deferred inflows of resources related to pensions, and pension expense, information about the fiduciary net position of HRSD's Retirement Plan and the additions to or deductions from HRSD's Retirement Plan's net fiduciary position have been determined on

NOTES TO THE FINANCIAL STATEMENTS

the same basis as they were reported to HRSD by VRS. For this purpose, benefit payments (including refunds of employee contributions) are recognized when due and payable in accordance with the benefit terms.

Use of Estimates

The preparation of these financial statements requires management to make estimates and assumptions. These estimates affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results may differ from management’s estimates.

New Accounting Pronouncement

In June 2017 the Governmental Accounting Standards Board issued GASB Statement No. 87, *Leases*, effective July 1, 2022. The objective of this Statement is to better meet the information needs of financial statement users by improving accounting and financial reporting for leases; enhancing the comparability of financial statements between governments; and also enhancing the relevance, reliability (representational faithfulness), and consistency of information about the leasing activities of governments. This Statement establishes standards of accounting and financial reporting for leases by lessees and lessors. The requirements of this Statement apply to financial statements of all state and local governments. Consistent with previous Statements, the GASB notes that the provisions of the Statement need not be applied to immaterial items. Upon review, HRSD concluded that leases are immaterial to HRSD’s operations and do not warrant disclosure in FY2022.

NOTE 3 - DEPOSITS AND INVESTMENTS

Deposits and investments

Custodial Credit Risk. This risk is associated with the inability of a governmental entity to recover deposits from a financial institution in the event of a failure. At June 30, 2022 and 2021, the carrying values of HRSD’s deposits were \$51,917,000 and \$47,403,000. All of the bank balances at June 30, 2022 were covered by federal depository insurance or collateralized in accordance with the Virginia Security for Public Deposits Act (the Act). In accordance with the Act, the depository institution pledged collateral in the form of federal obligations with a fair value equal to 110 percent of HRSD’s deposits with a third party trustee in the name of the Treasurer of the Commonwealth. In the event that the banking institution fails, the Treasurer will take possession of the collateral, liquidate it and reimburse HRSD up to the value of its deposits. The State Treasury Board is responsible for monitoring compliance with the collateralization and reporting requirements of the Act and for notifying local governments of compliance by banks.

Credit Risk. HRSD invests in VACo/VML Virginia Investment Pool’s (VIP) 1-3 Year High Quality Bond Fund and Stable NAV Liquidity Pool. Oversight is provided by the VACo/VML Board of Trustees. HRSD’s investments in the VIP 1-3 Year High Quality Bond Fund and the VIP Stable NAV Liquidity Pool were rated AA+f/S1 and AAAm, respectively, by Standard & Poor’s.

The components of cash and cash equivalents at June 30 are as follows:

(in thousands)	2022	2021
Current cash and cash equivalents		
Cash deposits - unrestricted	\$ 51,917	\$ 47,403
VIP Stable NAV Liquidity - unrestricted	111,134	78,435
Total cash and cash equivalents - unrestricted	163,051	125,838
VIP Stable NAV Liquidity - restricted	33,134	30,455
Noncurrent cash and cash equivalents		
VIP 1-3 Year High Quality Bond Fund - unrestricted	62,932	65,054
Total cash and cash equivalents	\$ 259,117	\$ 221,347
Total VIP Stable NAV Liquidity	\$ 144,268	\$ 108,890

HRSD OPEB Trust Investments

The HRSD OPEB Trust has investments in mutual funds, cash, and cash equivalents on deposit with its trustee, US Bank. Investments are reported at fair value. HRSD's OPEB investment practices are governed by its formal investment policy.

The plan had the following investments and maturities at June 30:

(in thousands)	2022	2021
Domestic equity	\$ 21,186	\$ 29,467
International equity	9,179	15,208
Fixed income	19,965	22,058
Other income	3,985	2,632
Real Return	3,633	2,203
Money market	4,189	98
Total investments, cash and cash equivalents	\$ 62,137	\$ 71,666

Fixed income investments have an average maturity of 7.74 years and an average credit quality of A. Other investments do not have a stated maturity or credit rating.

Custodial Credit Risk. For an investment, custodial credit risk is the risk that, in the event of the failure of the counterparty, HRSD will not be able to recover the value of its investments or collateral securities that are in the possession of an outside party. HRSD's policy is to utilize its Trustee, U.S. Bank Trust Department, for its OPEB investments as recipient of all investment transactions on a delivery versus pay basis. The Trustees may not be a counterparty to the investment transaction. At June 30, 2022, the Trust Department of the U.S. Bank held \$61,844,000 in investments in the Trustee's name for HRSD. The difference between reported and U.S. Bank Trust valuation is the value of the Boyd Watterson security. U.S. Bank Trust value is lagging as they update those funds when they receive notice.

NOTE 4 - ALLOWANCE FOR UNCOLLECTIBLE ACCOUNTS

An analysis of the allowance for uncollectible accounts for the years ended June 30:

(in thousands)	2022	2021
Balance, beginning of year	\$ 2,684	\$ 2,822
Add: Current provision for uncollectible accounts	1,210	2,033
Less: Charge-off of uncollectible accounts	(1,487)	(2,171)
Balance, end of year	\$ 2,407	\$ 2,684

HRSD's collection ratios for the years ended June 30, 2022 and 2021 were 99.6% and 99.3%, respectively.

NOTES TO THE FINANCIAL STATEMENTS

NOTE 5 - PROPERTY, PLANT AND EQUIPMENT

Analysis of property, plant and equipment activity for years ended June 30:

(in thousands)	Balance 2020			Balance 2021			Balance 2022
	Balance	Additions	Transfers/ Retirements	Balance	Additions	Transfers/ Retirements	Balance
Non-Depreciable Capital Assets:							
Land	\$ 12,229	\$ 31,429	\$ -	\$ 43,658	\$ 12,512	\$ -	\$ 56,170
Construction in progress	290,585	198,597	(206,036)	283,146	162,594	(90,154)	355,586
Depreciable Capital Assets:							
Treatment plants	1,384,293	75,945	-	1,460,238	4,502	-	1,464,740
Interceptor systems	638,150	87,450	-	725,600	29,092	-	754,692
Buildings	48,081	155	-	48,236	19,030	-	67,266
Small community facilities	25,625	-	-	25,625	311	-	25,936
Office equipment	44,613	436	-	45,049	304	-	45,353
Automotive	19,127	806	-	19,933	328	(1,460)	18,801
Other equipment	37,517	11,382	-	48,899	26,105	-	75,004
Software and intangible assets	40,074	-	-	40,074	-	-	40,074
Total	\$ 2,540,294	\$ 406,200	\$ (206,036)	\$ 2,740,458	\$ 254,778	\$ (91,614)	\$ 2,903,622
Less Accumulated Depreciation and Amortization:							
Treatment plants	\$ (729,484)	\$ (34,578)	\$ -	\$ (764,062)	\$ (34,463)	\$ -	\$ (798,525)
Interceptor systems	(190,778)	(12,422)	-	(203,200)	(14,061)	-	(217,261)
Buildings	(20,776)	(1,439)	-	(22,215)	(1,498)	-	(23,713)
Small community facilities	(8,953)	(549)	-	(9,502)	(552)	-	(10,054)
Office equipment	(43,859)	(402)	-	(44,261)	(305)	-	(44,566)
Automotive	(17,411)	(807)	-	(18,218)	(675)	1,460	(17,433)
Other equipment	(33,208)	(1,692)	-	(34,900)	(1,988)	-	(36,888)
Software and intangible assets							
-amortization	(37,870)	(1,389)	-	(39,259)	(815)	-	(40,074)
Total	(1,082,339)	(53,278)	-	(1,135,617)	(54,357)	1,460	(1,188,514)
Net Property, Plant and Equipment	\$ 1,457,955	\$ 352,922	\$ (206,036)	\$ 1,604,841	\$ 200,421	\$ (90,154)	\$ 1,715,108

NOTE 6 - COMPENSATED ABSENCES

Analysis of liability for vested annual, sick, paid time off and compensatory leave for years ended June 30:

(in thousands)	Balance 2020			Balance 2021			Balance 2022
	Balance	Earned	Taken	Balance	Earned	Taken	Balance
Annual leave	\$ 5,265	\$ 3,118	\$ (2,720)	\$ 5,663	\$ 2,645	\$ (3,011)	\$ 5,297
Sick leave	3,043	1,396	(1,575)	2,864	1,263	(1,658)	2,469
Paid time off	262	1,585	(1,470)	377	1,901	(1,826)	452
Total	8,570	6,099	(5,765)	8,904	5,809	(6,495)	8,218
Less: Current liability	6,160			5,765			6,495
Long-term liability	\$ 2,410			\$ 3,139			\$ 1,723

NOTE 7 – POSTEMPLOYMENT BENEFITS OTHER THAN PENSIONS (OPEB)

Plan Description

As discussed in Note 2, HRSD provides OPEB for its employees through three plans: the Hampton Roads Sanitation District RHP, a single employer defined benefit plan, and two plans administered by VRS, the GLI, a multiple employer cost-sharing plan, and the HIC, a multiple-employer, agent defined benefit plan.

RHP

The RHP was established and may be amended by the Commission. HRSD administers the RHP through the Hampton Roads Sanitation District Retiree Health Trust (the Trust), an irrevocable trust to be used solely for providing benefits to eligible retired employees and their beneficiaries (members) in the RHP. HRSD's contributions to the Trust are dedicated irrevocably to providing post-retirement health benefits, the RHP assets are exclusively dedicated to providing benefits to members, and the RHP assets of the Trust are not subject to the claims of HRSD creditors or the Plan administrator. Employer contributions are recorded in the year they are made. Investments are reported at market value based on published prices and quotations. The RHP does not issue stand-alone financial statements.

Eligible Employees

HRSD employees are eligible for benefits upon retirement provided the employee has 15 years of service with HRSD or 10 years of service with HRSD plus 10 years of service with another VRS employer with a retiree health plan; are qualified for unreduced retirement benefits from VRS; and are enrolled in the HRSD Health Insurance Plan prior to retirement. Participating beneficiaries may continue coverage under the plan after the death of the retiree. Medicare eligible participants are required to enroll in both Medicare Part A and Part B, and may participate in a Medicare supplement plan. Members not eligible for Medicare may participate in a high deductible health plan.

Benefits provided

The RHP health plan provides medical and prescription services using both in network and out of network providers through a self-funded plan administered by a third-party vendor. Members may elect to purchase dental and vision benefit plans at their own expense.

GLI

All full-time, salaried permanent employees of participating political subdivisions are automatically covered by the VRS GLI upon employment. This plan is administered by the VRS, along with pensions and other OBEB plans, for public employer groups in the Commonwealth of Virginia.

In addition to the Basic GLI benefit, members are also eligible to elect additional coverage for themselves as well as a spouse or dependent children through the Optional GLI Program. For members who elect the optional group life insurance coverage, the insurer bills employers directly for the premiums. Employers deduct these premiums from members' paychecks and pay the premiums to the insurer. Since this is a separate and fully insured program, it is not included as part of the GLI OPEB.

The specific information for GLI Program OPEB, including eligibility, coverage and benefits follows:

Eligible Employees

The GLI Program was established July 1, 1960, for state employees, teachers and employees of political subdivisions that elect the program. Basic group life insurance coverage is automatic upon employment. Coverage ends for employees who leave their position before retirement eligibility or who take a refund of their member contributions and accrued interest.

Benefit Amounts

The benefits payable under the GLI Program have several components.

- Natural Death Benefit – The natural death benefit is equal to the employee's covered compensation rounded to the next highest thousand and then doubled.
- Accidental Death Benefit – The accidental death benefit is double the natural death benefit.
- Other Benefit Provisions – In addition to the basic natural and accidental death benefits, the program provides additional benefits provided under specific circumstances. These include:
 - Accidental dismemberment benefit
 - Seatbelt benefit
 - Repatriation benefit
 - Felonious assault benefit
 - Accelerated death benefit option

Reduction in Benefit Amounts

The benefit amounts provided to members covered under the GLI Program are subject to a reduction factor. The benefit amount reduces by 25% on January 1 following one calendar year of separation. The benefit amount reduces by an additional 25% on each subsequent January 1 until it reaches 25% of its original value.

Minimum Benefit Amount and Cost-of-Living Adjustment (COLA)

For covered members with at least 30 years of creditable service, there is a minimum benefit payable under the GLI Program. The minimum benefit was set at \$8,000 by statute in 2015. This will be increased annually based on the VRS Plan 2 cost-of-living adjustment calculation. The minimum benefit adjusted for the COLA was \$8,722 as of June 30, 2022.

NOTES TO THE FINANCIAL STATEMENTS

HIC

All full-time, salaried permanent employees of participating political subdivisions are automatically covered by the VRS Political Subdivision HIC Program upon employment. This plan is administered by the VRS, along with pension and other OPEB plans, for public employer groups in the Commonwealth of Virginia. Members earn one month of service credit toward the benefit for each month they are employed and for which their employer pays contributions to VRS. The health insurance credit is a tax-free reimbursement in an amount set by the General Assembly for each year of service credit against qualified health insurance premiums retirees pay for single coverage, excluding any portion covering the spouse or dependents. The credit cannot exceed the amount of the premiums and ends upon the retiree’s death.

The specific information about the Political Subdivision HIC Program OPEB, including eligibility, coverage and benefits follows:

Eligible Employees

The Political Subdivision Retiree HIC Program was established July 1, 1993 for retired political subdivision employees of employers who elect the benefit and who retire with at least 15 years of service credit. Eligible employees of participating political subdivisions are enrolled automatically upon employment. They include full-time permanent salaried employees of the participating political subdivision who are covered under the VRS pension plan.

Benefit Amounts

The political subdivision’s Retiree HIC Program provides the following benefits for eligible employees:

- At Retirement – For employees who retire, the monthly benefit is \$1.50 per year of service per month with a maximum benefit of \$45.00 per month.
- Disability Retirement – For employees who retire on disability or go on long-term disability under the Virginia Local Disability Program (VLDP), the monthly benefit is \$45.00 per month.

HIC Program Notes:

- The monthly HIC benefit cannot exceed the individual premium amount.
- No HIC for premiums paid and qualified under the VRS Line of Duty Act Program (LODA), however, the employee may receive the credit for premiums paid for other qualified health plans.
- Employees who retire after being on long-term disability under VLDP must have at least 15 year of service credit to qualify for the HIC as a retiree.

Employees Covered by Benefit Terms

As of the June 30, 2021 and 2020 actuarial valuation dates the following employees were covered by the benefit terms of the RHP:

	2021	2020
Beneficiaries currently receiving benefit payments	149	160
Active employees	743	732
Total	892	892

There are no inactive employees entitled to but not yet receiving plan benefits.

As of the June 30, 2020 and 2019 actuarial valuation dates the following employees were covered by the benefit terms of the HIC:

	2020	2019
Inactive members or their beneficiaries currently receiving benefit payments	261	249
Active employees	806	809
Total	1,067	1,058

Contributions

RHP contribution requirements are actuarially determined. Funding is subject to approval by the Commission. Medicare-eligible members contribute \$45 per month for retiree-only coverage and from \$442 to \$460 per month for retiree and dependent coverage. Members not eligible for Medicare contribute \$120 per month for retiree-only coverage and from \$517 to \$535 per month for retiree and dependent coverage. HRSD funds the cost of coverage under the RHP by paying the difference between the contributions it requires retirees to make and the actuarially determined contribution (ADC). The current employer contribution rate is approximately 5 percent of annual covered payroll. HRSD contributed \$2,260,000 and \$1,963,000 to the RHP for the years ended June 30, 2022 and 2021, respectively.

The GLI contribution requirements for the GLI Program are governed by §51.1-506 and §51.1-508 of the *Code of Virginia*, as amended, but may be impacted as a result of funding provided to state agencies and school divisions by the Virginia General Assembly. The total rate for the GLI Program was 1.34% of covered employee compensation. This was allocated into an employee and an employer component using a 60/40 split. The employee component was 0.80% (1.34% X 60%) and the employer component was 0.54% (1.34% X 40%). Employers may elect to pay all or part of the employee contribution, however the employer must pay all of the employer contribution. Each employer's contractually required employer contribution rate for the year ended June 30, 2022, was 0.54% of covered employee compensation. This rate was based on an actuarially determined rate from an actuarial valuation as of June 30, 2019. The actuarially determined rate, when combined with employee contributions, was expected to finance the costs of benefits payable during the year, with an additional amount to finance any unfunded accrued liability. Contributions from HRSD to the GLI Program were \$296,000 and \$293,000 for the years ended June 30, 2022 and June 30, 2021, respectively.

The HIC contribution requirement for active employees is governed by §51.1-1402(E) of the *Code of Virginia*, as amended, but may be impacted as a result of funding options provided to political subdivisions by the Virginia General Assembly. HRSD's contractually required employer contribution rate for the year ended June 30, 2022, was [Insert contributed rate]% of covered employee compensation. This rate was based on an actuarially determined rate from an actuarial valuation as of June 30, 2020. The actuarially determined rate was expected to finance the costs of benefits earned by employees during the year, with an additional amount to finance any unfunded accrued liability. Contributions from HRSD to the Political Subdivision HIC Program were \$115,000 and \$114,000 for the years ended June 30, 2022, and June 30, 2021, respectively.

RHP OPEB Expenses and Deferred Outflows of Resources Related to RHP OPEB

HRSD recognized RHP OPEB expense of \$1,569,000 and gain of \$1,160,000 for the years ended June 30, 2022 and 2021, respectively. HRSD reported deferred inflows of resources related to OPEB from the following sources:

(in thousands)	Deferred Outflows of Resources	Deferred Inflows of Resources
Year ended June 30, 2022:		
Differences between expected and actual experience	\$ 6,129	\$ 4,716
Changes in assumptions	-	1,239
Net diff between projected and actual earnings on plan investments	4,778	-
Total	<u>\$ 10,907</u>	<u>\$ 5,955</u>
Year ended June 30, 2021:		
Differences between expected and actual experience	\$ 4,806	\$ 5,502
Changes in assumptions	-	1,475
Net diff between projected and actual earnings on plan investments	-	8,984
Total	<u>\$ 4,806</u>	<u>\$ 15,961</u>

NOTES TO THE FINANCIAL STATEMENTS

HRSD’s measurement date is its fiscal year end so there are no deferred outflows of resources resulting from contributions subsequent to the measurement date. Other amounts reported as deferred outflows and inflows of resources related to OPEB will be recognized in OPEB expense in future reporting periods as follows:

(in thousands)		
Years Ended June 30,	2022	2021
2022	\$ -	\$ (2,734)
2023	566	(2,561)
2024	606	(2,522)
2025	641	(2,486)
2026	2,798	(330)
2027	(42)	-
Thereafter	383	(522)
	<u>\$ 4,952</u>	<u>\$ (11,155)</u>

GLI OPEB Liabilities, GLI OPEB Expense, and Deferred Outflows of Resources and Deferred Inflows of Resources Related to the Group Life Insurance Program OPEB

At June 30, 2022 and 2021, HRSD reported liabilities of \$3,058,000 and \$4,307,000, respectively, for its proportionate share of the Net GLI OPEB Liability. The Net GLI OPEB Liabilities were measured as of June 30, 2021 and June 30, 2020 and the total GLI OPEB liabilities used to calculate the Net GLI OPEB Liability were determined by actuarial valuations as of those dates. The covered employer’s proportion of the Net GLI OPEB Liability was based on HRSD’s actuarially determined employer contributions to the Group Life Insurance Program for the years ended June 30, 2021 and 2020 relative to the total of the actuarially determined employer contributions for all participating employers. At June 30, 2021 and 2020, HRSD’s proportion was 0.26262% and 0.25814%, respectively. For the years ended June 30, 2022 and 2021, HRSD recognized GLI OPEB expenses of \$135,000 and \$169,000, respectively. Since there was a change in proportionate share between measurement dates, a portion of the GLI OPEB expense was related to deferred amounts from changes in proportion.

At June 30, 2022 and 2021, HRSD reported deferred outflows of resources and deferred inflows of resources related to the GLI OPEB from the following sources:

(in thousands)	Deferred Outflows of Resources	Deferred Inflows of Resources
Year ended June 30, 2022:		
Differences between expected and actual experience	\$ 349	\$ 23
Net diff bet projected and actual earnings on program investments	-	730
Change in assumptions	168	418
Changes in proportion	75	41
Employer contributions subsequent to the measurement date	296	-
Total	<u>\$ 888</u>	<u>\$ 1,212</u>
Year ended June 30, 2021:		
Differences between expected and actual experience	\$ 276	\$ 39
Net diff bet projected and actual earnings on program investments	129	-
Change in assumptions	216	90
Changes in proportion	30	51
Employer contributions subsequent to the measurement date	293	-
Total	<u>\$ 944</u>	<u>\$ 180</u>

HRSD reported \$296,000 and \$293,000 as of June 30, 2022 and 2021, respectively, as deferred outflows of resources related to the GLI OPEB resulting from the HRSD's contributions subsequent to the measurement date which will be recognized as a reduction of the Net GLI OPEB Liability in the Fiscal Years ending June 30, 2023 and 2022, respectively. Other amounts reported as deferred outflows of resources and deferred inflows of resources related to the GLI OPEB will be recognized in the GLI OPEB expense in future reporting periods as follows:

(in thousands)		
Years ended June 30,	2022	2021
2022	\$ -	\$ 70
2023	(141)	106
2024	(109)	137
2025	(113)	133
2026	(223)	25
2027	(34)	-
	<u>\$ (620)</u>	<u>\$ 471</u>

HIC OPEB Expense, and Deferred Outflows of Resources and Deferred Inflows of Resources Related to HIC OPEB

For the years ended June 30, 2022 and 2021, HRSD recognized HIC Program OPEB expense of \$95,000 and \$122,000, respectively. HRSD reported deferred outflows of resources and deferred inflows of resources related to the Political Subdivision HIC Program from the following sources:

(in thousands)	Deferred Outflows of Resources	Deferred Inflows of Resources
Year ended June 30, 2022:		
Differences between expected and actual experience	\$ 40	\$ -
Net diff bet projected and actual earnings on program investments	-	113
Change in assumptions	40	6
Employer contributions subsequent to the measurement date	115	-
Total	<u>\$ 195</u>	<u>\$ 119</u>
Year ended June 30, 2021:		
Differences between expected and actual experience	\$ 47	\$ -
Net diff bet projected and actual earnings on program investments	31	-
Change in assumptions	35	9
Employer contributions subsequent to the measurement date	114	-
Total	<u>\$ 227</u>	<u>\$ 9</u>

NOTES TO THE FINANCIAL STATEMENTS

HRSD reported \$115,000 for FY 2022 and \$114,000 for FY 2021 as deferred outflows of resources related to the HIC OPEB resulting from HRSD's contributions subsequent to the measurement date which will be recognized as a reduction of the Net HIC OPEB Liability in the Fiscal Year ending June 30, 2023 and 2022, respectively. Other amounts reported as deferred outflows of resources and deferred inflows of resources related to the HIC OPEB will be recognized in the HIC OPEB expense in future reporting periods as follows:

(in thousands)	2022	2021
Years ended June 30,		
2022	\$ -	\$ 17
2023	(8)	24
2024	(6)	26
2025	(7)	25
2026	(22)	10
2027	4	-
Thereafter	-	2
	<u>\$ (39)</u>	<u>\$ 104</u>

Combined OPEB Expense, and Deferred Outflows of Resources and Deferred Inflows of Resources Related to RHP, GLI and HIC OPEB

For the years ended June 30, 2022 and 2021, HRSD reported deferred outflows of resources and deferred inflows of resources related to the RHP, GLI and HIC OPEB plans from the following sources:

(in thousands)	Deferred Outflows of Resources	Deferred Inflows of Resources
Year ended June 30, 2022:		
Differences between expected and actual experience	\$ 6,518	\$ 4,739
Net diff bet projected and actual earnings on program investments	4,778	843
Changes in proportion	75	41
Change in assumptions	208	1,663
Employer contributions subsequent to the measurement date	411	-
Total	<u>\$ 11,990</u>	<u>\$ 7,286</u>
Year ended June 30, 2021:		
Differences between expected and actual experience	\$ 5,129	\$ 5,541
Net diff bet projected and actual earnings on program investments	160	8,984
Change in assumptions	30	51
Changes in proportion	251	1,574
Employer contributions subsequent to the measurement date	407	-
Total	<u>\$ 5,977</u>	<u>\$ 16,150</u>

HRSD reported \$411,000 for FY 2022 and \$407,000 for FY 2021 as deferred outflows of resources related to the OPEB plans resulting from HRSD's contributions subsequent to the measurement date which will be recognized as a reduction of the net OPEB Liability in the Fiscal Year ending June 30, 2022 and 2021, respectively. Other amounts reported as deferred outflows of resources and deferred inflows of resources related to the OPEB plans will be recognized in HRSD's OPEB expense in future reporting periods as follows:

(in thousands)		
Years ended June 30,	2022	2021
2022	\$ -	\$ (2,647)
2023	417	(2,431)
2024	491	(2,359)
2025	521	(2,328)
2026	2,553	(295)
2027	(72)	-
Thereafter	383	(520)
	<u>\$ 4,293</u>	<u>\$ (10,580)</u>

HRSD reported \$411,000 for FY 2022 and \$407,000 for FY 2021 as as combined OPEB expenses related to the RHP, GI and HIC OPEB plans as follows:

(in thousands)		
Years ended June 30,	2022	2021
RHP	1,569	(1,160)
GLI	135	169
HIC	95	122
Total OPEB	<u>\$ 1,799</u>	<u>\$ (869)</u>

Actuarial Methods and Assumptions

The total RHP OPEB liabilities were based on actuarial valuations as of June 30, 2021 and 2020, using the Entry Age Normal actuarial cost method and the following assumptions, applied to all periods included in the measurement and rolled forward to the measurement dates of June 30, 2022 and 2021.

Year Ended June 30, 2022:

Inflation	2.5 percent
Salary increases, including inflation	2.5 percent
Investment rate of return	6.0 percent, net of investment expenses, including inflation

Mortality rates for the RHP are as follows:

Healthy Retirees	Pub-2010 General Retirees Headcount-weighted Mortality Projected with Fully Generational MP2019 Mortality Improvement Scale.
Disabled Retirees	Pub-2010 General Disabled Retirees Headcount-Weighted Mortality Projected with Fully Generational MP2019 Mortality Improvement Scale.
Active Retirees	Pub-20210 General Employees Headcount-Weighted Mortality Projected with Fully Generational MP2019 Mortality Improvement Scale.

Year Ended June 30, 2021:

Inflation	2.5 percent
Salary increases, including inflation	2.5 percent
Investment rate of return	6.0 percent, net of investment expenses, including inflation

Mortality rates for the RHP are as follows:

Healthy Retirees	Pub-2010 General Retirees Headcount-weighted Mortality Projected with Fully Generational MP2019 Mortality Improvement Scale.
Disabled Retirees	Pub-2010 General Disabled Retirees Headcount-Weighted Mortality Projected with Fully Generational MP2019 Mortality Improvement Scale.
Active Retirees	Pub-20210 General Employees Headcount-Weighted Mortality Projected with Fully Generational MP2019 Mortality Improvement Scale.

NOTES TO THE FINANCIAL STATEMENTS

The total GLI and HIC OPEB liabilities were based on actuarial valuations as of June 30, 2020, using the Entry Age Normal actuarial cost method and the following assumptions, applied to all periods included in the measurement and rolled forward to the measurement date of June 30, 2021:

Year Ended June 30, 2021:

Inflation	2.5 percent
Salary increases, including inflation	3.5 percent - 5.35 percent
Investment rate of return	6.75 percent, net of investment expenses, including inflation*

Mortality tables and assumptions for GLI and HIC are as follows:

Pre-Retirement:	Pub-2010 Amount Weighted Safety Employee Rates projected generationally; 95% of rates for males; 105% of rates for females set forward 2 years.
Post-Retirement:	Pub-2010 Amount Weighted Safety Healthy Retiree Rates projected generationally; 110% of rates for males; 105% of rates for females set forward 3 years.
Post-Disablement:	Pub-2010 Amount Weighted General Disabled Rates projected generationally; 95% of rates for males set back 3 years; 90% of rates for females set back 3 years.

Year Ended June 30, 2020:

Inflation	2.5 percent
Salary increases, including inflation *	3.5 percent - 5.35 percent
Investment rate of return	6.75 percent, net of investment expenses, including inflation*

Mortality tables and assumptions for GLI and HIC are as follows:

Pre-Retirement:	RP-2014 Employee Rates to age 80, Healthy Annuitant Rates to 81 and older projected with Scale BB to 2020; males 95% of rates; females 105% of rates.
Post-Retirement:	RP-2014 Employee Rates to age 49, Healthy Annuitant Rates at ages 50 and older projected with Scale BB to 2020; males set forward 3 years; females 1.0% increase compounded from ages 70 to 90.
Post-Disablement:	RP-2014 Disability Life Mortality Table projected with scale BB to 2020; males set forward 2 years, 110% of rates; females 125% of rates.

* Administrative expenses as a percent of the market value of assets for the last experience study were found to be approximately 0.06% of the market assets for all of the VRS plans. This would provide an assumed investment return rate for GASB purposes of slightly more than the assumed 6.75%. However, since the difference was minimal, and a more conservative 7.0% investment return assumption provided a projected plan net position that exceeded the projected benefit payments, the long-term expected rate of return on investments was assumed to be 6.75% to simplify preparation of the OPEB liabilities.

The actuarial assumptions used in the June 30, 2020, valuation were based on the results of an actuarial experience study for the period from July 1, 2016, through June 30, 2020, except the change in the discount rate, which was based on VRS Board action effective as of July 1, 2019. Changes to the actuarial assumptions as a result of the experience study and VRS Board action are as follows:

Mortality rates	Update to PUB2010 public sector mortality tables. For future mortality improvements, replace load with a modified Mortality Improvement Scale MP-2020
Pre-retirement, post-retirement healthy, and disabled	Adjusted rates to better fit experience for Plan 1; set separate rates based on experience for Plan 2/Hybrid; changed final retirement age from 75 to 80 for all
Retirement Rates	Adjusted rates to better fit experience at each age and service decrement through 9 years of service
Withdrawal Rates	No change
Disability Rates	No change
Salary Scale	No change
Line of Duty Disability	No change
Discount Rate	No change

Long-Term Expected Rate of Return

The long-term expected rate of return on RHP investments was determined using an economic building block approach that projects economic and corporate profit growth and takes into consideration the fundamental factors driving long-term real economic growth, our expectation for inflation, productivity, and labor force growth. The returns presented here are geometric return projections based on long-term capital market assumptions. The asset target allocations are governed by its formal investment policy. The best estimate of arithmetic real rates of return for each major asset class are summarized in the following table:

Year Ended June 30, 2022

<u>Asset Class (Strategy)</u>	<u>Target Allocation</u>	<u>Arithmetic Long-Term Expected Rate of Return</u>	<u>Weighted Average Long-Term Expected Rate of Return</u>
Domestic Equity	39.00%	7.60%	2.96%
International Developed Equity	15.00%	7.30%	1.10%
International Emerging Markets Equity	6.00%	7.70%	0.46%
Core Fixed	20.00%	3.90%	0.78%
Investment Grade Corporate Debt	10.00%	3.90%	0.39%
Emerging Markets Debt	5.00%	4.90%	0.25%
High Yield	5.00%	5.00%	0.25%
Total	<u>100.00%</u>		<u>6.19%</u>
		Inflation	2.50%
		* Expected arithmetic nominal return	<u>8.69%</u>

* The above allocation provides a one-year return of 8.69%. However, one-year returns do not take into account the volatility present in each of the asset classes so a rate of 6.0% is used.

Year Ended June 30, 2021

<u>Asset Class (Strategy)</u>	<u>Target Allocation</u>	<u>Arithmetic Long-Term Expected Rate of Return</u>	<u>Weighted Average Long-Term Expected Rate of Return</u>
Domestic Equity	39.00%	7.50%	2.93%
International Developed Equity	15.00%	7.60%	1.14%
International Emerging Markets Equity	6.00%	7.90%	0.47%
Core Fixed	20.00%	3.80%	0.76%
Investment Grade Corporate Debt	10.00%	4.20%	0.42%
Emerging Markets Debt	5.00%	6.10%	0.31%
High Yield	5.00%	6.00%	0.30%
Total	<u>100.00%</u>		<u>6.33%</u>
		Inflation	2.50%
		* Expected arithmetic nominal return	<u>8.83%</u>

* The above allocation provides a one-year return of 8.83%. However, one-year returns do not take into account the volatility present in each of the asset classes so a rate of 6.0% is used.

NOTES TO THE FINANCIAL STATEMENTS

The long-term expected rate of return on the GLI and HIC investments was determined using a log-normal distribution analysis in which best-estimate ranges of expected future real rates of return (expected returns, net of GLI and HIC’s investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. The target asset allocation and best estimate of arithmetic real rates of return for each major asset class are summarized in the following table:

<u>Asset Class (Strategy)</u>	<u>Target Allocation</u>	<u>Arithmetic Long-Term Expected Rate of Return</u>	<u>Weighted Average Long-Term Expected Rate of Return</u>
Public Equity	34.00%	5.00%	1.70%
Fixed Income	15.00%	0.57%	0.09%
Credit Strategies	14.00%	4.49%	0.63%
Real Assets	14.00%	4.76%	0.67%
Private Equity	14.00%	9.94%	1.39%
MAPS - Multi-Asset Public Strategies	6.00%	3.29%	0.20%
PIP-Private Investment Partnership	3.00%	6.84%	0.21%
Total	<u>100.00%</u>		<u>4.89%</u>
		Inflation	<u>2.50%</u>
		* Expected arithmetic nominal return	<u>7.39%</u>

*The above allocation provides a one-year return of 7.39%. However, one-year returns do not take into account the volatility present in each of the asset classes. In setting the long-term expected return for the system, stochastic projections are employed to model future returns under various economic conditions. The results provide a range of returns over various time periods that ultimately provide a median return of 6.94%, including expected inflation of 2.50%.

Discount Rates

The discount rate used to measure the total OPEB liability for the RHP, as of June 30, 2022, was 6.0%. The projection of cash flows used to determine the discount rate assumes that HRSD contributions will be made in accordance with the funding plan established by an independent actuarial review.

The discount rate used to measure the total GLI and HIC OPEB liability was 6.75%. The projection of cash flows used to determine the discount rate assumed that member contributions will be made per the VRS guidance and the employer contributions will be made in accordance with the VRS funding policy at rates equal to the difference between actuarially determined contribution rates adopted by the VRS Board of Trustees and the member rate. Through the fiscal year ending June 30, 2021, the rate contributed by the entity for the GLI and HIC OPEB will be subject to the portion of the VRS Board certified rates that are funded by the Virginia General Assembly which was 100% of the actuarially determined contribution rate. From July 1, 2021 on, employers are assumed to continue to contribute 100% of the actuarially determined contribution rates. Based on those assumptions, the GLI and HIC OPEB’s fiduciary net position was projected to be available to make all projected future benefit payments of eligible employees. Therefore, the long-term expected rate of return was applied to all periods of projected benefit payments to determine the total GLI and HIC OPEB liability.

Change in Net OPEB Liability (Asset)

HRSD's net RHP OPEB liability (Asset) was measured as of June 30, 2022 using a June 30, 2021 valuation, which has been rolled forward to the June 30, 2022 measurement date.

RHP (in thousands)	Total RHP OPEB Liability (a)	Plan Fiduciary Net Position (b)	Net RHP OPEB Liability (Asset) (a) - (b)
RHP OPEB Liability Balances at June 30, 2020	\$ 62,143	\$ 56,912	\$ 5,231
Changes for the year - Increase (Decrease):			
Service cost	1,333	-	1,333
Interest	3,672	-	3,672
Difference between expected and actual experience	2,930	-	2,930
Contributions - employer	-	1,963	(1,963)
Net investment income	-	14,216	(14,216)
Benefit payments, including refunds of employee contributions	(1,425)	(1,425)	-
Net changes	6,510	14,754	(8,244)
RHP OPEB Liability (Asset) Balances at June 30, 2021	\$ 68,653	\$ 71,666	\$ (3,013)
Changes for the year - Increase (Decrease):			
Service cost	1,435	-	1,435
Interest	4,052	-	4,052
Difference between expected and actual experience	2,303	-	2,303
Contributions - employer	-	2,260	(2,260)
Net investment income	-	(9,887)	9,887
Benefit payments, including refunds of employee contributions	(1,902)	(1,902)	-
Net changes	5,888	(9,529)	15,417
RHP OPEB Liability Balances at June 30, 2022	\$ 74,541	\$ 62,137	\$ 12,404

RHP fiduciary net position as a percentage of the total RHP OPEB liability was 83.36% and 104.39% as of June 30, 2022 and 2021, respectively.

The net GLI OPEB liability represents the program's total OPEB liability determined in accordance with GASB Statement No. 74, less the associated fiduciary net position. As of the measurement dates of June 30, 2021 and 2020, net OPEB liability amounts for the GLI Program are as follows:

GLI

(in thousands)	2021	2020
Total GLI OPEB Liability	\$ 3,577,346	\$ 3,523,937
Plan Fiduciary Net Position	2,413,074	1,855,102
Net GLI OPEB Liability	<u>\$ 1,164,272</u>	<u>\$ 1,668,835</u>
Plan Fiduciary Net Position as a Percentage of the Total GLI OPEB Liability:	67.45%	52.64%

The total GLI OPEB Liability is calculated by the VRS's actuary, and each plan's fiduciary net position is reported in VRS's financial statements. The net GLI OPEB Liability is disclosed in accordance with the requirements of GASB Statement No. 74 in VRS's notes to the financial statements and required supplementary information.

NOTES TO THE FINANCIAL STATEMENTS

HRSD's net HIC OPEB liability was measured as of June 30, 2021. The total HIC OPEB liability was determined by an actuarial valuation performed as of June 30, 2020, using updated actuarial assumptions, applied to all periods included in the measurement and rolled forward to the measurement date of June 30, 2021.

HIC (in thousands)	Total HIC OPEB Liability (a)	Plan Fiduciary Net Position (b)	Net HIC OPEB Liability (a) - (b)
HIC OPEB Liability Balances at June 30, 2019	\$ 2,093	\$ 925	\$ 1,168
Changes for the year - Increase (Decrease):			
Service cost	28	-	28
Interest	137	-	137
Difference between expected and actual experience	16	-	16
Contributions - employer	-	111	(111)
Net investment income	-	18	(18)
Benefit payments, including refunds of employee contributions	(129)	(129)	-
Administrative expense	-	(2)	2
Net changes	52	(2)	54
HIC OPEB Liability Balances at June 30, 2020	\$ 2,145	\$ 923	\$ 1,222
Changes for the year - Increase (Decrease):			
Service cost	28	-	28
Interest	140	-	140
Changes of assumptions	15	-	15
Difference between expected and actual experience	5	-	5
Contributions - employer	-	114	(114)
Net investment income	-	238	(238)
Benefit payments, including refunds of employee contributions	(137)	(137)	-
Administrative expense	-	(3)	3
Net changes	51	212	(161)
HIC OPEB Liability Balances at June 30, 2021	\$ 2,196	\$ 1,135	\$ 1,061

Sensitivity of the Net OPEB Liabilities to Changes in the Discount Rate and Healthcare Cost Trend Rate

The following table presents the net RHP OPEB liability (asset) if it is calculated using a discount rate that is one percentage point lower (5.00%) or one percentage point higher (7.00%) than the current discount rate:

<u>RHP Discount Rate</u>	1% Decrease (5.00%)	Current Discount Rate (6.0%)	1% Increase (7.00%)
Net RHP OPEB Liability/(Asset) (in thousands)			
Year ended June 30, 2022	\$ 25,533	\$ 12,404	\$ 1,989
Year ended June 30, 2021	8,875	(3,013)	(12,481)

The following table presents the net RHP OPEB liability (asset) if it is calculated using a healthcare cost trend rate that is one percentage point lower (3.00%) or one percentage point higher (5.00%) than the current healthcare cost trend rate:

<u>RHP Ultimate Trend</u>	1% Decrease (3.00%)	Healthcare Cost Trend Rate (4.00%)	1% Increase (5.00%)
Net RHP OPEB Liability/(Asset) (in thousands)			
Year ended June 30, 2022	\$ 491	\$ 12,404	\$ 27,823
Year ended June 30, 2021	(13,883)	(3,013)	11,009

The following presents the net GLI OPEB liability using the discount rate of 6.75%, as well as what the net GLI OPEB liability would be if it were calculated using a discount rate that is one percentage point lower (5.75%) or one percentage point higher (7.75%) than the current rate:

GLI Discount Rate	1% Decrease (5.75%)	Current Discount Rate (6.75%)	1% Increase (7.75%)
GLI Net OPEB Liability (in thousands)			
Year ended June 30, 2022	\$ 4,467	\$ 3,058	\$ 1,919
Year ended June 30, 2021	5,663	4,307	3,207

The following presents the net HIC OPEB liability using the discount rate of 6.75%, as well as what the net HIC OPEB liability would be if it were calculated using a discount rate that is one percentage point lower (5.75%) or one percentage point higher (7.75%) than the current rate:

HIC Discount Rate	1% Decrease (5.75%)	Current Discount Rate (6.75%)	1% Increase (7.75%)
HIC Net OPEB Liability (in thousands)			
Year ended June 30, 2022	\$ 1,300	\$ 1,061	\$ 858
Year ended June 30, 2021	1,447	1,222	1,029

GLI Fiduciary Net Position and HIC Plan Data

Information about the GLI Fiduciary Net Position and HIC Plan Data are available in the separately issued VRS 2021 *Annual Comprehensive Financial Report*. A copy of the 2021 VRS Annual Report may be downloaded from the VRS website at varetire.org/pdf/publications/2021-annual-report.pdf, or by writing to the System's Chief Financial Officer at P.O. Box 2500, Richmond, VA 23218-2500.

NOTE 8 – DEFINED BENEFIT PENSION PLAN

Plan Description

HRSD employees participate in an agent multiple-employer defined benefit pension plan administered by VRS. All full time, salaried permanent employees of HRSD are automatically covered by the Plan upon employment. Members earn one month of service credit for each month they are employed and for which they and their employer pay contributions to VRS. Members are eligible to purchase prior service, based on specific criteria as defined in the Code of Virginia, as amended. Eligible prior service that may be purchased includes prior public service, active military service, certain periods of leave and previously refunded service.

VRS administers three different benefit structures for covered employees – Plan 1, Plan 2 and the Hybrid Retirement Plan (HRP). The specific information for each plan is set out below:

- Plan 1 is a defined benefit plan. The retirement benefit is based on a member's age, creditable service and average final compensation at retirement using a formula. Employees are eligible for Plan 1 if their membership date is before July 1, 2010 and they were vested as of January 1, 2013. Non-hazardous duty members are eligible for an unreduced retirement benefit beginning at age 65 with at least five years of service credit or at age 55 with at least 30 years of service credit. They may retire with a reduced benefit as early as age 55 with at least five years of service credit or age 50 with at least 10 years of service credit.
- Plan 2 is a defined benefit plan. The retirement benefit is based on a member's age, creditable service and average final compensation at retirement using a formula. Employees are eligible for Plan 2 if their membership date is on or after July 1, 2010, and they were not vested as of January 1, 2013. Non-hazardous duty members are eligible for an unreduced benefit beginning at their normal Social Security retirement age with at least five years of service credit or when the sum of their age and service equals 90. They may retire with a reduced benefit as early as age 60 with at least five years of service credit.

NOTES TO THE FINANCIAL STATEMENTS

- The Hybrid Retirement Plan (HRP) combines the features of a defined benefit plan and a defined contribution plan. Most members hired on or after January 1, 2014 are in this plan, as well as Plan 1 and Plan 2 members who were eligible and opted into the plan during a special election window from January 1 through April 30, 2014. The employee's retirement benefit is funded through mandatory and voluntary contributions made by the employee and HRSD to both the defined benefit and the defined contribution components of the plan. Non-hazardous duty members are eligible for an unreduced benefit beginning at their normal Social Security retirement age with at least five years of service credit or when the sum of their age and service equals 90. They may retire with a reduced benefit as early as age 60 with at least five years of service credit.

Members in Plan 1 and Plan 2 contribute 5% of their compensation each month to their member contribution account through a pre-tax salary reduction. HRSD makes a separate actuarially determined contribution to VRS for all covered employees. The retirement benefit for members in the HRP is funded through mandatory and voluntary contributions made by the member and HRSD to both the defined benefit and the defined contribution components of the plan. Mandatory contributions are based on a percentage of the employee's creditable compensation and are required from both the member and the employer. Additionally, members may choose to make voluntary contributions to the defined contribution component of the plan, and the employer is required to match those voluntary contributions according to specified percentages.

Members in Plan 1 and Plan 2 earn creditable service for each month they are employed in a covered position, and vest when they have at least five years (60 months) of creditable service. Members in the HRP earn one month of service credit for each month they are employed in a covered position for the defined benefit component, and service credits are used to determine vesting for the employer contribution portion of the plan. HRP members are always 100% vested in the defined contributions they make, and upon retirement or leaving covered employment are eligible to withdraw employer contributions of 50%, 75%, or 100% after two, three, or four years of service, respectively.

The VRS Basic Benefit for Plan 1 and Plan 2 members, and the defined benefit component for HRP members, is a lifetime monthly benefit based on a retirement multiplier as a percentage of the member's average final compensation multiplied by the member's total service credit. Under Plan 1, average final compensation is the average of the member's 36 consecutive months of highest compensation. Under Plan 2 and the HRP, average final compensation is the average of the member's 60 consecutive months of highest compensation. The retirement multiplier for non-hazardous duty members in Plan 1 is 1.7%; in Plan 2 the multiplier is 1.7% for service earned, purchased or granted prior to January 1, 2013 and 1.65% after that date. The multiplier is 1% for members in the HRP. At retirement, members can elect the Basic Benefit, the Survivor Option, a Partial Lump-Sum Option Payment (PLOP) or the Advance Pension Option. A retirement reduction factor is applied to the Basic Benefit amount for members electing the Survivor Option, PLOP or Advance Pension Option or those retiring with a reduced benefit.

Retirees are eligible for an annual cost-of-living adjustment (COLA) effective July 1 of the second calendar year of retirement. Under Plan 1, the COLA cannot exceed 5%; under Plan 2 and for the HRP defined benefit component, the COLA cannot exceed 3%. During years of no inflation or deflation there is no COLA adjustment. The VRS also provides death and disability benefits.

Data information about the VRS Political Subdivision Retirement Plan is also available in the separately issued VRS 2021 Annual Report. A copy of the 2021 VRS Annual Report may be downloaded from the VRS website at varetire.org/pdf/publications/2021-annual-report.pdf, or by writing to the System's Chief Financial Officer at P.O. Box 2500, Richmond, VA 23218-2500.

Employees Covered by Benefit Terms

As of the June 30, 2020 and 2019 actuarial valuation dates, the following employees were covered by the benefit terms of the pension plan:

	2020	2019
Inactive members or their beneficiaries currently receiving benefits	418	398
Inactive Members		
Vested	108	95
Non-Vested	160	154
Active Elsewhere in VRS	79	85
Total Inactive Members	347	334
Active Members	806	809
Total	1,571	1,541

Contributions

The contribution requirement for active employees is governed by § 51.1-145 of the Code of Virginia, as amended, but may be impacted as a result of funding options provided to political subdivisions by the Virginia General Assembly. Employees are required to contribute 5.00% of their compensation toward their retirement. HRSD's contractually required employer contribution rate for the year ended June 30, 2022 was 7.06% of covered employee compensation. This rate was based on an actuarially determined rate from an actuarial valuation as of June 30, 2019.

These rates, when combined with employee contributions, are expected to finance the costs of benefits earned by employees during the year, with an additional amount to finance any unfunded accrued liability. Employer contributions to the pension plan were \$3,441,000 and \$3,453,000 for the years ended June 30, 2022 and 2021, respectively.

Net Pension Liability

LiabilityThe net pension liability (NPL) is calculated separately for each employer and represents that particular employer's total pension liability determined in accordance with GAAP, less that employer's fiduciary net position. For HRSD, the net pension liability was measured as of June 30, 2021. The total pension liability used to calculate the net pension liability was determined by an actuarial valuation performed as of June 30, 2020, rolled forward to the measurement date of June 30, 2021.

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Actuarial Methods and Assumptions

The total pension liability as of June 30, 2020 for employees in HRSD’s retirement plan was based on actuarial valuations as of June 30, 2020, using the Entry Age Normal actuarial cost method and the following assumptions, applied to all periods included in the measurement and rolled forward to the measurement date of June 30, 2021. The actuarial valuations as of June 30, 2020 use the following assumptions:

Year Ended June 30, 2022	
Inflation	2.5 percent
Salary increases, including inflation	3.5 percent to 5.35 percent
Investment rate of return	6.75%, net of pension plan investment expenses, including inflation
Mortality:	
Mortality rates	15% of deaths are assumed to be service related.
Pre Retirement	Pub-2010 Amount Weighted Safety Employee Rates projected generationally; 95% of rates for males; 105% of rates for females set forward 2 years
Post Retirement	Pub-2010 Amount Weighted General Disabled Rates projected generationally; 110% of rates for males set back 3 years; 105% of rates for females set back 3 years
Post Disablement	Pub-2010 Amount Weighted General Disabled Rates projected generationally; 95% of rates for males set back 3 years; 90% of rates for females set back 3 years
Beneficiaries and Survivors	Pub-2010 Amount Weighted Safety Contingent Annuitant Rates projected generationally; 110% of rates for males and females set forward 2 years
Mortality Improvement	Rates projected generationally with Modified MP-2020 Improvement Scale that is 75% of the MP-2020 rates

The actuarial assumptions used in the June 30, 2020, valuation were based on the results of an actuarial experience study for the period from July 1, 2016, through June 30, 2020, except the change in the discount rate, which was based on VRS Board action effective as of July 1, 2019. Changes to the actuarial assumptions as a result of the experience study and VRS Board action are as follows:

Mortality Rates- Pre-retirement, post-retirement healthy, and disabled	Update to PUB2010 public sector mortality tables. For future mortality improvements, replace load with a modified Mortality Improvement Scale MP-2020.
Retirement Rates	Adjusted rates to better fit experience for Plan 1; set separate rates based on experience for Plan 2/Hybrid; changed final retirement age
Withdrawal Rates	Adjusted rates to better fit experience at each year age and service through 9 years of service
Disability Rates	No change
Salary Scale	No change
Line of Duty Disability	No change
Discount Rate	No change

Long-Term Expected Rate of Return

The long-term expected rate of return on pension system investments was determined using a log-normal distribution analysis in which best-estimate ranges of expected real rates of return (expected returns, net of pension system investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation.

The target asset allocation and best estimate of arithmetic real rates of return for each major asset class are summarized in the following table:

Asset Class (Strategy)	Long-Term Target Asset Allocation	Arithmetic Long-Term Expected Rate of Return	Weighted Average Long-Term Expected Rate of Return *
Public equity	34.00%	5.00%	1.70%
Fixed income	15.00%	0.57%	0.09%
Credit strategies	14.00%	4.49%	0.63%
Real assets	14.00%	4.76%	0.67%
Private equity	14.00%	9.94%	1.39%
MAPS - Strategies	6.00%	3.29%	0.20%
PIP	3.00%	6.84%	0.21%
Total	<u>100.00%</u>		<u>4.89%</u>
		Inflation	2.50%
		* Expected arithmetic nominal return	<u>7.39%</u>

* The above allocation provides a one-year return of 7.39%. However, one-year returns do not take into account the volatility present in each of the asset classes. In setting the long-term expected return for the system, stochastic projections are employed to model future returns under various economic conditions. The results provide a range of returns over various time periods that ultimately provide a median return of 6.94%, including expected inflation of 2.50%. On October 10, 2019, the VRS Board elected a long-term rate of return of 6.75%, which was roughly at the 40th percentile of expected long-term results of the VRS fund asset allocation at that time, providing a median return of 7.11%, including expected inflation of 2.50%.

Discount Rate

The discount rate used to measure the total pension liability was 6.75%. The projection of cash flows used to determine the discount rate assumed that System member contributions will be made per the VRS Statutes and the employer contributions will be made in accordance with the VRS funding policy at rates equal to the difference between actuarially determined contribution rates adopted by the VRS Board of Trustees and the member rate. Consistent with the phased-in funding provided by the General Assembly for state and teacher employer contributions; political subdivisions were also provided with an opportunity to use an alternate employer contribution rate. For the year ended June 30, 2021, the alternate rate was the employer contribution rate used in FY 2012 or 100% of the actuarially determined employer contribution rate from the June 30, 2017, actuarial valuations, whichever was greater. From July 1, 2021, on, participating employers are assumed to continue to contribute 100% of the actuarially determined contribution rates. Based on those assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments of current active and inactive employees. Therefore, the long-term expected rate of return was applied to all periods of projected benefit payments to determine the total pension liability.

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Changes in Net Pension Liability

(in thousands)	Total Pension Liability (a)	Plan Fiduciary Net Position (b)	Net Pension Liability (a) - (b)
Pension Liability Balances at June 30, 2019	\$ 245,686	\$ 216,628	\$ 29,058
Changes for the year - Increase (Decrease):			
Service cost	4,229	-	4,229
Interest	16,223	-	16,223
Changes of assumptions	(991)	-	(991)
Contributions - employer	-	2,897	(2,897)
Contributions - employee	-	2,538	(2,538)
Net investment income	-	4,115	(4,115)
Benefit payments, including refunds of employee contributions	(10,696)	(10,696)	-
Administrative expense	-	(142)	142
Other changes	-	(5)	5
Net changes	8,765	(1,293)	10,058
Pension Liability Balances at June 30, 2020	\$ 254,451	\$ 215,335	\$ 39,116
Changes for the year - Increase (Decrease):			
Service cost	4,264	-	4,264
Interest	16,787	-	16,787
Changes of assumptions	6,599	-	6,599
Difference between expected and actual experience	(266)	-	(266)
Contributions - employer	-	3,453	(3,453)
Contributions - employee	-	2,569	(2,569)
Net investment income	-	58,456	(58,456)
Benefit payments, including refunds of employee contributions	(11,512)	(11,512)	-
Administrative expense	-	(147)	147
Other changes	-	6	(6)
Net changes	15,872	52,825	(36,953)
Pension Liability Balances at June 30, 2021	\$ 270,323	\$ 268,160	\$ 2,163

Sensitivity of the Net Pension Liability to Changes in the Discount Rate

The following presents HRSD's net pension liability using the discount rate of 6.75%, as well as what HRSD's net pension liability would be if it were calculated using a discount rate that is one percentage point lower (5.75%) or one percentage point higher (7.75%) than the current rate:

Net Pension Liability (in thousands)	1% Decrease (5.75%)	Current Discount (6.75%)	1% Increase (7.75%)
Pension Discount Rate			
Year ended June 30, 2021	\$ 39,990	\$ 2,163	\$ (28,835)
Year ended June 30, 2020	72,769	39,116	11,182

Pension Expenses and Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions

HRSD recognized pension expense of (\$2,015,000) and \$6,091,000 for the years ended June 30, 2022 and 2021, respectively. At June 30, 2022 and 2021, HRSD reported deferred outflows of resources and deferred inflows of resources related to pensions from the following sources:

(in thousands)	Deferred Outflows of Resources	Deferred Inflows of Resources
Year ended June 30, 2022:		
Differences between expected and actual experience	\$ 261	\$ 761
Changes of assumptions	7,406	-
Net diff bet projected and actual earnings on program investments	-	29,013
Employer contributions subsequent to the measurement date	3,441	-
Total	<u>\$ 11,108</u>	<u>\$ 29,774</u>
Year ended June 30, 2021:		
Differences between expected and actual experience	\$ 525	\$ 1,226
Changes of assumptions	4,149	526
Net diff bet projected and actual earnings on program investments	6,456	-
Employer contributions subsequent to the measurement date	3,453	-
Total	<u>\$ 14,583</u>	<u>\$ 1,752</u>

HRSD reported \$3,441,000 and \$3,453,000 as of June 30, 2022 and 2021, respectively, as deferred outflows of resources resulting from HRSD's contributions subsequent to the measurement date, which will be recognized as reductions of the Net Pension Liability in the years ended June 30, 2023 and 2022, respectively. Other amounts reported as deferred outflows and inflows of resources related to pensions will be recognized in pension expense in future reporting periods as follows:

(in thousands)	2022	2021
Years ended June 30,		
2022	\$ -	\$ 871
2023	(3,594)	3,570
2024	(4,180)	2,984
2025	(5,510)	1,953
2026	(8,823)	-
	<u>\$ (22,107)</u>	<u>\$ 9,378</u>

Pension Plan Data

Information about the VRS Political Subdivision Retirement Plan is also available in the separately issued VRS 2021 and 2020 Annual Report. A copy of the 2021 and 2020 VRS Annual Report may be downloaded from the VRS website at <http://www.varetire.org/pdf/publications/2021-annual-report.pdf>, or by writing to the System's Chief Financial Officer at P.O. Box 2500, Richmond, VA 23218-2500.

NOTE 9 – NOTES PAYABLE AND BONDS

As of October 30, 2015, the District entered into a Credit Agreement with Bank of America, N.A. (the "Bank") to provide a revolving line of credit to provide interim financing or refinancing for costs of projects. Since that time, the Credit Agreement has been extended and amended, most recently as of June 30, 2022. As of June 30, 2022 and 2021, the District's revolving line of credit was \$100,000,000 and \$50,000,000, respectively, with Bank of America, N.A. (the "Bank"). The June 30, 2022 line of credit matures June 30, 2023. In addition, the District may request the Bank to increase the maximum authorization on the line of credit to up to \$300,000,000, subject to the Bank's approval, in its sole discretion. The District's obligation to make payments under the Credit Agreement is a Junior Obligation within the meaning of the District's Trust Agreement, dated as of October 1, 2011, as amended and supplemented,

NOTES TO THE FINANCIAL STATEMENTS

between the District and The Bank of New York Mellon Trust Company, N.A., as trustee, and is expressly subordinate and junior to the Lien on Net Revenues Available for Debt Service (as defined in the Trust Agreement).

Interest on advances is payable monthly at a fluctuating rate per annum. Tax-exempt projects are payable at an interest rate equal to the Securities Industry and Financial Markets Association (SIFMA) Index plus 0.39% per annum. Taxable projects are payable at an interest rate equal to the London Interbank Offered Rate (LIBOR) plus 0.45% per annum.

At June 30, 2022 and 2021, HRSD owed \$33,721,000 and \$15,299,000 against the line of credit, respectively. At June 30, 2022 and 2021, HRSD had \$66,279,000 and \$34,701,000, respectively, available under the line of credit agreement. The agreement provides for certain actions to be taken in events of default including acceleration of payment of the line of credit balance, termination of the lender's commitment to make further advances, and increasing the interest rate in effect to a higher default rate until paid in full. The line of credit is recorded as Notes Payable in the Current Liabilities section of the Statements of Net Position.

HRSD issues revenue bonds for various capital improvements including but not limited to wastewater treatment plants and interceptor system improvements. In addition to HRSD's publicly issued revenue bonds, HRSD is indebted for bond issues payable to the Virginia Resources Authority (VRA) as administrator of the Virginia Water Facilities Fund. HRSD is required to adhere to and is in compliance with the rebate and reporting requirements of the federal regulations pertaining to arbitrage.

HRSD has \$50 million outstanding in subordinate variable rate demand bonds, Series 2016B, to partially finance its capital improvement plan. The bonds bear interest in either a Weekly Period or a Long-term Period, as defined. The bonds were initially issued in a Weekly Interest Period and bear interest at a varying interest rate until, at HRSD's option, they are converted to the Long-term Period. Liquidity to pay the purchase price of the bonds that are tendered and not remarketed is provided by HRSD. Maturities of the principal and interest for these bonds are shown in the following table as if held to maturity. The bonds are subject to optional redemption by HRSD prior to their maturity. Through June 30, 2022, the bonds have been successfully remarketed by the Remarketing Agent. The interest rate for the bonds at June 30, 2022 and 2021 was 0.67% and 0.08%, respectively. The 2022 rate was used to calculate interest maturity amounts shown below.

All bonds are secured by the revenues of HRSD and are payable over the duration of that issue. A summary of activity for the years ended June 30:

(in thousands)	Balance at 6/30/2020			Balance at 6/30/2021			Balance at 6/30/2022			Due within One year
	6/30/2020	Additions	Deductions	6/30/2021	Additions	Deductions	6/30/2022			
Series-2019A	\$ 205,675	\$ -	\$ (2,985)	\$ 202,690	\$ -	\$ (3,225)	\$ 199,465	\$ 3,275		
Series-2018A	20,485	-	(1,035)	19,450	-	(1,090)	18,360	1,145		
Series-2017A	72,055	-	-	72,055	-	-	72,055	-		
Series-2016A	96,795	-	(4,160)	92,635	-	(5,875)	86,760	3,080		
Series-2016B VR	50,000	-	-	50,000	-	-	50,000	50,000		
Series-2014A	64,540	-	(6,080)	58,460	-	(8,070)	50,390	11,825		
Series-2012A	2,955	-	(2,955)	-	-	-	-	-		
Series-2012	290	-	(290)	-	-	-	-	-		
Series-2009B	116,225	-	(4,040)	112,185	-	(4,170)	108,015	4,305		
Virginia Resources Authority										
Senior bonds	30,492	-	(2,467)	28,025	-	(2,531)	25,494	2,676		
Subordinate bonds	152,445	35,452	(8,194)	179,703	71,955	(10,267)	241,391	13,480		
	811,957	35,452	(32,206)	815,203	71,955	(35,228)	851,930	89,786		
Unamortized bond premiums	23,522	-	(3,719)	19,803	-	(3,261)	16,542	2,823		
	835,479	35,452	(35,925)	835,006	71,955	(38,489)	868,472	92,609		
Notes Payable	-	25,299	(10,000)	15,299	18,422	-	33,721	33,721		
Total	\$ 835,479	\$ 60,751	\$ (45,925)	\$ 850,305	\$ 90,377	\$ (38,489)	\$ 902,193	\$ 126,330		

Senior bonds outstanding at June 30, 2022:

(in thousands)	Issue Amount	Principal Outstanding			Interest to Maturity	Interest Rates	Duration of Issue	Final Maturity
		Total	Current	Long-Term				
Series-2014A	\$ 111,345	\$ 50,390	\$ 11,825	\$ 38,565	\$ 5,148	5.00%	15 years	July 1, 2025
Series-2009B	134,725	108,015	4,305	103,710	63,227	5.11% - 5.87%	30 years	November 1, 2039
VRA - Metering	9,989	5,308	549	4,759	465	2.65%	20 years	March 1, 2031
VRA - WTP	5,727	3,022	309	2,713	303	2.05%	20 years	March 1, 2031
VRA - NTP	19,395	10,281	1,062	9,219	901	2.65%	20 years	March 1, 2031
VRA - JRTP	13,431	6,883	756	6,127	571	2.65%	20 years	September 1, 2030
Total		\$ 183,899	\$ 18,806	\$ 165,093	\$ 70,615			

Maturities of senior bond principal and interest as of June 30, 2022:

(in thousands)	Principal		Interest	
June 30,				
2023	\$ 18,806	\$ 8,818		
2024	19,600	7,942		
2025	20,450	7,007		
2026	20,671	6,030		
2027	7,843	5,368		
2028 - 2032	39,449	21,397		
2033 - 2037	33,625	11,957		
2038 - 2042	23,455	2,096		
	\$ 183,899	\$ 70,615		

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Subordinate revenue bonds outstanding at June 30, 2022:

(in thousands)	Issue Amount	Principal Outstanding			Interest to Maturity	Interest Rates	Duration of Issue	Final Maturity
		Total	Current	Long-term				
Series-2019A	\$ 205,675	\$ 199,465	\$ 3,275	\$ 196,190	\$ 52,368	1.76% - 2.78%	20 Years	February 1, 2039
Series-2018A	63,185	18,360	1,145	17,215	6,051	5.00%	15 years	October 1, 2033
Series-2017A	83,485	72,055	-	72,055	39,650	3.50% - 5.00%	26 years	October 1, 2043
Series-2016A	246,845	86,760	3,080	83,680	28,349	3.00% - 5.00%	20 years	August 1, 2036
VRA - York River Reuse	2,476	77	77	-	1	1.70%	20 years	September 1, 2022
VRA - AB Aeration	1,759	58	58	-	-	1.70%	20 years	October 1, 2022
VRA - Ches-Eliz Off Gas	1,070	71	71	-	2	3.75%	20 years	March 1, 2023
VRA - AB Generator	1,235	302	73	229	14	2.00%	20 years	April 1, 2026
VRA - Atlantic Expan	7,340	2,229	437	1,792	62	2.10%	20 years	February 1, 2027
VRA - Ches-Eliz Expan	40,330	12,177	2,387	9,790	337	2.10%	20 years	June 1, 2027
VRA - Williamsburg PS	1,605	531	95	436	16	2.10%	20 years	July 1, 2027
VRA - York River Expan	29,683	15,748	1,567	14,181	2,113	2.72%	20 years	March 1, 2031
VRA - Rodman	1,096	960	37	923	246	2.25%	25 years	June 1, 2043
VRA - Atlantic	6,318	3,929	337	3,592	265	2.51%	20 years	February 1, 2033
VRA - Ferguson	866	766	30	736	225	2.70%	25 years	March 1, 2042
VRA - Lucas	2,949	2,684	90	2,594	881	2.65%	27 years	October 1, 2044
VRA - BHTP Switchgear	7,619	7,248	377	6,871	1,201	1.85%	20 years	December 1, 2040
VRA - Orcutt Ave	-	7,620	220	7,400	3,647	2.85%	30 years	February 1, 2049
VRA - TP Dewatering	-	3,318	162	3,156	394	1.20%	20 years	October 1, 2040
VRA - Deep Creek IFM	4,989	4,761	231	4,530	562	1.20%	20 years	December 1, 2040
VRA - Huxley	-	3,542	182	3,360	437	1.20%	20 years	August 1, 2040
VRA - Group Loan	-	80,251	2,295	77,956	12,106	1.15%	22 years	March 1, 2042
VRA - ABTP	50,000	29,704	2,563	27,141	3,463	2.05%	20 years	September 1, 2032
VRA - ATP	-	56,186	1,795	54,391	16,895	2.25%	30 years	March 1, 2046
VRA - BHTP	7,584	4,105	396	3,709	434	2.05%	20 years	September 1, 2031
VRA - ES	-	4,902	-	4,902	265	1.30%	20 years	October 1, 2043
VRA - 2022 Projects	-	222	-	222	7	1.30%	20 years	December 1, 2043
Total Fixed Rate Bonds		618,031	20,980	597,051	169,991			
						Variable (0.67% at June 30, 2022)		
Series-2016B VR	50,000	50,000	50,000	-	8,116		30 years	August 1, 2046
Total		\$ 668,031	\$ 70,980	\$ 597,051	\$ 178,107			

The VRA bonds that do not show an issue amount have not closed as of June 30, 2022, therefore, the principal amounts reflected represent draws through that date. The total eligible loan amount on these Subordinate VRA bonds is \$242,138,000, of which \$141,580,000 is available at June 30, 2022.

Maturities of subordinate bond principal and interest as of June 30, 2022:

(in thousands)	Principal	Interest
June 30, 2023	\$ 70,980	\$ 16,863
2024	23,575	16,423
2025	25,526	15,812
2026	26,295	15,233
2027	40,306	14,536
2028 - 2032	194,911	56,868
2033 - 2037	184,360	29,950
2038 - 2042	78,280	9,772
2043 - 2047	23,703	2,637
2048 - 2052	95	13
	\$ 668,031	\$ 178,107

HRSD defeased certain revenue bonds by placing the proceeds of new bonds in an irrevocable trust to provide for all future debt service payments on the old bonds. Accordingly, the trust account assets and the liability for the defeased bonds are not included in the fund's financial statements. At June 30, 2022, the following defeased bonds from advance refunding are still outstanding:

Defeased In	Original Issue	Amount	Redemption
2017	Series 2012A	\$ 25,500,006	07/01/22
2017	Series 2016A	8,270,633	08/01/26
2019	Series 2014A	37,814,768	07/01/24
2019	Series 2016A	25,757,389	08/01/26
2019	Series 2016A	118,057,036	08/01/26
2019	Series 2017A	12,483,966	10/01/27
2019	Series 2018A	12,625,954	10/01/27
2019	Series 2018A	32,786,956	10/01/27
		<u>\$ 273,296,708</u>	

NOTE 10 – NET POSITION

Restricted Portion of Net Position

Restricted for debt service. HRSD's Trust Agreement requires that funds be set aside for its revenue bond debt service. At June 30, 2022 and 2021, \$33,134,000 and \$30,455,000, respectively, were contained in the unrestricted net position.

Reserved Portion of Unrestricted Net Position

Reserved for Improvement. HRSD's Master Trust Agreement requires a reserve for improvements. There is no specific funding mechanism established by the Trust Agreement. At June 30, 2022 and 2021, \$178,000 and 186,000, respectively, was contained in the unrestricted net position. HRSD was in compliance with all funding requirements of this reserve during the fiscal years ended June 30, 2022 and 2021.

Reserved for Construction. A reserve for the construction program is based on funds designated by HRSD's Commission for such purposes. At June 30, 2022 and 2021, \$32,535,000 and \$6,034,000, respectively, was contained in the unrestricted net position.

NOTE 11 - RISK MANAGEMENT

HRSD is exposed to various risks of loss related to torts; theft of, damage to and destruction of assets; employee dishonesty; injuries to employees; and natural disasters. HRSD purchases commercial insurance for specific types of coverage including property, liability, auto, crime, public officials and workers' compensation. There were no significant reductions in insurance coverage from the prior year. Claim settlements and judgments not covered by commercial insurance are covered by operating resources. The amount of settlements did not exceed insurance coverage for each of the past three years. Claim expenditures and liabilities are reported when it is probable that a loss has occurred and the amount of the loss can be reasonably estimated.

HRSD has a self-insured health, dental and vision care benefits program for all employees. Claims processing and payments for all health care claims are made through third-party administrators. HRSD uses the information provided by the third-party administrators and a health care benefits consultant to aid in the determination of self-insurance reserves. Hospitalization Reserve is included in Other Liabilities in the Current Liabilities section of the Statements of Net Position.

(in thousands)	Beginning of Fiscal Year	Estimated Claims Incurred	Claims Paid	End of Fiscal Year
2021	\$ 4,521	\$ 14,116	\$ (13,860)	\$ 4,777
2022	4,777	16,503	(16,644)	4,636

NOTES TO THE FINANCIAL STATEMENTS

NOTE 12 – COMMITMENTS AND CONTINGENCIESConsent Decree

On December 19, 2014, the Commonwealth of Virginia entered into a long-term State Consent Agreement (the “2014 Consent Agreement”) with 14 of the localities that HRSD serves. The 2014 Consent Agreement requires the localities to perform long-term management, operations and maintenance of their sewer systems in support of HRSD’s efforts to provide long-term regional wet weather wastewater capacity. HRSD is not a party to the 2014 Consent Agreement. Instead, HRSD’s obligation to provide regional wet weather sewer capacity is now memorialized in its federal consent decree (the “Consent Decree”). HRSD entered into the Consent Decree with the Commonwealth and the United States Environmental Protection Agency (“EPA”).

The Consent Decree was entered by the federal district court for the Eastern District of Virginia (the “District Court”) on February 23, 2010. The Consent Decree has been amended five times, most recently on February 8, 2022 (the “Amended Consent Decree”).

The Amended Consent Decree has two major operative requirements. First, it requires HRSD to implement its approved Regional Wet Weather Management Plan (“RWWMP”) to control 69 percent of the capacity-related sewer overflow volume predicted to occur in a five-year storm event. Because HRSD has assumed responsibility for planning (in consultation with the 14 affected localities), designing, funding, and implementing the controls (high priority projects) in both the localities’ systems and the HRSD system contained in the approved RWWMP, HRSD estimates the regional ratepayers will achieve significantly reduced program costs than if each locality sought to address peak wet weather wastewater flows on its own. To further facilitate this approach, the 14 affected localities entered into a Memorandum of Agreement with HRSD in 2014 in which they agreed to (1) cooperate with HRSD, (2) facilitate the construction of and accept ownership of any improvements which HRSD may need to construct in the localities’ systems, and (3) maintain the integrity of their systems to industry standards.

The Amended Consent Decree includes a schedule for wastewater system improvements that expressly accommodates HRSD’s SWIFT program. That schedule requires that HRSD implement \$200 million worth of High Priority Project sewer overflow control projects between 2020 and 2030 and then another \$200 million in sewer overflow control projects between 2030 and 2040. These two sets of projects reflect further priority system improvements that HRSD is to implement along with the SWIFT project. The Amended Consent Decree gives HRSD until 2032 to invest \$1.1 billion in the SWIFT program. Finally, the Amended Consent Decree provides that if HRSD will not make the full \$1.1 billion investment in the SWIFT Project by 2032 then EPA can require HRSD to accelerate some or all of the second group (\$200 million worth) of High Priority sewer overflow control projects to offset the avoided investment in the SWIFT program.

Litigation

In 2018, oystermen leasing oyster beds in the Nansemond River filed a petition for declaratory judgment against the City of Suffolk, Virginia, and HRSD alleging that they had intentionally designed and operated their storm water system (Suffolk) and sanitary sewers (both) to discharge contaminants onto the oystermen’s oyster beds (leased from the Virginia Marine Resources Commission), resulting in condemnation of their oyster beds by the Virginia Department of Health. In September 2019, the Suffolk Circuit Court granted demurrers filed by Suffolk and HRSD and dismissed the oystermen’s petition. On May 18, 2020, the Supreme Court of Virginia agreed to hear the oystermen’s appeal. On December 10, 2020, the Virginia Supreme Court affirmed the lower court decision dismissing the petition. This Supreme Court ruling concluded the litigation.

HRSD is a named defendant in litigation filed by a party concerning alleged EEOC charges, and has received notice of additional charges filed with the EEOC with similar causes of action. HRSD intends to vigorously defend all cases and expects no losses will be incurred which would have a material effect on HRSD’s financial position.

Capital Commitments

HRSD has a major capital improvement and expansion program funded through the issuance of debt and its own resources. As of June 30, 2022, HRSD has outstanding commitments for contracts in progress of approximately \$1,078,388,000.

NOTE 13 – FAIR VALUE MEASUREMENTS

HRSD categorizes its fair value measurements within the fair value hierarchy established by generally accepted accounting principles. The hierarchy is based on valuation inputs used to measure the fair value of the asset. Level 1

inputs are quoted prices in active markets for identical assets. Level 2 inputs are significant other observable inputs. Level 3 inputs are significant unobservable inputs.

Debt securities reported as investments are classified in Level 2 of the fair value hierarchy and are valued using the following approaches:

- U.S. Treasury securities are valued using quoted prices for identical or similar securities.
- All other investments are valued based on matrix pricing using observable data of securities with similar attributes.

Investments reported as cash and cash equivalents are not included of the fair value hierarchy and are valued using the following:

- The Virginia Investment Pool Trust Fund (the "Trust" or "VIP") is an Internal Revenue Code Section 115 governmental trust fund created under the Joint Exercise of Powers statute of the Commonwealth of Virginia to provide political subdivisions with an investment vehicle to pool their funds and to invest such funds into two or more investment portfolios under the direction and daily supervision of a professional fund manager. The Trust was established and created by the City of Chesapeake, Virginia, and the City of Roanoke, Virginia (the "Founding Participants") and operates under the Trust Agreement as amended September 23, 2016. All deposits to VIP initially go into the Stable NAV Liquidity Pool, which serves both as a liquidity pool and as a sweep account for the 1-3 Year High Quality Bond Fund. HRSD's total investment in VIP is \$62,932,000 (valued at amortized cost) in the 1-3 Year High Quality Bond Fund and \$144,268,000 in the Stable NAV Liquidity Pool as of June 30, 2022. See Note 3 for additional information.

HRSD OPEB Trust Investments

The HRSD OPEB Trust has investments in mutual funds, cash, and cash equivalents on deposit with its trustee, U.S. Bank. HRSD categorizes its fair value measurements within the fair value hierarchy consistent with the approach described above.

(in thousands)

	Fair Value	Level 1	Level 2	Level 3
Balance at June 30, 2022				
Investments by Fair Value Level				
Mutual Funds - Equity	\$ 32,190	\$ 25,807	\$ 6,383	\$ -
Mutual Funds - Fixed Income	21,204	3,836	17,368	-
Miscellaneous	1,811	-	1,811	-
Other Income	2,743	-	-	2,743
Total Investments by Fair Value Level	\$ 57,948	\$ 29,643	\$ 25,562	\$ 2,743
Cash Equivalents Measured at Net Asset Value				
First American Government Obligation	4,189			
Fiduciary Net Position of HRSD's OPEB	\$ 62,137			
Balance at June 30, 2021				
Investments by Fair Value Level				
Mutual Funds - Equity	\$ 45,798	\$ 31,062	\$ 14,736	\$ -
Mutual Funds - Fixed Income	22,058	2,096	19,962	-
Miscellaneous	1,080	-	1,080	-
Other Income	2,632	-	-	2,632
Total Investments by Fair Value Level	\$ 71,568	\$ 33,158	\$ 35,778	\$ 2,632
Cash Equivalents Measured at Net Asset Value				
First American Government Obligation	98			
Fiduciary Net Position of HRSD's OPEB	\$ 71,666			

Additional information about HRSD's OPEB Plan is in Notes 3 and 7.

NOTES TO THE FINANCIAL STATEMENTS

NOTE 14 - FIDUCIARY ACTIVITIES

As discussed in Note 2, HRSD adopted GASB Statement No. 84, Fiduciary Activities, effective July 1, 2020. HRSD has prepared fiduciary fund financial statements for the fiscal years ended June 30, 2022 and 2021. The statements include information on one of HRSD's three postemployment benefits other than pensions (other postemployment benefits, or OPEB) plans, and information on funds held by HRSD to apply toward customer accounts.

Retiree Health Plan

Detailed information related to HRSD's Retiree Health Plan (RHP) is included in Notes 2, 3, 7 and 13 and in the Required Supplementary Information section of the Annual Comprehensive Financial Report. The RHP meets the requirements of GAAP for inclusion in the fiduciary fund financial statements. HRSD's other two OPEB plans are administered by VRS so do not qualify for inclusion. The RHP had total assets of \$62.1 million and \$71.7 million as of June 30, 2022 and 2021, respectively, which are restricted to providing postretirement benefits for plan participants.

Coronavirus Aid, Relief, and Economic Securities Act

In response to the COVID-19 pandemic disaster, the United States federal government enacted the Coronavirus Aid, Relief, and Economic Securities Act of 2020 ("CARES Act") to provide funding for numerous programs to address the COVID-19 pandemic disaster, providing assistance to states, local, territorial, and tribal governments for direct impacts of the COVID-19 pandemic disaster through the establishment of the Coronavirus Relief Fund (CRF). Consistent with the CARES Act, the Commonwealth of Virginia established a COVID-19 Utility Relief Program (Program) to provide direct assistance to utility customers with accounts over 30 days in arrears.

During the fiscal year ended June 30, 2021, HRSD received federal CARES Act funds in the amount of \$9.1 million. The City of Norfolk, Virginia, and James City Service Authority (the partner localities) served as pass-through agents for funds distributed through the Commonwealth of Virginia's State Corporation Commission. As of June 30, 2022, HRSD had applied the full \$9.1 million to the accounts of customers who qualified for relief under the terms of the Program, applying \$1.6 million and \$7.5 million during the years ended June 30, 2022 and 2021, respectively.

American Recovery Plan Act

In further response to the COVID-19 pandemic disaster, the United States federal government enacted the American Recovery Plan Act of 2021 ("ARPA") to provide funding for numerous programs to address the COVID-19 pandemic disaster, providing assistance to states, local, territorial, and tribal governments for direct impacts of the COVID-19 pandemic disaster through the establishment of the Coronavirus Relief Fund (CRF). Consistent with ARPA, the Commonwealth of Virginia established the State and Local Fiscal Recovery Funds (SLFRF) of the American Rescue Plan Act (ARPA) to provide direct assistance to utility customers with accounts over 60 days in arrears.

During the fiscal year ended June 30, 2021, HRSD received federal SLFRF-ARPA funds in the amount of \$10.7 million. The City of Norfolk, Virginia, (the partner locality) served as the pass-through agent for funds distributed through the Commonwealth of Virginia's State Corporation Commission. As of June 30, 2022, HRSD had applied \$10.3 million to the accounts of customers who qualified for relief under the terms of the Program. HRSD returned \$0.4 million of unexpended funds to the Commonwealth in a timely manner in accordance with SLFRF-ARPA Rules.

NOTE 15 - SUBSEQUENT EVENTS

The Water Infrastructure Finance and Innovation Act (WIFIA) program, managed by the Environmental Protection Agency (EPA), accelerates investment in our nation's water infrastructure by providing long-term, low-cost supplemental loans for regionally and nationally significant projects. WIFIA loans allow borrowers to lock-in a rate equivalent to the US Treasury rate plus one basis point at closing. HRSD submitted a Letter of Interest in 2019 and was approved to apply for the SWIFT program. Due to the long duration of the SWIFT program, a Master Financing Agreement (MFA) was required to allow for multiple loans (tranches). Each tranche will be a group of projects that have met environmental requirements. On September 28, 2020, HRSD executed an MFA that outlines the terms and conditions of the loans and caps the amount borrowed at \$1.048 billion, and closed on the first tranche, which was \$225 million for approximately 34 years at a rate of 1.42 percent. In September 2021 HRSD closed on the second tranche, which was \$477 million for approximately 34 years at a rate of 1.95 percent.



**Required Supplementary
Information (Unaudited)**



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**SCHEDULE OF CHANGES IN
NET PENSION LIABILITY AND RELATED RATIOS**

(in thousands)	2021	2020	2019	2018	2017	2016	2015	2014
Total pension liability								
Service cost	\$ 4,264	\$ 4,229	\$ 3,946	\$ 3,825	\$ 4,145	\$ 4,025	\$ 4,115	\$ 3,943
Interest	16,787	16,223	15,598	14,953	14,750	13,872	13,559	12,906
Changes in assumptions	6,599	-	7,378	-	(3,975)	-	-	-
Difference between expected and actual experience	(266)	(991)	760	(101)	(3,175)	2,980	(4,910)	-
Benefit payments, including refunds of employee contributions	(11,512)	(10,696)	(9,655)	(9,250)	(8,475)	(8,161)	(8,446)	(6,607)
Net change in total pension liability	15,872	8,765	18,027	9,427	3,270	12,716	4,318	10,242
Total pension liability - beginning	254,451	245,686	227,659	218,232	214,962	202,246	197,928	187,686
Total pension liability - ending (a)	\$ 270,323	\$ 254,451	\$ 245,686	\$ 227,659	\$ 218,232	\$ 214,962	\$ 202,246	\$ 197,928
Plan fiduciary net position								
Contributions - employer	\$ 3,453	\$ 2,897	\$ 2,866	\$ 3,710	\$ 3,609	\$ 4,083	\$ 4,099	\$ 4,114
Contributions - employee	2,569	2,538	2,468	2,424	2,351	2,286	2,314	2,267
Net investment income	58,456	4,115	13,739	14,451	21,526	3,062	7,807	23,313
Benefit payments, including refunds of employee contributions	(11,512)	(10,696)	(9,655)	(9,250)	(8,475)	(8,161)	(8,446)	(6,607)
Administrative expense	(147)	(142)	(137)	(125)	(124)	(109)	(107)	(125)
Other	6	(5)	(8)	(12)	(19)	(1)	(2)	1
Net change in plan fiduciary net position	52,825	(1,293)	9,273	11,198	18,868	1,160	5,665	22,963
Plan fiduciary net position - beginning	215,335	216,628	207,355	196,157	177,289	176,129	170,464	147,501
Plan fiduciary net position - ending (b)	\$ 268,160	\$ 215,335	\$ 216,628	\$ 207,355	\$ 196,157	\$ 177,289	\$ 176,129	\$ 170,464
Net pension liability - ending (a) - (b)	\$ 2,163	\$ 39,116	\$ 29,058	\$ 20,304	\$ 22,075	\$ 37,673	\$ 26,117	\$ 27,465
Plan fiduciary net position as a percentage of the total pension liability (b)/(a)	99.20%	84.63%	88.17%	91.08%	89.88%	82.47%	87.09%	86.12%
Covered payroll (c)	\$ 54,107	\$ 53,085	\$ 51,336	\$ 50,874	\$ 49,286	\$ 47,838	\$ 47,674	\$ 46,096
Net pension liability as a percentage of the covered payroll ((a)-(b))/(c)	4.00%	73.69%	56.60%	39.91%	44.79%	78.75%	54.78%	59.58%

This schedule is presented to show information for 10 years. However, until a full ten-year trend is compiled, HRSD will present information for those years for which information is available.

**SCHEDULE OF EMPLOYER PENSION CONTRIBUTIONS
FOR THE YEARS ENDED JUNE 30, 2013 THROUGH 2022**

Date	Contractually Required Contribution	Contribution in Relation to Contractually Required Contribution	Contribution Deficiency (Excess)	Employer's Covered Payroll	Contributions as a % of Covered Payroll
2022	\$ 3,441,000	\$ 3,441,000	\$ -	\$ 54,750,000	6.28%
2021	3,453,000	3,453,000	-	54,107,000	6.38%
2020	2,897,000	2,897,000	-	53,085,000	5.46%
2019	2,866,000	2,866,000	-	51,336,000	5.58%
2018	3,635,000	3,635,000	-	50,874,000	7.15%
2017	4,326,000	4,326,000	-	49,286,000	8.78%
2016	4,222,000	4,222,000	-	47,838,000	8.83%
2015	4,207,000	4,207,000	-	47,674,000	8.82%
2014	4,107,000	4,107,000	-	46,096,000	8.91%
2013	4,075,000	4,075,000	-	45,044,000	9.05%

Notes to Required Supplementary Information For the Year Ended June 30, 2022:

Changes of benefit terms -

There have been no actuarially material changes to the VRS benefit provisions since the prior actuarial valuation.

Changes of assumptions -

The actuarial assumptions used in the June 30, 2020, valuation were based on the results of an actuarial experience study for the period from July 1, 2016, through June 30, 2020, except the change in the discount rate, which was based on VRS Board action effective as of July 1, 2019. Changes to the actuarial assumptions as a result of the experience study and VRS Board action are as follows:

Mortality Rates (Pre-retirement, post-retirement healthy, and disabled)	Update to PUB2010 public sector mortality tables. For future mortality improvements, replace load with a modified MortalityImprovement Scale MP-2020.
Retirement Rates	Adjusted rates to better fit experience for Plan 1; set separate rates based on experience for Plan 2/Hybrid; changed final retirement age
Withdrawal Rates	Adjusted rates to better fit experience at each year age and service through 9 years of service
Disability Rates	No change
Salary Scale	No change
Line of Duty Disability	No change
Discount Rate	No change

Information pertaining to Pensions can be found in Notes 2 and 8 to the financial statements.

**SCHEDULE OF CHANGES IN
NET RHP OPEB LIABILITY (ASSET) AND RELATED RATIOS**

(in thousands)

	2022	2021	2020	2019	2018	2017
Total OPEB liability						
Service cost	\$ 1,435	\$ 1,333	\$ 1,345	\$ 1,300	\$ 1,260	\$ 1,188
Interest	4,052	3,672	3,883	3,571	3,391	3,208
Changes in assumptions	-	-	(518)	(1,607)	-	-
Differences between expected and actual experience	2,303	2,930	(7,074)	3,302	-	-
Benefit payments, including refunds of employee contributions	(1,902)	(1,425)	(1,186)	(1,149)	(1,791)	(892)
Net change in total OPEB liability	5,888	6,510	(3,550)	5,417	2,860	3,504
Total OPEB liability - beginning	68,653	62,143	65,693	60,276	57,416	53,913
Total OPEB liability - ending (a)	\$ 74,541	\$ 68,653	\$ 62,143	\$ 65,693	\$ 60,276	\$ 57,417
Plan fiduciary net position						
Contributions - employer	\$ 2,260	\$ 1,963	\$ 2,730	\$ 2,993	\$ 2,729	\$ 2,558
Contributions - retirees	-	-	-	-	303	-
Net investment income	(9,887)	14,216	3,343	3,078	3,450	3,957
Benefit payments, including refunds of employee contributions	(1,902)	(1,425)	(1,186)	(1,149)	(1,791)	(892)
Administrative expense	-	-	-	-	(114)	(495)
Net change in plan fiduciary net position	(9,529)	14,754	4,887	4,922	4,577	5,128
Plan fiduciary net position - beginning	71,666	56,912	52,025	47,103	42,526	37,398
Plan fiduciary net position - ending (b)	\$ 62,137	\$ 71,666	\$ 56,912	\$ 52,025	\$ 47,103	\$ 42,526
Net OPEB liability (asset) - ending (a) - (b)	\$ 12,404	\$ (3,013)	\$ 5,231	\$ 13,668	\$ 13,173	\$ 14,891
Plan fiduciary net position as a percentage of the total OPEB liability (b)/(a)	83.36%	104.39%	91.58%	79.19%	78.15%	74.07%
Covered payroll (c)	\$ 55,853	\$ 55,731	\$ 54,799	\$ 52,070	\$ 50,874	\$ 49,286
Net OPEB liability (asset) as a percentage of the covered payroll ((a)-(b))/(c)	22.21%	(5.41%)	9.55%	26.25%	25.89%	30.21%

This schedule is intended to show information for 10 years. However, until a full ten-year trend is compiled, HRSD will present information for those years for which information is available.

Notes to Required Supplementary Information For the Year Ended June 30, 2022:

Benefit changes:	None
Changes of assumptions: Mortality	Updated to the latest Society of Actuaries (SOA) public sector experience study rates.
Medical Trend	Developed using the SOA Long-Run Medical Cost Trend Model baseline assumption. The prior valuations used the SOA model as updated in November 2016 and included the impact of the Cadillac Tax. The current valuation uses the model as updated in September 2019 and does not include the impact of the Cadillac Tax.
Discount rate: 6/30/2019	6.00%

Unaudited – See accompanying independent auditors' report and notes to required supplementary information

**SCHEDULE OF EMPLOYER RHP OPEB CONTRIBUTIONS
FOR THE YEARS ENDED JUNE 30, 2013 THROUGH 2022**

Date	Actuarially Determined Contribution	Contribution in Relation to the Actuarially Required Contribution	Contribution Deficiency (Excess)	Employer's Covered Payroll	Contributions as a % of Covered Payroll
2022	\$ 1,828,000	\$ 2,260,000	\$ (432,000)	\$ 55,853,000	3.27%
2021	1,858,000	1,963,000	(105,000)	55,731,000	3.33%
2020	2,730,000	2,730,000	-	54,799,000	4.98%
2019	2,993,000	2,993,000	-	52,070,000	5.75%
2018	2,729,000	2,729,000	-	50,874,000	5.36%
2017	2,558,000	2,558,000	-	49,286,000	5.19%
2016	2,178,000	2,178,000	-	47,838,000	4.55%
2015	2,177,000	2,177,000	-	47,674,000	4.57%
2014	2,244,000	2,244,000	-	46,096,000	4.87%
2013	2,102,000	2,102,000	-	45,032,000	4.67%

Actuarial cost method	Entry age normal
Amortization method	Level percent of pay, closed
Amortization period	An experience gain/loss base is created each year and amortized over a 15 year period
Asset valuation	Smoothed market value with phase-in, using a 5-year smoothing period
Assumed rate of inflation	2.20%
Medical cost trend :	
Pre Medicare	5.3%, stable at 5.3% after 3 years and decreasing to 3.6% after 53 years
Post Medicare	5.3%, stable at 5.3% after 3 years and decreasing to 3.4% after 53 years
Salary increase rate	2.50%
Investments rate of return	6.00%
Mortality rates:	
Healthy	RP-2014 Mortality Table, Fully Generational, Projected with Scale MP-2014
Pre Medicare	5.3%, stable at 5.3% after 3 years and decreasing to 3.6% after 53 years

Unaudited – See accompanying independent auditors' report and notes to required supplementary information

**SCHEDULE OF EMPLOYER'S SHARE OF
NET GLI OPEB LIABILITY AND RELATED RATIOS
FOR THE MEASUREMENT DATES OF JUNE 30, 2017 THROUGH 2021**

(in thousands)	2021	2020	2019	2018	2017
Employer's Proportion of the Net GLI OPEB Liability	0.26262%	0.25814%	0.26208%	0.26214%	0.26016%
Employer's Proportionate Share of the Net GLI OPEB Liability	\$ 3,058	\$ 4,307	\$ 4,265	\$ 3,981	\$ 3,915
Employer's Covered Payroll	54,222	53,126	51,376	49,846	47,987
Employer's Proportionate Share of the Net GLI OPEB Liability as a Percentage of its Covered Payroll	5.64%	8.11%	8.30%	7.99%	8.16%
Plan Fiduciary Net Position as a Percentage of the Total GLI OPEB Liability	67.45%	52.64%	52.00%	51.22%	48.86%

This schedule is intended to show information for 10 years. However, until a full ten-year trend is compiled, HRSD will present information for those years for which information is available.

In accordance with GAAP, Net Liability is reported using the measurement date, which is one year prior to the reporting date.

**SCHEDULE OF EMPLOYER GLI OPEB CONTRIBUTIONS
FOR THE YEARS ENDED JUNE 30, 2013 THROUGH 2022**

Date	Contractually Required Contribution	Contribution in Relation to Contractually Required Contribution	Contribution Deficiency (Excess)	Employer's Covered Payroll	Contributions as a % of Covered Payroll
2022	\$ 296,000	\$ 296,000	\$ -	\$ 54,835,000	0.54%
2021	293,000	293,000	-	54,222,000	0.54%
2020	276,000	276,000	-	53,126,000	0.52%
2019	267,000	267,000	-	51,376,000	0.52%
2018	259,000	259,000	-	49,846,000	0.52%
2017	250,000	250,000	-	47,987,000	0.52%
2016	246,000	223,000	23,000	46,417,000	0.53%
2015	244,000	221,000	23,000	46,082,000	0.53%
2014	240,000	217,000	23,000	45,283,000	0.53%
2013	238,000	215,000	23,000	44,839,000	0.53%

Notes to Required Supplementary Information For the Year Ended June 30, 2022:

Changes of benefit terms -

There have been no actuarially material changes to the System benefit provisions since the prior actuarial valuation.

Changes of assumptions -

The actuarial assumptions used in the June 30, 2020, valuation were based on the results of an actuarial experience study for the period from July 1, 2016, through June 30, 2020, except the change in the discount rate, which was based on VRS Board action effective as of July 1, 2019. Changes to the actuarial assumptions as a result of the experience study and VRS Board action are as follows: actuarial assumptions as a result of the experience study are as follows:

Mortality Rates (Pre-retirement, post-retirement healthy, and disabled)	Update to PUB2010 public sector mortality tables. For future mortality improvements, replace load with a modified Mortality Improvement Scale MP-2020.
Retirement Rates	Adjusted rates to better fit experience for Plan 1; set separate rates based on experience for Plan 2/Hybrid; changed final retirement age from 75 to 80 for all
Withdrawal Rates	Adjusted rates to better fit experience at each age and service decrement through 9 years of service
Disability Rates	No change
Salary Scale	No change
Line of Duty Disability	No change
Discount Rate	No change

Information pertaining to OPEB can be found in Notes 2 and 7 to the financial statements.

**SCHEDULE OF CHANGES IN
NET HIC OPEB LIABILITY AND RELATED RATIOS**

(in thousands)

	2021	2020	2019	2018	2017
Total OPEB liability					
Service cost	\$ 28	\$ 28	\$ 26	\$ 26	\$ 27
Interest	140	137	134	130	129
Changes in assumptions	15	-	50	-	(22)
Differences between expected and actual experience	5	16	26	27	-
Benefit payments, including refunds of employee contributions	(137)	(129)	(124)	(133)	(94)
Net change in total OPEB liability	51	52	112	50	40
Total OPEB liability - beginning	2,145	2,093	1,981	1,931	1,891
Total OPEB liability - ending (a)	\$ 2,196	\$ 2,145	\$ 2,093	\$ 1,981	\$ 1,931
Plan fiduciary net position					
Contributions - employer	\$ 114	\$ 111	\$ 108	\$ 95	\$ 91
Net investment income	238	18	56	60	90
Benefit payments, including refunds of employee contributions	(137)	(129)	(124)	(133)	(94)
Administrative expense	(3)	(2)	(1)	(1)	(1)
Other	-	-	-	(5)	4
Net change in plan fiduciary net position	212	(2)	39	16	90
Plan fiduciary net position - beginning	923	925	886	870	780
Plan fiduciary net position - ending (b)	\$ 1,135	\$ 923	\$ 925	\$ 886	\$ 870
Net OPEB liability - ending (a) - (b)	\$ 1,061	\$ 1,222	\$ 1,168	\$ 1,095	\$ 1,061
Plan fiduciary net position as a percentage of the total OPEB liability (b)/(a)	51.68%	43.03%	44.19%	44.72%	45.05%
Covered payroll (c)	\$ 54,107	\$ 53,085	\$ 51,336	\$ 49,821	\$ 47,987
Net OPEB liability as a percentage of the covered payroll ((a)-(b))/(c)	1.96%	2.30%	2.28%	2.20%	2.21%

This schedule is intended to show information for 10 years. However, until a full ten-year trend is compiled, HRSD will present information for those years for which information is available.

**SCHEDULE OF EMPLOYER HIC OPEB CONTRIBUTIONS
FOR THE YEARS ENDED JUNE 30, 2013 THROUGH 2022**

Date	Contractually Required Contribution	Contribution in Relation to Contractually Required Contribution	Contribution Deficiency (Excess)	Employer's Covered Payroll	Contributions as a % of Covered Payroll
2022	\$ 115,000	\$ 115,000	\$ -	\$ 54,750,000	0.21%
2021	114,000	114,000	-	54,107,000	0.21%
2020	111,000	111,000	-	53,085,000	0.21%
2019	108,000	108,000	-	51,336,000	0.21%
2018	95,000	95,000	-	49,821,000	0.19%
2017	91,000	91,000	-	47,987,000	0.19%
2016	74,000	74,000	-	46,417,000	0.16%
2015	74,000	74,000	-	46,076,000	0.16%
2014	86,000	86,000	-	45,283,000	0.19%
2013	85,000	85,000	-	44,835,000	0.19%

Notes to Required Supplementary Information For the Year Ended June 30, 2022:

Changes of benefit terms -

There have been no actuarially material changes to the System benefit provisions since the prior actuarial valuation.

Changes of assumptions -

The actuarial assumptions used in the June 30, 2020, valuation were based on the results of an actuarial experience study for the period from July 1, 2016, through June 30, 2020, except the change in the discount rate, which was based on VRS Board action effective as of July 1, 2019. Changes to the actuarial assumptions as a result of the experience study and VRS Board action are as follows: actuarial assumptions as a result of the experience study are as follows:

Mortality Rates (Pre-retirement, post-retirement healthy, and disabled)	Update to PUB2010 public sector mortality tables. For future mortality improvements, replace load with a modified Mortality Improvement Scale MP-2020.
Retirement Rates	Adjusted rates to better fit experience for Plan 1; set separate rates based on experience for Plan 2/Hybrid; changed final retirement age from 75 to 80 for all
Withdrawal Rates	Adjusted rates to better fit experience at each age and service decrement through 9 years of service Disability
Disability Rates	No change
Salary Scale	No change
Line of Duty Disability	No change
Discount Rate	No change

Information pertaining to OPEB can be found in Notes 2 and 7 to the financial statements.



Statistical Section
(Unaudited)



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INDEX TO STATISTICAL SECTION

ANNUAL COMPREHENSIVE FINANCIAL REPORT / HAMPTON ROADS SANITATION DISTRICT

This section of HRSD's annual comprehensive financial report presents detailed information as a context for understanding what the information in the financial statements, note disclosures and required supplementary information says about HRSD's overall financial health.

Contents	Page
Demographic and Economic Information	73
This schedule offers demographic and economic indicators to help the reader understand the environment within which HRSD's financial activities take place and to help make comparisons over time and with other governments.	
Financial Trends	74
These schedules contain trend information to help the reader understand how HRSD's financial performance and well-being have changed over time.	
Debt Capacity	77
This schedule presents information to help the reader assess the affordability of HRSD's current levels of outstanding debt and HRSD's ability to issue additional debt in the future.	
Revenue Capacity	78
These schedules contain information to help the reader assess the factors affecting HRSD's ability to generate revenue from rate payers.	
Operating Information	80
These schedules contain information about the HRSD's operations and resources to help the reader understand how the HRSD's financial information relates to the services HRSD provides and the activities it performs.	

Sources: Unless otherwise noted the information in these schedules is derived from the annual comprehensive financial reports and accounting records for the relevant year.

Unaudited – See accompanying independent auditors' report



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**DEMOGRAPHIC AND OTHER MISCELLANEOUS STATISTICS
FOR THE LAST TEN FISCAL YEARS**

	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
Date of Incorporation - 1940										
Area in Square Miles (1)	4,998	4,998	3,087	3,087	3,087	3,087	2,808	2,808	2,808	2,808
Present Service Area in Square Miles (1)	766	766	758	758	758	758	672	672	672	672
Treatment Plants (Major) (2)	9	9	9	9	9	9	9	9	9	9
Plant Capacity (Millions of Gallons per Day)										
Army Base Plant, Norfolk	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0
Atlantic Plant, Virginia Beach	54.0	54.0	54.0	54.0	54.0	54.0	54.0	54.0	54.0	54.0
Boat Harbor Plant, Newport News	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0
Chesapeake-Elizabeth Plant, Virginia Beach (2)	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
James River Plant, Newport News	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Nansemond Plant, Suffolk	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Virginia Initiative Plant, Norfolk	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0
Williamsburg Plant, James City County	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5
York River Plant, York County	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Total Treatment Plants (Major) Capacity	248.5	248.5	248.5	248.5	248.5	248.5	248.5	248.5	248.5	248.5
Small Communities Treatment Plants	8	7	7	7	7	5	4	4	4	4
Small Communities Plant Capacity (Millions of Gallons per Day)										
Central Middlesex, Middlesex County	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
King William Plant, King William County	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100
Lawnes Point, Isle of Wight County (3)	0.050	0.050	0.050	0.050	0.050	0.050	-	-	-	-
Onancock (4)	0.750	-	-	-	-	-	-	-	-	-
Surry County (5)	0.065	0.065	0.065	0.065	0.065	-	-	-	-	-
Town of Surry (5)	0.060	0.060	0.060	0.060	0.060	-	-	-	-	-
Urbanna Plant, Middlesex County	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100
West Point Plant, King William County	0.600	0.600	0.600	0.600	0.600	0.600	0.600	0.600	0.600	0.600
Total Small Communities Treatment Plants Capacity	1.750	1.000	1.000	1.000	1.000	0.875	0.825	0.825	0.830	0.830
Miles of Interceptor Systems	538	540	541	541	542	540	536	532	531	531
Interceptor Pump Stations	89	90	88	87	88	89	88	83	83	83
Small Communities Pump Stations	44	42	42	41	34	38	33	33	33	29
Maintenance Facilities	2	2	2	2	2	2	2	2	2	2
Number of Service Connections (in thousands)	484	481	478	476	473	470	467	465	462	460
Daily Average Treatment in Millions of Gallons	132	154	141	153	145	153	155	152	154	158
Bond Rating: Moody's										
Senior	Aa1	Aa1	Aa1	Aa1	Aa1	Aa2	Aa2	Aa2	Aa2	Aa2
Subordinate Long-term	Aa1	Aa1	Aa1	Aa2	Aa2	-	-	-	-	-
Bond Rating: Standard & Poor's										
Senior	AA+	AA+	AA+	AA+	AA+	AA+	AA+	AA+	AAA	AAA
Subordinate Long-term	AA+	AA+	AA+	AA+	AA	AA	AA	AA	AA+	AA+
Subordinate Short-term	A-1+	A-1+	A-1+	A-1+	A-1+	A-1+	A-1+	A-1+	A-1+	A-1+
Bond Rating: Fitch										
Senior	AA+	AA+	AA+	AA+	AA+	AA+	AA+	AA+	AA+	AA+
Subordinate Long-term	AA	AA	AA	AA	AA	AA	AA	AA	AA	AA
Subordinate Short-term	F1+	F1+	F1+	F1+	F1+	F1+	F1+	F1+	F1+	F1+

(1) HRSD added additional service areas in the counties of Isle of Wight and Surry during the year ended June 30, 2017 and the Eastern Shore of Virginia during the year ended June 30, 2021.

(2) The Chesapeake-Elizabeth Treatment Plant was closed on December 31, 2021 but included in this year's count. Wastewater from the area is now handled by the Atlantic Treatment Plant.

(3) Lawnes Point was acquired during the year ended June 30, 2017.

(4) The Onancock Plant was acquired during the year ended June 30, 2022.

(5) The Surry Plants were acquired during the year ended June 30, 2018.

Unaudited – See accompanying independent auditors' report

**SCHEDULE OF OPERATING REVENUES, EXPENSES, NET POSITION BY COMPONENT
AND DEBT SERVICE EXPENSES LAST TEN FISCAL YEARS**

(in thousands)

	2022	2021	2020	2019	2018
OPERATING REVENUES					
Wastewater treatment charges	\$ 352,414	\$ 325,817	\$ 318,585	\$ 299,323	\$ 275,539
Miscellaneous	5,532	3,952	3,447	3,798	3,504
TOTAL OPERATING REVENUES	357,946	329,769	322,032	303,121	279,043
OPERATING EXPENSES					
Wastewater treatment	134,135	132,820	122,393	117,189	116,982
General and administrative	45,673	48,691	46,949	41,121	40,480
Depreciation	54,357	53,278	51,383	53,225	52,349
TOTAL OPERATING EXPENSES	234,165	234,789	220,725	211,535	209,811
OPERATING INCOME	123,781	94,980	101,307	91,586	69,232
NON-OPERATING REVENUES (EXPENSES)					
Wastewater facility charges	7,072	7,379	6,444	6,662	6,673
Investment income	(1,651)	471	5,876	8,719	3,654
Bond interest subsidy	2,052	2,167	2,205	2,308	2,330
Change in fair value of investments	-	-	-	-	(1,382)
Capital distributions to localities	(13)	(376)	-	-	(311)
Bond issuance costs	(311)	(682)	(1,290)	(53)	(1,061)
Disposal of capital assets	-	-	(739)	-	-
Interest expense	(25,007)	(25,339)	(26,179)	(27,964)	(20,226)
NET NON-OPERATING EXPENSES	(17,858)	(16,380)	(13,683)	(10,328)	(10,323)
INCOME BEFORE CONTRIBUTIONS	105,923	78,600	87,624	81,258	58,909
CAPITAL CONTRIBUTIONS					
State capital grants	200	-	-	2,444	2,502
Other capital contributions	2,537	2,317	578	374	2,124
CHANGE IN NET POSITION	\$ 108,660	\$ 80,917	\$ 88,202	\$ 84,076	\$ 63,535
NET POSITION					
Net investment in capital assets	\$ 832,427	\$ 776,253	\$ 646,505	\$ 494,779	\$ 512,398
Restricted for debt service	33,134	30,455	28,155	28,553	27,799
Restricted for debt service reserve fund	-	-	-	-	-
Unrestricted	193,923	144,116	195,247	258,373	157,432
TOTAL NET POSITION	\$ 1,059,484	\$ 950,824	\$ 869,907	\$ 781,705	\$ 697,629
DEBT SERVICE					
Senior debt	\$ 24,549	\$ 26,085	\$ 28,595	\$ 33,592	\$ 36,488
Subordinate debt	\$ 36,468	\$ 33,128	\$ 30,416	\$ 28,313	\$ 20,633
Senior Debt Service Coverage (GAAP)	7.55	6.03	5.80	4.84	3.59
Subordinate Debt Service Coverage (GAAP)	5.08	4.75	5.46	5.74	6.36
Total Debt Service Coverage (GAAP)	3.04	2.66	2.81	2.62	2.03
Total Debt (Adjusted Cash Basis)	\$ 61,017	\$ 59,213	\$ 59,011	\$ 61,905	\$ 57,171
Total Debt Service Coverage (Adjusted Cash Basis)	3.04	2.66	2.81	2.62	2.30

Notes:

FY2018 - HRSD implemented GASB Statement 75 effective July 1, 2017, which requires recording net OPEB assets or liabilities and related deferred outflows and inflows of resources.
 FY2019 - HRSD implemented GASB Statement 89 effective July 1, 2018, establishes accounting requirements for interest cost incurred before the end of a construction period.

(Continued)

**SCHEDULE OF OPERATING REVENUES, EXPENSES, NET POSITION BY COMPONENT
AND DEBT SERVICE EXPENSES LAST TEN FISCAL YEARS**

(in thousands)

	(adjusted) 2017	2016	2015	(adjusted) 2014	(adjusted) 2013
OPERATING REVENUES					
Wastewater treatment charges	\$ 254,961	\$ 234,020	\$ 221,626	\$ 211,538	\$ 199,318
Miscellaneous	3,669	3,861	3,935	3,643	3,297
TOTAL OPERATING REVENUES	258,630	237,881	225,561	215,181	202,615
OPERATING EXPENSES					
Wastewater treatment	113,100	106,575	114,137	109,149	86,973
General and administrative	40,287	40,026	38,678	33,012	31,410
Depreciation	49,311	45,670	41,871	42,761	45,414
TOTAL OPERATING EXPENSES	202,698	192,271	194,686	184,922	163,797
OPERATING INCOME	55,932	45,610	30,875	30,259	38,818
NON-OPERATING REVENUES (EXPENSES)					
Wastewater facility charges	7,511	6,699	7,428	6,640	5,851
Investment income	2,287	1,563	1,695	1,872	1,705
Bond interest subsidy	2,275	2,399	2,444	2,364	2,602
Change in fair value of investments	(1,119)	750	(286)	(422)	(714)
Capital distributions to localities	(138)	(3,287)	-	-	-
Bond issuance costs	(42)	(1,713)	(768)	-	(658)
Disposal of capital assets	-	-	-	-	(1,649)
Interest expense	(22,630)	(21,631)	(22,958)	(25,650)	(24,330)
NET NON-OPERATING EXPENSES	(11,856)	(15,220)	(12,445)	(15,196)	(17,193)
INCOME BEFORE CONTRIBUTIONS	44,076	30,390	18,430	15,063	21,625
CAPITAL CONTRIBUTIONS					
State capital grants	7,462	14,389	16,519	13,888	10,172
Other capital contributions	1,136	-	3,000	-	-
CHANGE IN NET POSITION	\$ 52,674	\$ 44,779	\$ 37,949	\$ 28,951	\$ 31,797
NET POSITION					
Net investment in capital assets	\$ 428,670	\$ 410,287	\$ 385,597	\$ 351,191	\$ 337,342
Restricted for debt service	22,701	23,798	22,070	24,064	23,843
Restricted for debt service reserve fund	-	-	44,118	45,207	-
Unrestricted	202,907	167,519	105,040	134,485	164,811
TOTAL NET POSITION	\$ 654,278	\$ 601,604	\$ 556,825	\$ 554,947	\$ 525,996
DEBT SERVICE					
Senior debt	\$ 35,837	\$ 38,198	\$ 43,842	\$ 47,331	\$ 37,574
Subordinate debt	\$ 23,603	\$ 17,068	\$ 13,091	\$ 14,112	\$ 11,243
Senior Debt Service Coverage (GAAP)	3.10	2.56	1.90	1.76	2.48
Subordinate Debt Service Coverage (GAAP)	5.09	5.72	6.36	5.92	8.27
Total Debt Service Coverage (GAAP)	1.93	1.77	1.46	1.36	1.91
Total Debt (Adjusted Cash Basis)	\$ 57,988	\$ 54,643	\$ -	\$ -	\$ -
Total Debt Service Coverage (Adjusted Cash Basis)	2.00	1.85	-	-	-

Notes:

FY2013 - HRSD implemented GASB Statement 65 effective July 1, 2012, which requires expensing bond issuance costs in the year incurred.
- HRSD adjusted the financial records to include inventory assets.

FY2014 - HRSD implemented GASB Statements 68 and 71 effective July 1, 2014, which requires recording net pension assets or liabilities and related deferred outflows and inflows of resources.

FY2016 - HRSD is showing Debt Service Coverage on both a GAAP basis and an Adjusted Cash basis to account for distributions to localities in accordance with its Amended Subordinate Trust Agreement Section 705(a) enacted in March 2016.

**OBJECTIVE CLASSIFICATION OF DEPARTMENTAL EXPENSES
FOR OPERATIONS - LAST TEN FISCAL YEARS**

(in thousands)

	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
Personal Services	\$ 61,157	\$ 60,250	\$ 59,666	\$ 56,336	\$ 55,160	\$ 53,401	\$ 51,801	\$ 52,357	\$ 50,538	\$ 49,361
Fringe Benefits	20,467	23,879	21,417	18,235	20,275	19,106	17,974	18,249	20,170	20,039
Repairs and Maintenance (1)	18,004	21,207	17,419	13,786	16,763	19,933	22,824	31,451	22,320	23,075
Materials and Supplies	9,495	11,413	9,364	9,314	8,865	8,310	7,843	4,343	5,764	5,700
Transportation	1,380	1,100	1,194	1,423	1,271	1,386	1,537	1,297	1,417	1,376
Utilities	13,762	12,947	12,584	12,749	11,968	11,523	11,249	10,503	11,126	12,295
Chemical Purchases	10,044	8,719	8,760	8,746	8,750	8,020	7,512	7,119	7,752	7,892
Contractual Services	41,904	37,278	33,748	32,123	30,165	26,977	21,573	15,127	14,222	13,993
Miscellaneous Expense	2,385	2,685	2,953	2,622	2,509	2,329	1,842	2,880	1,274	1,172
General (2)	1,210	2,033	2,237	2,976	1,736	2,402	2,446	9,489	7,578	6,487
Subtotal, Expense before Depreciation	179,808	181,511	169,342	158,310	157,462	153,387	146,601	152,815	142,161	141,390
Depreciation	54,357	53,278	51,383	53,225	52,349	49,311	45,670	41,871	42,761	45,414
Total Operating Expenses	\$ 234,165	\$ 234,789	\$ 220,725	\$ 211,535	\$ 209,811	\$ 202,698	\$ 192,271	\$ 194,686	\$ 184,922	\$ 186,804

(1) Includes Capital Improvement Program items expensed

(2) Includes bad debt expense

**RATIOS OF OUTSTANDING DEBT BY TYPE
FOR THE YEARS ENDED JUNE 30, 2013 THROUGH 2022**

As of June 30,	No. Of Service Connections	(in thousands)			Debt Per Service Connection
		Senior Revenue Bonds	Subordinate Revenue Bonds	Total Outstanding Debt	
2022	484,000	\$ 186,227	\$ 682,245	\$ 868,472	\$ 1,794
2021	481,000	202,486	632,520	835,006	1,736
2020	478,000	219,776	615,703	835,479	1,748
2019	476,000	326,531	565,098	891,629	1,873
2018	473,000	349,313	542,129	891,442	1,885
2017	470,000	458,255	388,529	846,784	1,802
2016	467,000	476,734	402,560	879,294	1,883
2015	465,000	649,202	99,195	748,397	1,609
2014	462,000	656,503	109,850	766,353	1,659
2013	460,000	670,272	120,231	790,503	1,718

Note: Unamortized bond premiums are included in both senior and subordinate revenue bonds.

**RATE SCHEDULE
WASTEWATER TREATMENT CHARGES
LAST TEN FISCAL YEARS**

	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
<u>Residential - Metered</u>										
Per CCF * (single step)	\$ 6.39	\$ 5.86	\$ 5.86	\$ 5.37	\$ 4.92	\$ 4.51	\$ 4.13	\$ 3.83	\$ 3.55	\$ 3.29
Minimum Charges Per day	0.30	0.30	0.30	0.30	0.30	0.30	0.25	0.25	0.25	0.25
<u>Residential - Unmetered per 30-day period</u>										
Flat rate accounts	52.20	48.64	48.64	34.91	31.98	29.32	26.32	26.32	26.32	26.32
<u>Non-Residential - Special Category</u>										
Biochemical Oxygen Demand (BOD)										
Per mg/liter per CCF										
Excess over 282 mg/liter	-	0.000129	0.000129	0.000104	0.000091	0.000206	0.000485	0.000612	0.001558	0.002451
Excess over 297 mg/liter	0.000176	-	-	-	-	-	-	-	-	-
Total Suspended Solids (TSS)										
Per mg/liter per CCF										
Excess over 261 mg/liter	-	0.000630	0.000630	0.000592	0.000520	0.000454	0.000448	0.000417	0.001244	0.001865
Excess over 282 mg/liter	0.000584	-	-	-	-	-	-	-	-	-
Total Phosphorus (TP)										
Per mg/liter per CCF										
Excess over 6 mg/liter	-	0.009871	0.009871	0.009535	0.011569	0.011642	0.004361	0.004344	0.011714	0.01279
Excess over 7 mg/liter	0.010050	-	-	-	-	-	-	-	-	-
Total Kjeldahl Nitrogen (TKN)										
Per mg/liter per CCF										
Excess over 47 mg/liter	-	0.003378	0.003378	0.003595	0.003156	0.001660	0.000917	0.000756	0.001752	0.002085
Excess over 57 mg/liter	0.002660	-	-	-	-	-	-	-	-	-
<u>Hauled Wastewater (Indirect Discharge Water)</u>										
Septic Tank Waste Per gallon	0.1717	0.1717	0.1717	0.1697	0.1300	0.1366	0.1362	0.1267	0.1258	0.1146
Fats, Oils, and Grease (FOG)	0.2737	-	-	-	-	-	-	-	-	-

Notes:

Rates can be adjusted by the Commission.

Unusual wastes not covered by this schedule may be assigned a special rate.

*CCF = 100 Cubic Feet (Approx. 748 gallons)

**RATE SCHEDULE
WASTEWATER FACILITY CHARGES
LAST TEN FISCAL YEARS**

	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
Residential	\$ 2,055	\$ 1,905	\$ 1,905	\$ 1,895	\$ 1,895	\$ 1,895	\$ 1,895	\$ 1,895	\$ 1,895	\$ 1,895
Commercial/Industrial										
Volume based facility charges:										
5/8" Meter	\$ 2,055	\$ 1,905	\$ 1,905	\$ 1,895	\$ 1,895	\$ 1,895	\$ 1,895	\$ 1,895	\$ 1,895	\$ 1,895
3/4" Meter	4,210	4,210	4,210	4,830	4,830	4,830	4,830	4,830	4,830	4,510
1" Meter	7,410	7,410	7,410	8,170	8,170	8,170	8,170	8,170	8,170	7,630
1 1/2" Meter	16,645	16,645	16,645	17,260	17,260	17,260	17,260	17,260	17,260	16,130
2" Meter	31,465	30,505	30,505	30,510	30,510	30,510	29,420	29,420	29,420	27,490
3" Meter	80,405	73,810	73,810	70,800	70,800	70,800	67,350	63,600	62,270	58,180
4" Meter	156,530	138,445	138,445	128,660	128,660	128,660	122,400	115,580	106,060	99,110
6" Meter	400,625	336,960	336,960	298,610	298,610	298,610	284,070	268,250	224,650	209,920
8" Meter	780,840	634,710	634,710	542,680	542,680	542,680	516,260	487,510	382,670	357,580
10" Meter	1,310,665	1,038,525	1,038,525	862,550	862,550	862,550	820,560	774,860	587,820	540,610
12" Meter	2,001,460	1,554,120	1,554,120	1,259,520	1,259,520	1,259,520	1,198,210	1,131,490	-	-
14" Meter	2,863,155	2,186,505	2,186,505	1,734,700	1,734,700	1,734,700	1,650,250	1,558,360	-	-
16" Meter	3,904,635	2,940,135	2,940,135	2,289,010	2,289,010	2,289,010	2,177,580	2,056,330	-	-
Strength based facility charges: (per permitted pound)										
Biochemical Oxygen Demand (BOD) Excess over 250 mg/liter	-	-	-	-	-	-	-	728	987	928
Total Suspended Solids (TSS) Excess over 250 mg/liter	-	-	-	-	-	-	-	424	624	587
Total Phosphorus (TP) Excess over 6 mg/liter	-	-	-	-	-	-	-	8,420	5,846	5,502
Total Kjeldahl Nitrogen (TKN) Excess over 35 mg/liter	-	-	-	-	-	-	-	3,812	1,313	1,235

Notes:

One charge per connection.

HRSD eliminated strength based facility charges effective 7/1/2015.

Unaudited – See accompanying independent auditors' report

**TREATMENT PLANT OPERATING SUMMARY
LAST TEN FISCAL YEARS
(Average Quantity per Day)**

	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
Total										
Flow (MGD)	132.3	154.4	140.9	152.6	145.2	152.9	155.1	152.2	154.0	157.9
Influent (1,000 lbs.)										
BOD	263.5	269.1	252.4	281.9	285.1	288.2	282.5	286.0	288.6	274.4
TSS	203.4	215.4	226.2	211.4	215.8	215.9	228.8	198.6	204.7	198.1
TP	6.3	6.5	6.6	6.6	6.8	7.0	6.9	8.6	6.8	6.6
TKN	45.0	46.7	47.0	47.6	47.2	46.4	45.7	45.8	47.9	48.9
Effluent (1,000 lbs.)										
BOD	7.4	9.2	8.0	8.2	7.5	8.9	9.8	9.9	9.6	9.3
TSS	6.3	9.0	7.1	7.4	6.7	9.4	9.3	8.9	9.1	9.3
TP	0.5	0.7	0.7	0.8	0.7	0.9	0.9	1.0	1.1	1.0
TKN	5.1	8.1	8.4	8.5	7.3	7.7	8.0	9.8	11.2	12.0
Army Base Plant										
Flow (MGD)	8.2	11.1	10.4	11.1	10.0	9.5	9.6	9.9	10.7	11.8
Influent (1,000 lbs.)										
BOD	17.4	16.6	16.0	16.6	16.3	13.2	13.3	16.4	19.0	18.5
TSS	21.8	19.0	16.9	13.9	14.0	11.7	13.3	12.5	14.2	14.4
TP	0.3	0.4	0.4	0.4	0.4	0.3	0.3	0.4	0.4	0.4
TKN	2.9	3.2	3.3	3.3	3.1	2.7	2.7	2.9	3.5	3.7
Effluent (1,000 lbs.)										
BOD	0.2	0.6	0.2	0.3	0.2	0.3	0.3	0.8	0.8	0.8
TSS	0.4	0.9	0.3	0.4	0.3	0.4	0.5	0.6	0.8	0.9
TP	0.0	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1
TKN	0.2	0.2	0.1	0.1	0.1	0.1	0.1	2.1	2.6	2.8
Atlantic Plant										
Flow (MGD)	35.9	27.4	24.5	28.1	26.1	28.2	27.2	30.9	25.7	26.7
Influent (1,000 lbs.)										
BOD	74.4	58.5	49.3	58.2	56.7	53.2	55.6	66.6	52.7	51.3
TSS	51.9	39.6	35.5	39.3	36.6	38.7	38.5	42.9	37.3	36.4
TP	1.8	1.4	1.3	1.4	1.3	1.4	1.4	1.5	1.3	1.3
TKN	15.2	11.4	10.7	11.9	11.2	11.0	10.9	11.4	10.4	10.5
Effluent (1,000 lbs.)										
BOD	3.5	2.9	3.0	2.5	2.4	2.3	2.7	3.0	2.2	2.6
TSS	2.9	2.5	1.5	1.6	1.6	1.9	1.9	2.4	2.0	1.9
Boat Harbor Plant										
Flow (MGD)	11.7	15.2	13.6	15.8	14.2	13.9	15.6	14.4	14.9	15.5
Influent (1,000 lbs.)										
BOD	17.7	20.0	18.4	20.6	19.2	17.4	18.3	20.0	19.2	19.3
TSS	13.2	16.1	16.0	18.0	16.6	15.7	18.1	16.3	16.7	16.0
TP	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.4
TKN	3.6	3.8	4.0	4.2	3.9	3.8	3.8	3.6	3.7	3.7
Effluent (1,000 lbs.)										
BOD	0.9	1.0	0.6	0.9	0.6	0.6	1.0	0.7	0.7	0.7
TSS	0.7	1.0	0.8	1.0	0.7	0.7	0.9	0.6	0.8	0.8
TP	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
TKN	2.2	2.1	2.0	2.5	1.3	1.2	1.8	2.2	2.4	2.9

Unaudited – See accompanying independent auditors' report

TREATMENT PLANT OPERATING SUMMARY
LAST TEN FISCAL YEARS
(Average Quantity per Day)

	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
Chesapeake-Elizabeth Plant (1)										
Flow (MGD)	10.1	16.8	17.4	17.6	18.7	18.0	16.3	19.1	18.4	15.2
Influent (1,000 lbs.)										
BOD	20.2	30.5	38.1	37.2	35.4	35.2	30.2	38.7	32.1	24.8
TSS	14.0	23.0	24.6	26.8	26.6	26.1	22.9	26.6	25.1	21.0
TP	0.5	0.7	0.8	0.8	0.8	0.8	2.7	0.8	0.8	0.7
TKN	4.0	6.1	6.9	6.8	6.6	6.4	5.1	6.7	6.4	5.4
Effluent (1,000 lbs.)										
BOD	1.2	2.5	2.2	2.0	2.8	2.3	2.0	2.5	2.2	1.5
TSS	0.9	1.9	2.0	1.9	3.2	2.3	1.8	1.9	2.1	1.8
TP	0.1	0.1	0.2	0.1	0.2	0.1	0.1	0.1	0.2	0.1
TKN	2.0	3.9	4.4	4.1	4.5	4.1	3.6	4.5	4.2	3.2
James River Plant										
Flow (MGD)	12.7	14.7	12.4	13.9	13.0	12.3	13.2	12.7	13.6	14.3
Influent (1,000 lbs.)										
BOD	24.9	23.1	24.0	25.8	26.8	25.5	24.4	25.7	27.5	25.5
TSS	17.5	18.1	17.4	18.7	19.3	17.4	17.8	18.0	19.4	19.2
TP	0.6	0.6	0.5	0.6	0.6	0.5	0.5	0.5	0.6	0.6
TKN	4.7	5.0	4.7	4.7	4.8	4.3	4.2	4.0	4.2	4.4
Effluent (1,000 lbs.)										
BOD	0.6	0.5	0.5	0.4	0.3	0.4	0.4	0.3	0.5	0.7
TSS	0.5	0.5	0.4	0.4	0.4	0.4	0.5	0.4	0.6	0.8
TP	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1
TKN	0.6	0.5	0.5	0.3	0.4	0.5	0.4	0.4	0.2	0.6
Nansemond Plant										
Flow (MGD)	15.5	17.4	15.9	16.9	17.5	18.8	18.5	16.6	16.9	17.1
Influent (1,000 lbs.)										
BOD	29.9	33.8	32.5	33.0	31.9	40.7	35.8	28.5	29.0	27.0
TSS	25.9	36.0	46.5	37.2	33.4	40.3	38.4	21.9	23.1	22.9
TP	0.8	0.9	1.0	1.0	1.2	1.5	1.5	1.1	1.1	1.1
TKN	6.2	6.8	6.9	6.7	7.1	7.4	7.0	5.6	5.8	5.9
Effluent (1,000 lbs.)										
BOD	0.4	0.6	0.6	0.7	0.7	0.8	0.7	0.8	0.9	0.6
TSS	0.5	0.8	0.6	0.8	0.7	0.8	0.9	0.9	1.1	0.8
TP	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2
TKN	0.3	0.4	0.3	0.4	0.4	0.5	0.5	0.6	0.5	0.3
Virginia Initiative Plant										
Flow (MGD)	23.5	29.1	26.2	27.6	26.7	30.9	31.7	30.5	30.7	31.9
Influent (1,000 lbs.)										
BOD	39.1	39.4	37.0	40.4	47.5	50.1	50.4	47.5	45.8	45.8
TSS	33.2	31.5	35.4	23.2	30.0	31.3	32.0	30.2	30.6	31.6
TP	1.0	1.0	1.1	0.9	1.0	1.0	1.0	1.1	1.2	1.1
TKN	6.5	6.7	7.1	6.8	7.0	7.3	7.4	7.1	7.4	7.5
Effluent (1,000 lbs.)										
BOD	0.7	0.6	0.5	0.6	0.8	1.2	1.7	1.9	1.4	0.9
TSS	0.4	0.7	1.0	0.7	0.7	1.4	1.9	1.6	1.7	1.4
TP	0.1	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.1
TKN	0.3	0.4	0.3	0.4	0.6	0.4	0.7	0.8	0.6	0.5

(1) The Chesapeake-Elizabeth Plant was closed December 31, 2021.

Unaudited – See accompanying independent auditors' report

**TREATMENT PLANT OPERATING SUMMARY
LAST TEN FISCAL YEARS
(Average Quantity per Day)**

	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
Williamsburg Plant										
Flow (MGD)	8.3	9.0	8.6	7.7	8.0	8.6	8.4	9.2	8.9	9.1
Influent (1,000 lbs.)										
BOD	33.3	32.5	33.4	32.6	36.1	33.2	34.7	40.4	37.7	33.5
TSS	17.4	18.0	21.2	24.1	19.1	27.9	16.2	19.9	16.8	16.7
TP	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.5	0.5
TKN	3.6	3.7	3.6	3.5	3.3	3.6	3.2	3.3	3.3	3.4
Effluent (1,000 lbs.)										
BOD	0.3	0.4	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3
TSS	0.2	0.6	0.2	0.2	0.2	0.3	0.3	0.3	0.4	0.6
TP	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1
TKN	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.3	0.2
York River Plant										
Flow (MGD)	11.6	13.9	13.2	12.6	12.6	12.7	12.6	13.2	13.3	11.2
Influent (1,000 lbs.)										
BOD	16.7	14.6	15.8	16.8	16.7	16.3	18.2	17.9	17.2	13.3
TSS	15.5	14.1	15.4	15.0	15.1	16.7	16.9	16.4	15.7	14.1
TP	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
TKN	3.8	3.8	3.7	3.6	3.6	3.5	3.5	3.6	3.5	3.2
Effluent (1,000 lbs.)										
BOD	0.1	0.2	0.5	0.3	0.3	0.4	0.4	0.4	0.5	0.2
TSS	0.1	0.1	0.1	0.2	0.2	0.1	0.2	0.1	0.2	0.1
TP	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1
TKN	0.3	0.4	0.3	0.2	0.2	0.3	0.3	0.3	0.4	0.1

Unaudited – See accompanying independent auditors' report

**TEN LARGEST CUSTOMERS
CURRENT YEAR AND NINE YEARS AGO**

(in thousands)

Customer	Type	2022		2013	
		Amount	Percent	Amount	Percent
U.S. Navy - Norfolk Naval Base	Military Facility	\$ 6,843	1.9%	\$ 4,898	2.5%
Anheuser - Busch, Inc.	Brewery	3,827	1.1%	5,195	2.6%
Norfolk Naval Shipyard	Military Ship Repair	3,223	0.9%	-	-
Huntington Ingalls Industries (formerly Northrop Grumman Newport News/ Newport News Shipbuilding and Drydock)	Ship building	2,803	0.8%	3,375	1.7%
City of Norfolk	Municipality	2,598	0.7%	2,178	1.1%
Smithfield Foods	Meat Processor	2,577	0.7%	3,414	1.7%
U.S. Air Force - Langley Air Force Base	Military Facility	2,547	0.7%	1,088	0.5%
Norfolk Redevelopment & Housing Authority	Housing Authority	2,538	0.7%	1,423	0.7%
U.S. Navy - Little Creek Amphibious Base	Military Facility	1,989	0.6%	1,221	0.6%
Oceana Naval Air Station / Dam Neck	Military Facility	1,634	0.5%	-	-
U.S. Army - Fort Eustis	Military Facility	-	-	1,023	0.5%
City of Virginia Beach	Municipality	-	-	954	0.5%
Total		\$ 30,579	8.6%	\$ 24,769	12.4%

Unaudited – See accompanying independent auditors' report

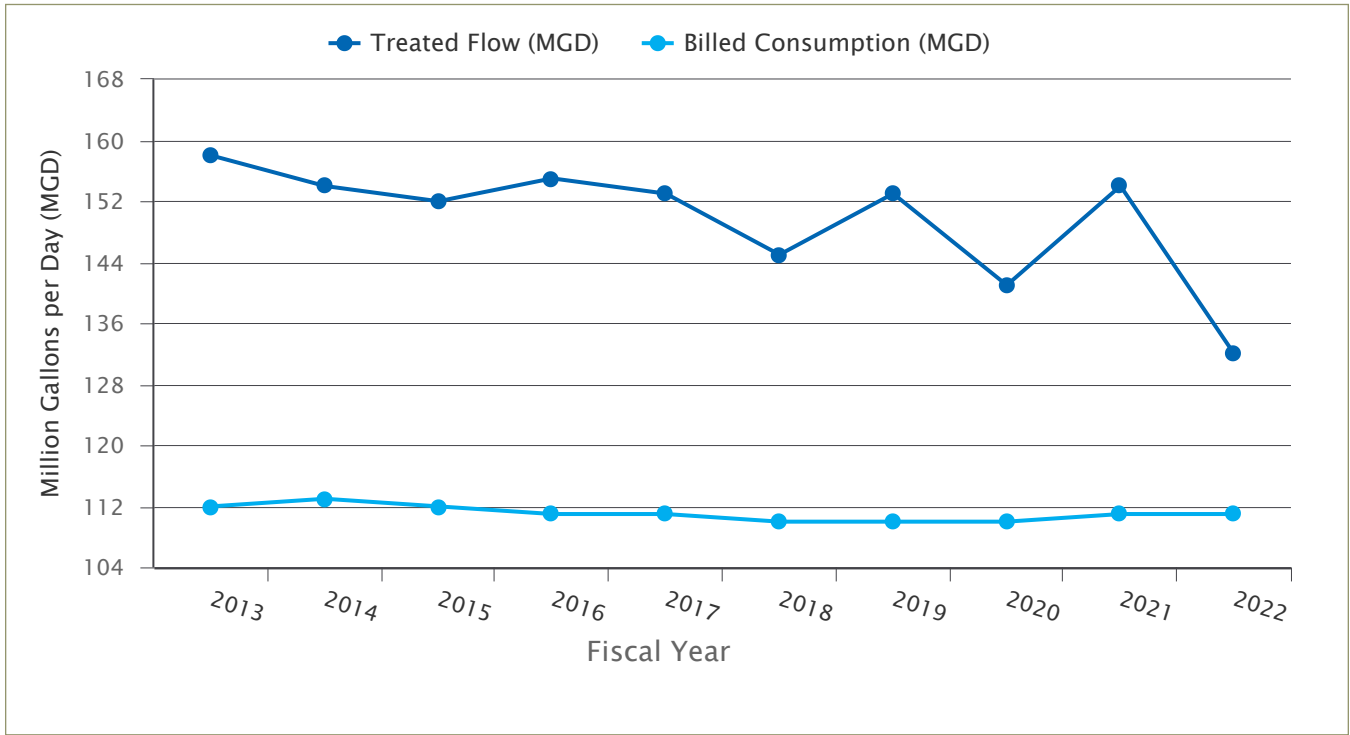
**TEN LARGEST EMPLOYERS
CURRENT YEAR AND NINE YEARS AGO**

Employer	Type	2022			2013		
		Number of Employees	Rank	Percent of Regional Employment	Number of Employees	Rank	Percent of Regional Employment
Naval Station Norfolk	Military Facility	77,000	1	7.4%	67,000	1	7.3%
Joint Expeditionary Base Little Creek - Fort Story	Military Facility	25,000	2	2.4%	22,000	3	2.4%
Huntington Ingalls Industries	Shipbuilding and Repair	24,000	3	2.3%	24,000	2	2.6%
Sentara Healthcare	Health Care Network	22,000	4	2.1%	20,000	5	2.2%
Oceana Naval Air Station	Military Facility	19,000	5	1.8%	16,000	6	1.7%
Joint Base Langley-Eustis	Military Facility	19,000	5	1.8%	21,000	4	2.3%
Norfolk Naval Shipyard	Military Ship Repair	12,000	7	1.2%	12,000	7	1.3%
Naval Support Activity/ Naval Medical Center	Military Facility	11,000	8	1.1%	9,000	9	1.0%
Virginia Beach Public Schools	Public Schools	11,000	8	1.1%	10,000	8	1.1%
Riverside Health System	Health Care Network	9,500	10	0.9%	7,000	10	0.8%
Total		229,500		22.1%	208,000		22.7%

Sources:

Hampton Roads Economic Development Alliance
 Hampton Roads Statistical Digest
 Hampton Roads Business
 Confirmation with employers

COMPARISON OF TREATED FLOW TO BILLED FLOW LAST TEN FISCAL YEARS



Year ended June 30,	Treated Flow (MGD)	Billed Consumption (MGD)
2013	158	112
2014	154	113
2015	152	112
2016	155	111
2017	153	111
2018	145	110
2019	153	110
2020	141	110
2021	154	111
2022	132	111

Unaudited – See accompanying independent auditors' report

**NUMBER OF EMPLOYEES BY IDENTIFIABLE ACTIVITY
LAST TEN FISCAL YEARS**

	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
General Management										
General Manager	1	1	1	1	2	3	3	3	3	3
Support Staff	1	1	1	1	1	1	1	1	1	1
Total General Management	2	2	2	2	3	4	4	4	4	4
Communications										
Communications	1	1	1	1	1	-	-	-	-	-
Support Staff	2	2	2	2	1	-	-	-	-	-
Total Communications	3	3	3	3	2	-	-	-	-	-
Talent Management										
Human Resources	5	6	6	6	6	6	5	5	5	5
Safety	5	4	3	3	3	3	3	-	-	-
Training	4	4	3	3	2	2	2	2	2	2
Support Staff	3	3	4	4	4	4	4	3	3	3
Total Talent Management	17	17	16	16	15	15	14	10	10	10
Finance										
Accounting & Finance	15	15	12	12	11	10	10	10	10	10
Customer Care Center	65	71	77	77	77	77	77	69	69	68
Procurement	12	11	10	10	10	10	10	9	9	9
Capital Finance	6	-	-	-	-	-	-	-	-	-
Support Staff	4	5	3	3	3	3	2	3	3	3
Total Finance	102	102	102	102	101	100	99	91	91	90
Information Technology										
Information Technology	49	48	48	43	48	47	45	39	35	35
Support Staff	2	2	2	2	2	1	1	1	1	1
Total Information Technology	51	50	50	45	50	48	46	40	36	36
Operations										
Army Base Treatment Plant	29	32	34	34	34	34	31	32	32	32
Atlantic Base Treatment Plant	36	37	35	35	35	35	32	33	33	33
Boat Harbor Treatment Plant	34	32	35	35	35	35	32	33	33	33
Chesapeake-Elizabeth Treatment Plant	25	31	32	32	32	32	31	32	32	32
Interceptor System Maintenance	112	121	119	119	118	117	115	120	120	120
James River Treatment Plant	24	24	22	22	22	22	20	21	21	21
Maintenance Shops	112	85	74	73	71	70	83	86	86	86
Nansemond Treatment Plant	30	35	32	32	32	32	30	31	31	31
Virginia Initiative Plant	33	32	34	34	33	33	30	31	31	31
Williamsburg Treatment Plant	28	28	29	29	29	29	28	29	29	29
York River Treatment Plant	23	23	24	24	24	24	22	23	23	23
Small Communities Division	27	23	23	23	23	23	21	17	17	17
Support Staff	20	23	23	23	23	23	24	25	25	25
Total Operations	533	526	516	515	511	509	499	513	513	513
Engineering										
Design and Construction	43	31	31	30	26	25	25	21	19	19
Support Staff	2	13	13	13	13	14	14	14	14	14
Total Engineering	45	44	44	43	39	39	39	35	33	33
Water Quality										
Pretreatment & Pollution Prevention	27	27	28	27	27	26	26	25	24	24
Technical Services	34	36	34	31	31	29	28	25	23	21
Laboratory	52	50	47	47	46	45	42	40	38	38
Support Staff	6	5	5	5	5	6	6	6	6	6
Total Water Quality	119	118	114	110	109	106	102	96	91	89
Total Employees	872	862	847	836	830	821	803	789	778	775

Unaudited – See accompanying independent auditors' report



**Other Supplemental
Section (Unaudited)**



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SUMMARY OF PRIMARY BONDED DEBT SERVICE
June 30, 2022

(in thousands)

As of June 30,	Senior Bonds			Subordinate	Total Debt
	Principal	Interest	Debt Service	Bonds Debt Service	
2023	\$ 18,806	\$ 8,818	\$ 27,624	\$ 87,843	\$ 115,467
2024	19,600	7,942	27,542	39,998	67,540
2025	20,450	7,007	27,457	41,338	68,795
2026	20,671	6,030	26,701	41,528	68,229
2027	7,843	5,368	13,211	54,842	68,053
2028	8,086	5,021	13,107	51,501	64,608
2029	8,340	4,661	13,001	50,280	63,281
2030	8,600	4,289	12,889	50,028	62,917
2031	8,428	3,903	12,331	51,024	63,355
2032	5,995	3,523	9,518	48,946	58,464
2033	6,225	3,165	9,390	47,120	56,510
2034	6,465	2,793	9,258	45,159	54,417
2035	6,715	2,406	9,121	44,502	53,623
2036	6,975	2,005	8,980	38,703	47,683
2037	7,245	1,588	8,833	38,826	47,659
2038	7,525	1,155	8,680	38,657	47,337
2039	7,815	705	8,520	20,745	29,265
2040	8,115	236	8,351	9,914	18,265
2041	-	-	-	9,489	9,489
2042	-	-	-	9,247	9,247
2043	-	-	-	9,194	9,194
2044	-	-	-	9,156	9,156
2045	-	-	-	3,859	3,859
2046	-	-	-	3,629	3,629
2047	-	-	-	502	502
2048	-	-	-	108	108
Total	\$ 183,899	\$ 70,615	\$ 254,514	\$ 846,138	\$ 1,100,652

Unaudited – See accompanying independent auditors' report

BUDGETARY COMPARISON SCHEDULE
June 30, 2022

(in thousands)

	Budget		Actual	Variance under Amended Budget	Percent Variance
	Adopted	Amended			
OPERATING BUDGET EXPENSES					
General Management	\$ 466	\$ 468	\$ 464	\$ 4	0.9%
Communications	456	461	407	54	11.7%
Finance	15,303	15,889	14,188	1,701	10.7%
Information Technology	16,710	17,884	15,481	2,403	13.4%
Talent Management	2,533	2,555	2,298	257	10.1%
Operations	111,350	124,912	111,412	13,500	10.8%
Engineering	7,109	7,624	6,712	912	12.0%
Water Quality	15,896	16,820	15,297	1,523	9.1%
General	8,140	8,696	5,217	3,479	40.0%
Debt Service	64,808	64,808	61,328	3,480	5.4%
TOTAL	242,771	260,117	232,804	\$ 27,313	10.5%
Transfer to CIP	114,464	114,464			
Transfer to Risk Management	260	260			
	<u>\$ 357,495</u>	<u>\$ 374,841</u>			
Add:					
Unbudgeted Depreciation and Amortization			54,357		
Unbudgeted Bad Debt Expense			1,210		
Capital Improvement Program Items Expensed			9,164		
Less:					
Capitalized Assets			2,029		
Debt Service			61,328		
Capital Distributions to Localities			13		
TOTAL OPERATING EXPENSES			<u>\$ 234,165</u>		

**NOTES TO BUDGETARY COMPARISON SCHEDULE
JUNE 30, 2022****BUDGETARY HIGHLIGHTS**

HRSD's Commission adopts an Annual Operating Budget that contains the day-to-day operating expenses of the District. The Operating Budget as adopted for FY 2022 was \$242,771,000 and contains personnel costs, fringe benefits, material and supplies, electricity, chemicals, insurance, contractual services, debt service and other miscellaneous expenses. There were several modifications to the Operating Budget during the year to reflect changes in spending patterns. All adjustments to the Annual Budget were from encumbrances carried forward or from transfers within or among departments.

**NOTE 1 – BUDGETARY ACCOUNTING AND CONTROL
Budget Preparation**

HRSD prepares its Annual Budget under the provisions of its enabling legislation, used to establish rates, fees and other charges, and of Section 3.12 of the Master Trust Indenture, dated December 1, 1993, and the Trust Agreement, dated March 1, 2008. In accordance with those provisions, the following process is used to adopt the Annual Budget.

The process begins in late December with the issuance of the Annual Budget Instructions by the General Manager. Each department completes its Operating and Improvement Budgets by March 1 for the General Manager's review.

The HRSD Commission appoints a Finance Committee consisting of two Commissioners. The two Commissioners meet in early April to review the Budgets, which are presented by staff at the April Commission meeting. HRSD's Commission reviews these budgets at that meeting.

The final Annual Budget, which incorporates the Operating and Capital Budgets, is presented at the May Commission meeting for adoption. The Commission simultaneously adopts the budget and any resulting wastewater rate schedule. All rate adjustments must be publicly advertised four consecutive weeks before they can take effect.

The HRSD Commission approves any budget amendments during the ensuing year.

The 2008 Trust Agreement requires Debt Service Coverage of 1.20 times for senior and 1.00 times for total debt based on maximum annual debt service. The 2008 Subordinate Trust Agreement was amended in 2016 to account for Consent Decree expenses related to Locality wet weather improvements that HRSD will not own and requires total debt service coverage to be 1.2 times on an adjusted cash basis. The HRSD Commission has a policy of providing senior revenue and total revenue bonded debt service coverage ratios of not less than 1.5 and 1.4 times annual debt service on an adjusted cash basis, respectively.

Budget Accounting

The Annual Budget is prepared on a basis of accounting consistent with accounting principles generally accepted in the United States of America. No provision is provided, however, for non-cash items such as depreciation and bad debt expense. The FY 2022 Annual Budget consists of two parts: an operating budget that covers day-to-day operations and a capital budget that identifies all major capital project requirements over the next ten years. All operating budget amounts lapse at year-end. The Commission annually adopts only the first year of the capital budget. HRSD's Commission separately approves all contracts that are awarded under the capital budget.



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**SCHEDULE OF REVENUES, EXPENSES AND
DEBT SERVICE FOR OPERATIONS - ACTUAL TO BUDGET
FOR THE FISCAL YEAR ENDED JUNE 30, 2022**

(in thousands)

	Actual	Amended Budget	Variance Favorable/ (Unfavorable)	Budget Variance Percentage
OPERATING REVENUES				
Wastewater Treatment Charges	\$ 352,414	\$ 344,370	\$ 8,044	2%
Miscellaneous	5,532	1,790	3,742	209%
TOTAL OPERATING REVENUES	357,946	346,160	11,786	1%
CURRENT EXPENSES				
General Management	464	468	4	1%
Communications	407	461	54	12%
Finance	14,188	15,889	1,701	11%
Information Technology	15,481	17,884	2,403	13%
Talent Management	2,298	2,555	257	10%
Operations	111,412	124,912	13,500	11%
Engineering	6,712	7,624	912	12%
Water Quality	15,297	16,820	1,523	9%
General	5,217	8,696	3,479	40%
TOTAL CURRENT EXPENSES	171,476	195,309	23,833	12%
EXCESS OF OPERATING REVENUES OVER EXPENSES	186,470	150,851	35,619	24%
NON-OPERATING REVENUES				
Wastewater Facility Charge	7,072	7,320	(248)	(3%)
Interest Income	(1,651)	1,210	(2,861)	(236%)
Bond Interest Subsidy	2,052	2,095	(43)	(2%)
TOTAL NON-OPERATING REVENUES	7,473	10,625	(3,152)	(30%)
INCOME BEFORE CAPITAL CONTRIBUTIONS	193,943	161,476	32,467	20%
CAPITAL CONTRIBUTIONS				
Other Capital Contributions	2,737	-	2,737	100%
AMOUNT AVAILABLE FOR DEBT	196,680	161,476	35,204	22%
DEBT SERVICE				
Principal and Interest	61,017	64,308	3,291	5%
Cost of Issuance	311	500	189	38%
TOTAL DEBT SERVICE	61,328	64,808	3,480	5%
AMOUNT AVAILABLE TO REINVEST	\$ 135,352	\$ 96,668	\$ 38,684	40%

Unaudited – See accompanying independent auditors' report

**OBJECTIVE CLASSIFICATION OF DEPARTMENTAL EXPENSES
FOR OPERATIONS - ACTUAL TO BUDGET
FOR THE FISCAL YEAR ENDED JUNE 30, 2022**

(in thousands)

	General Management	Communications	Finance	Information Technology	Talent Management	Operations
Personal Services	\$ 334	\$ 254	\$ 5,938	\$ 4,873	\$ 1,491	\$ 35,044
Fringe Benefits	85	88	2,341	1,575	545	14,754
Materials & Supplies	11	22	70	967	60	6,523
Transportation	8	7	6	6	15	1,293
Utilities	-	-	258	1,260	-	11,683
Chemical Purchases	-	-	-	-	-	10,044
Contractual Services	17	31	5,437	5,373	23	21,770
Major Repairs	-	-	-	978	-	7,846
Capital Assets	-	-	-	304	-	1,725
Miscellaneous Expense	9	5	138	145	164	730
	\$ 464	\$ 407	\$ 14,188	\$ 15,481	\$ 2,298	\$ 111,412

Unaudited – See accompanying independent auditors' report

**OBJECTIVE CLASSIFICATION OF DEPARTMENTAL EXPENSES
FOR OPERATIONS - ACTUAL TO BUDGET
FOR THE FISCAL YEAR ENDED JUNE 30, 2022**

(in thousands)

	Engineering	Water Quality	General	Total	Percent of Total	Amended Budget	Variance Favorable/ (Unfavorable)
Personal Services	\$ 4,229	\$ 8,335	\$ 659	\$ 61,157	27%	\$ 62,774	\$ 1,617
Fringe Benefits	1,481	3,358	(3,760)	20,467	9%	25,174	4,707
Materials & Supplies	9	1,811	22	9,495	4%	9,511	16
Transportation	15	30	-	1,380	1%	1,556	176
Utilities	-	1	560	13,762	6%	12,351	(1,411)
Chemical Purchases	-	-	-	10,044	4%	9,249	(795)
Contractual Services	875	1,362	7,016	41,904	18%	55,344	13,440
Major Repairs	-	29	-	8,853	4%	16,056	7,203
Capital Assets	-	-	-	2,029	1%	656	(1,373)
Miscellaneous Expense	103	371	720	2,385	1%	2,638	253
	<u>\$ 6,712</u>	<u>\$ 15,297</u>	<u>\$ 5,217</u>	<u>\$ 171,476</u>	<u>75%</u>	<u>\$ 195,309</u>	<u>\$ 23,833</u>
Debt Service							
Principal and Interest				61,017	26%	64,308	3,291
Cost of Issuance				311	0%	500	189
Total Debt Service				<u>\$ 61,328</u>	<u>26%</u>	<u>\$ 64,808</u>	<u>\$ 3,480</u>
Total Department and Debt Service				<u>\$ 232,804</u>	<u>100%</u>	<u>\$ 260,117</u>	<u>\$ 27,313</u>

Unaudited – See accompanying independent auditors' report

**DEPARTMENT SUMMARY OF EXPENSES
ACTUAL TO BUDGET
FOR THE FISCAL YEAR ENDED JUNE 30, 2022**

(in thousands)

	Actual	Amended Budget	Variance Favorable/ (Unfavorable)
General Management			
Personal Services	\$ 334	\$ 342	\$ 8
Fringe Benefits	85	83	(2)
Materials & Supplies	11	10	(1)
Transportation	8	7	(1)
Contractual Services	17	12	(5)
Miscellaneous Expense	9	14	5
	464	468	4
Communications			
Personal Services	254	295	41
Fringe Benefits	88	94	6
Materials & Supplies	22	50	28
Transportation	7	9	2
Contractual Services	31	-	(31)
Miscellaneous Expense	5	13	8
	407	461	54
Finance			
Personal Services	5,938	6,290	352
Fringe Benefits	2,341	2,527	186
Materials & Supplies	70	104	34
Transportation	6	8	2
Utilities	258	343	85
Contractual Services	5,437	6,335	898
Miscellaneous Expense	138	282	144
	14,188	15,889	1,701
Information Technology			
Personal Services	4,873	5,055	182
Fringe Benefits	1,575	1,653	78
Materials & Supplies	967	1,118	151
Transportation	6	13	7
Utilities	1,260	1,197	(63)
Contractual Services	5,373	7,072	1,699
Major Repairs	978	1,478	500
Capital Assets	304	-	(304)
Miscellaneous Expense	145	298	153
	15,481	17,884	2,403

(Continued)

**DEPARTMENT SUMMARY OF EXPENSES
ACTUAL TO BUDGET
FOR THE FISCAL YEAR ENDED JUNE 30, 2022**

(in thousands)

	Actual	Amended Budget	Variance Favorable/ (Unfavorable)
Talent Management			
Personal Services	\$ 1,491	\$ 1,619	\$ 128
Fringe Benefits	545	607	62
Materials & Supplies	60	57	(3)
Transportation	15	28	13
Contractual Services	23	32	9
Miscellaneous Expense	164	212	48
	<u>2,298</u>	<u>2,555</u>	<u>257</u>
Operations			
Personal Services	35,044	35,997	953
Fringe Benefits	14,754	15,395	641
Materials & Supplies	6,523	6,345	(178)
Transportation	1,293	1,442	149
Utilities	11,683	10,368	(1,315)
Chemical Purchases	10,044	9,249	(795)
Contractual Services	21,770	30,039	8,269
Major Repairs	7,846	14,452	6,606
Capital Assets	1,725	656	(1,069)
Miscellaneous Expense	730	969	239
	<u>111,412</u>	<u>124,912</u>	<u>13,500</u>
Engineering			
Personal Services	4,229	4,440	211
Fringe Benefits	1,481	1,576	95
Materials & Supplies	9	38	29
Transportation	15	23	8
Contractual Services	875	1,387	512
Miscellaneous Expense	103	160	57
	<u>6,712</u>	<u>7,624</u>	<u>912</u>
Water Quality			
Personal Services	8,335	8,460	125
Fringe Benefits	3,358	3,424	66
Materials & Supplies	1,811	1,763	(48)
Transportation	30	26	(4)
Utilities	1	3	2
Contractual Services	1,362	2,428	1,066
Major Repairs	29	126	97
Miscellaneous Expense	371	590	219
	<u>15,297</u>	<u>16,820</u>	<u>1,523</u>
General			
Personal Services	659	276	(383)
Fringe Benefits	(3,760)	(185)	3,575
Materials & Supplies	22	26	4
Utilities	560	440	(120)
Contractual Services	7,016	8,039	1,023
Miscellaneous Expense	720	100	(620)
	<u>5,217</u>	<u>8,696</u>	<u>3,479</u>
TOTAL DEPARTMENTAL EXPENSES	<u>\$ 171,476</u>	<u>\$ 195,309</u>	<u>\$ 23,833</u>

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HRSD

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*Photos used for this publication feature
HRSD's Thermal Hydrolysis Process for biosolids processing
at the Atlantic Treatment Plant in Virginia Beach, Virginia.
Printed on recycled paper using environmentally friendly ink.*

HRSD Commission Meeting Minutes
November 22, 2022
Attachment #3

4. Financial Policy

1.0 **PURPOSE AND NEED**

Hampton Roads Sanitation District (HRSD) was created in 1940 by the Virginia General Assembly as a political subdivision of the Commonwealth of Virginia and was established as a governmental instrumentality to provide for the public health and welfare. HRSD was created for the specific purpose of abating pollution in the Hampton Roads area of Virginia through the interception of existing wastewater outfalls, the construction of wastewater treatment facilities and the installation of interceptors throughout the service area.

HRSD operates under the direction of the Hampton Roads Sanitation District Commission (the Commission) comprised of eight members appointed by the Governor for staggered terms of four years.

Regulatory requirements to reduce nutrients, hydraulic expansion, aging infrastructure renewals and replacements, and increased treatment capacity are addressed through HRSD's Capital Improvement Program (CIP).

HRSD recognizes that adherence to formal financial policies is critical to sound financial management. This sentiment is echoed by bond rating agencies, investors and the Government Finance Officers Association.

This Financial Policy (Policy) is designed to help protect HRSD's financial resources by:

- a. Promoting sound financial management;
- b. Ensuring the legal and prudent use of HRSD's debt issuance authority; and
- c. Guiding HRSD and its managers in policy, investment and debt issuance decisions.

2.0 **DEFINITIONS**

2.1 Adjusted Days Cash on Hand. Days Cash on Hand that excludes accrued debt service, the Risk Reserve, the Renewal and Replacement Reserve, and cash budgeted for the CIP (i.e., Pay-go).

2.2 Annual Determined Contribution (ADC). The annual contribution requirement determined by an actuary for a defined benefit plan.

2.3 Arbitrage. The simultaneous purchase and sale of an asset in order to profit from a difference in the price. It is a trade that profits by exploiting price differences of identical or similar financial instruments in different markets or in different forms. For the purposes of this Policy, Arbitrage refers to the difference between the interest paid on the tax-advantaged securities and the interest earned by investing the

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Financial Policy



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security proceeds in higher-yielding taxable securities. The IRS Code governs arbitrage on the proceeds of or security for the repayment of tax-advantaged municipal securities.

- 2.4 Asset Allocation.** An investment strategy that attempts to balance risk versus reward by adjusting the percentage of each asset in an investment portfolio according to the investor's risk tolerance, goals and investment time frame.
- 2.5 Balloon Maturity.** As defined in the Trust Agreements, a maturity that contains twenty-five percent (25%) or more of the original principal amount of an issue and that is not required to be amortized by redemption prior to maturity.
- 2.6 Bankers' Acceptance.** A draft or bill or exchange accepted by a bank or trust company. The accepting institution guarantees payment of the bill, as well as the issuer.
- 2.7 Basis Swap.** An agreement between two parties to exchange interest payments based on different variable-rate indices, e.g. SIFMA vs. SOFR; a floating-to-floating swap.
- 2.8 Benchmark.** A comparative base for measuring the performance or risk tolerance of an investment portfolio. A benchmark should represent a close correlation to the level of risk and the average duration of the portfolio's investments.
- 2.9 Bond Anticipation Notes.** Notes which are generally repaid from the proceeds of the issuance of long-term indebtedness.
- 2.10 Bond Insurance.** Credit Enhancement provided by a bond insurer that insures the payment of the principal of and interest on one or more maturities of Bonds.
- 2.11 Broker.** Matches buyers and sellers of securities for a commission.
- 2.12 Bullet Maturity.** A maturity within an issue of bonds for which there are no sinking fund payments prior to the stated maturity date.
- 2.13 Call Provisions.** The term of a bond giving the issuer the right to redeem all or a portion of such bond prior to its stated maturity at a specific price, usually at or above par.
- 2.14 Capital Appreciation Bond.** A municipal security on which the interest accruing on an initial principal amount is not paid currently, but accrued at a stated compounding rate until maturity. At maturity the investor receives a single payment (the "maturity value") representing both the initial principal amount and the accrued, compounded interest.

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- 2.15 Capital Asset.** A unit of property purchased by, constructed by or donated to HRSD that (1) was acquired or produced and has a value of \$5,000 or more and (2) has an economic useful life of a minimum of 60 months. Capital Assets must be capitalized and depreciated for financial statement purposes. Assets constructed and paid by HRSD that improve the performance of the Wastewater System and subsequently transferred to a Locality constitute Locality Assets and will not be capitalized by HRSD for any purpose.
- 2.16 Capital Improvement Program (CIP).** HRSD's planned program of capital projects (greater than \$100,000), such as property, plant and equipment and related engineering, legal and construction services, and may consist of Capital Assets and Locality Assets.
- 2.17 Capitalized Interest.** A portion of the proceeds of a bond issue which is set aside to pay interest on one or more bond issues for a specific period of time. Interest capitalized for the construction period of the project is typically treated as a capital cost under the IRS Code.
- 2.18 Certificate of Deposit (CD).** A time deposit with a specific maturity evidenced by a certificate. Large-denomination CDs are typically negotiable.
- 2.19 Collateral.** Securities, evidence of deposit or other property, which a borrower pledges to secure repayment of a loan. Also refers to securities pledged by a bank to secure deposits of public monies.
- 2.20 Commercial Paper (CP).** Short-term, unsecured promissory notes issued by corporations or governments to finance receivables for a maturity specified by the purchaser that ranges from three days to 270 days. Notes are generally sold at a discount and carry credit ratings issued by a Nationally Recognized Statistical Rating Organization (NRSRO).
- 2.21 Competitive Sale.** A sale/auction of securities by an issuer in which underwriters or syndicates of underwriters submit bids to purchase the securities.
- 2.22 Constant Maturity Swap.** An interest rate swap that is predicated upon the shape of the forward implied yield curve whereby counterparties exchange interest rate payments based on an anticipated future interest rate and a variable swap index rate. The interest rate on one leg of the swap is reset periodically but with reference to a market swap rate rather than an index such as SOFR or a substitute. The other leg of the swap is generally a market index, such as SOFR or a substitute.
- 2.23 Continuing Disclosure.** The principle that accurate and complete information material to an issuer of securities be made available on an ongoing basis. Pursuant to SEC Rule 15c2-12, underwriters of HRSD's bonds are generally obligated to

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obtain a Continuing Disclosure Agreement (CDA) from HRSD prior to underwriting such bonds.

- 2.24 Corporate Notes.** Unsecured promissory notes issued by corporations to raise capital for a maturity that is longer than 270 days. Corporate Notes are generally sold at a discount and carry credit ratings issued by an NRSRO.
- 2.25 Credit Enhancement.** Credit support purchased by the issuer to raise the credit rating of a debt issue. The most common credit enhancements consist of Bond Insurance, direct or standby Letters of Credit, and Lines of Credit.
- 2.26 Credit Support Annex.** A legal document that regulates credit support (collateral) for derivative transactions.
- 2.27 Days Cash on Hand.** Measured by current and non-current unrestricted cash and investments, plus any restricted cash and investments, if available for general system purposes, divided by Operating Expenses, divided by 365.
- 2.28 Dealer.** Acts as a principal in securities transactions, buying and selling for its own account.
- 2.29 Debenture.** An unsecured bond backed only by the general credit of the issuer.
- 2.30 Debt Service Coverage Ratio – GAAP.** Calculated in accordance with HRSD's Senior Trust Agreement, the ratio determined by dividing the Net Revenues by annual debt service. In such calculation, funds spent on Locality Assets are considered an expense. Annual debt service will be based on actual principal and interest payments during the year (i.e., not accrual based).
- 2.31 Debt Service Coverage Ratio - Adjusted.** Calculated in accordance with HRSD's Subordinate Trust Agreement, the ratio determined by dividing the Net Revenues by annual debt service. In such calculation, funds spent on Locality Assets may be excluded from the calculation of Net Revenues under the circumstances described within the definitions of Net Revenues and Operating Expenses. Annual debt service will be based on actual principal and interest payments during the year (i.e., not accrual based).
- 2.32 Debt Service Reserve Fund.** The fund in which money is placed that may be used to pay debt service if revenues available for debt service and Credit Enhancements, if applicable, are insufficient to pay debt service on HRSD's bonds secured by a Debt Service Reserve Fund as it becomes due and payable.
- 2.33 Deep Discount Bonds.** Bonds which are priced for sale at a substantial discount from their face or par value.

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- 2.34 Delivery versus Payment.** Delivery of securities with an exchange of money for the securities. (See also Delivery versus Receipt)
- 2.35 Delivery versus Receipt.** Delivery of securities with an exchange of a signed receipt for the securities. Also known as “free” delivery (See also Delivery versus Payment).
- 2.36 Derivative.** A financial product whose value is derived from some underlying asset value.
- 2.37 Designation Policies.** Outline how an investor’s order is filled when a bond’s maturity is oversubscribed when there is an underwriting syndicate. The senior managing underwriter and issuer decide how the bonds will be allocated among the syndicate. There are three primary classifications of orders which form the designation policy: Group Net orders; Net Designated orders and Member orders.
- 2.38 Discount.** A bond that is issued for less than its par (or face) value, or a bond currently trading for less than its par value in the secondary market.
- 2.39 Diversification.** A process of investing assets among a variety of security types by sector, maturity and quality rating.
- 2.40 Enabling Act.** HRSD’s Enabling Act is Chapter 66 of the Acts of Assembly of Virginia of 1960, as amended.
- 2.41 Encumbrances.** Commitments related to unperformed contracts for goods and services (i.e., purchase orders, contracts and commitments). Encumbrance accounting is utilized to the extent necessary to assure effective budgetary control and accountability and to facilitate effective cash planning and control.
- 2.42 Escrow.** A fund established to hold money pledged and to be used to pay debt service on one or more maturities of HRSD’s defeased bonds or other indebtedness.
- 2.43 Federal Agency.** Government sponsored/owned entity created by the U.S. Congress, generally for the purpose of acting as a financial intermediary by borrowing in the marketplace and directing proceeds to specific areas of the economy considered to otherwise have restricted access to credit markets, also referred to as Government Sponsored Enterprises (GSEs). The largest GSEs are Government National Mortgage Association (GNMA), Federal National Mortgage Association (FNMA), Federal Home Loan Mortgage Corporation (FHLMC), Federal Home Loan Bank (FHLB), Federal Farm Credit Bank (FFCB), and Tennessee Valley Authority (TVA).
- 2.44 Federal Funds Rate.** The rate of interest at which Federal Funds are traded. This rate is currently set by the Federal Reserve through open-market operations.

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- 2.45 Federal Funds.** Funds placed in Federal Reserve Banks by depository institutions in excess of current reserve requirements, and frequently loaned or borrowed on an overnight basis between depository institutions.
- 2.46 FINRA.** The Financial Industry Regulatory Authority.
- 2.47 Fitch.** Fitch Ratings is an NRSRO.
- 2.48 Forward Swap.** A swap executed today, the exchange of interest payments on which starts at some future date (the Effective Date), based on rates and terms determined and agreed upon today. On the Effective Date of a Forward swap begin net exchange of swap payments. On the Trade Date of the swap:
- Enter into Forward swap agreement
 - Set terms of the swap
 - Pay commitment fees for swap and bond insurance (if done in conjunction with a synthetic forward refunding of bonds)
- 2.49 Interest Rate Cap.** An option that pays its holder when and if the floating interest rate index is above the pre-determined fixed rate (strike price).
- 2.50 Interest Rate Collar.** The simultaneous purchase and sale of an Interest Rate Cap and an Interest Rate Floor on a floating index.
- 2.51 Interest Rate Floor.** An option that pays its holder when and if the floating interest rate index is below the pre-determined fixed rate (strike price).
- 2.52 Interest Rate Swap.** A contract between two parties, referred to as “counterparties”, to exchange interest rate payments at specified dates in the future. One party under the swap contract normally makes payments based on a fixed rate while the other party makes payments based on a variable (floating) rate.
- 2.53 Internal Controls.** Systematic measures (such as reviews, checks and balances, methods and procedures) instituted by an organization to: conduct its business in an orderly and efficient manner; safeguard its assets and resources; deter and detect errors, fraud, and theft; ensure accuracy and completeness of its accounting data; produce reliable and timely financial and management information; and ensure adherence to its policies and plans. An important concept in establishing appropriate internal controls is that the cost of the controls should not exceed their anticipated benefits.
- 2.54 IRS Code.** The Internal Revenue Code of 1986, as amended, and the regulations promulgated thereunder.

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- 2.55 Knock-in Option.** An option the existence of which is conditional upon a pre-set trigger price trading before the option's designated maturity. If the trigger is not touched before maturity, then the option is deemed not to exist.
- 2.56 Letter of Credit.** A bank facility wherein the bank agrees to deliver funds to a third party for the benefit of the account party, upon the presentation of the documents described in the Letter of Credit. A Letter of Credit may be used as Credit Enhancement or a Liquidity Facility for HRSD's indebtedness.
- 2.57 Line of Credit.** A bank facility wherein the bank permits the borrower to access funds at any time, subject to a maximum loan balance. A Line of Credit may be used as Credit Enhancement or a Liquidity Facility for HRSD's indebtedness.
- 2.58 Liquidity.** The ability of ease with which an asset can be converted into cash without a substantial loss of value. May also refer to unrestricted cash or investments of an issuer.
- 2.59 Liquidity Facility.** A type of bank credit facility wherein the bank agrees to purchase securities, typically variable rate debt, that cannot be immediately remarketed to investors. The Liquidity Facility provider purchases the securities until they can be remarketed.
- 2.60 Locality Assets.** Assets constructed and paid for by HRSD and subsequently transferred to a locality. A resolution of the HRSD Commission is required to exclude these costs from the calculation of the Operating Expenses for purposes of the calculation of the Debt Service Coverage Ratio – Adjusted.
- 2.61 London InterBank Offered Rate (LIBOR).** LIBOR is the rate on U.S. dollar denominated deposits with maturities from one day to 12 months transacted between banks in London. LIBOR was the predominant benchmark floating index in the taxable or corporate swap market. This index is expected to be discontinued after June 2023. The leading replacement is the Secured Overnight Financing Rate (SOFR), which is based on the cost of overnight borrowing using U.S. treasury securities as collateral.
- 2.62 Management Fee.** The fixed percentage of the gross spread which is paid to the senior managing underwriter for structuring a bond issue.
- 2.63 Market Value.** The price at which a security is trading and could presumably be purchased or sold.
- 2.64 Master Repurchase Agreement.** A written contract covering future transactions between the parties to repurchase/reverse repurchase agreements that establishes each party's rights in the transactions. A master agreement will often specify, among

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other things, the right of the buyer-lender to liquidate the underlying securities in the event of default by the seller borrower.

- 2.65 Maturity.** The date upon which the principal or stated value of an investment becomes due and payable.
- 2.66 Members.** Underwriters in a syndicate other than the senior underwriter.
- 2.67 Moody's.** Moody's Investors Service, Inc., is an NRSRO.
- 2.68 Nationally Recognized Statistical Rating Organization (NRSRO).** A credit rating agency registered with the SEC that issues credit ratings that the SEC permits other financial firms to use for certain regulatory purposes. Examples include Moody's, Fitch and S&P.
- 2.69 Negotiated Sale.** A method of selling bonds in which the issuer chooses an underwriter to negotiate terms pursuant to which such underwriter will purchase and market the bonds.
- 2.70 Net Revenues.** All revenues received by HRSD less Operating Expenses.
- 2.71 Net Revenues Available for Debt Service.** Under the Subordinate Trust Agreement, means all Net Revenues less debt service on Senior Bonds.
- 2.72 Nominal Interest Rate.** The interest rate before taking inflation into account. Generally, it is the stated or quoted rate in a loan or deposit agreement.
- 2.73 Normal Cost.** The annual current cost of a member's future retirement benefit.
- 2.74 Operating Expenses.** Operating Expenses includes those expenses required to pay the cost of maintaining, repairing and operating the Wastewater System, including, but not limited to, reasonable and necessary usual expenses of administration, operation, maintenance and repair, costs for billing and collecting the rates, fees and other charges for the use of or the services furnished by the Wastewater System, insurance premiums, credit enhancement and liquidity support fees, legal, engineering, auditing and financial advisory expenses, expenses and compensation of the Trustee, and deposits into a self-insurance program. Operating Expenses shall exclude allowance for depreciation and amortization and expenses for extraordinary maintenance or repair or improvements. In the Subordinate Trust Agreement only (i.e., not in the Senior Trust Agreement), Operating Expenses shall also exclude expenses for improvements that will not be owned by HRSD, but which will, in the reasonable determination of the Commission, as evidenced by a resolution thereof, maintain or improve the integrity of the Wastewater System.

- 2.75 Original Issue Discount.** In general, the amount by which the original par amount of a bond or an issue exceeds its public offering price at the time it is originally offered to an investor.
- 2.76 Percentage of (% of) SOFR Swap.** A swap whose floating rate is reset based on a percentage of a taxable rate (e.g. 67% of SOFR) rather than a tax-exempt rate, e.g. the SIFMA Index. A Percentage of SOFR swap generally carries a lower expected or nominal fixed rate than a comparable SIFMA swap to compensate the fixed payer (issuer) for the assumption of basis and tax risk.
- 2.77 Portfolio.** Collection of securities held by an investor.
- 2.78 Premium.** The difference between the higher price paid for a fixed-income security and the security's face amount at issue.
- 2.79 Present Value.** The current value of a future cash flow.
- 2.80 Primary Dealer.** A group of government securities dealers who submit daily reports of market activity and positions and monthly financial statements to the Federal Reserve Bank of New York and are subject to its informal oversight. Primary dealers include SEC-registered securities broker-dealers, banks, and a few unregulated firms.
- 2.81 Private Placement.** The placement of an issue of indebtedness directly with one or more qualified or institutional investors.
- 2.82 Prudent Person Rule.** An investment standard outlining the fiduciary responsibilities of public funds invested relating to investment practices.
- 2.83 Rate Lock.** An interest rate hedge that is cash-settled at maturity based on the prevailing level of an agreed upon underlying index. (e.g. the SIFMA 'AAA' scales)
- 2.84 Rate of Return.** The yield obtainable on a security based on its purchase price or its current market price. This may be the amortized yield to maturity on a bond or the current income return.
- 2.85 Rebate.** A requirement imposed by the IRS Code whereby the issuer of tax -exempt bonds must, under certain circumstances, pay the United States Treasury an amount equal to its profit earned from investment of tax-exempt bond proceeds at rates exceeding the tax-exempt borrowing rate. The tax-exempt borrowing rate (or bond yield) is calculated pursuant to the IRS Code together with all income earned on the accumulated profit pending payment.
- 2.86 Repurchase Agreement (RP or REPO).** An agreement under which the holder of securities sells them to an investor with a contract to repurchase the securities at a

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fixed price on a fixed date. The security “buyer” in effect lends the “seller” money for the period of the agreement, and the terms of the agreement are structured to compensate the buyer for this.

- 2.87 Revenue Bonds.** Bonds issued by HRSD secured by Net Revenues or Net Revenues Available for Debt Service.
- 2.88 Revenue Anticipation Notes.** Notes issued in anticipation of receiving revenues at a future date.
- 2.89 Safekeeping.** A service to customers rendered by banks for a fee whereby securities and valuables of all types and descriptions are held in the bank’s vaults for protection.
- 2.90 Secured Overnight Financing Rate (SOFR).** SOFR is a benchmark interest rate in the taxable bond market. SOFR represents a secured interbank overnight interest rate. SOFR is also available in certain longer terms (e.g., 1 month, 3 month, 6 month). With the discontinuation of LIBOR, SOFR is the default replacement in many cases.
- 2.91 Securities and Exchange Commission (SEC).** Agency created by Congress to protect investors in securities transactions by administering securities legislation.
- 2.92 Securities Industry and Financial Markets Association Index (SIFMA).** SIFMA is a high grade market index of 7-day variable rate demand notes that is produced by Municipal Market Data. SIFMA is the benchmark swap floating index in the tax-exempt swap market.
- 2.93 Self-Liquidity.** A term used in connection with variable rate bond financings whereby the issuer agrees to repurchase, with its own capital, bonds that have been tendered but not yet remarketed without procuring a third-party Liquidity Facility. In this instance, the issuer uses its own funds to purchase securities.
- 2.94 Selling Group.** A group of securities dealers that participate in an offering not as underwriters but rather receiving securities less a selling concession from the managing underwriter for distribution at the public offering price.
- 2.95 Senior Bonds.** Bonds and other indebtedness issued by HRSD secured by the Senior Trust Agreement.
- 2.96 Senior Trust Agreement.** The Trust Agreement, dated March 1, 2008, as the same may be amended and supplemented from time to time, between HRSD and a trustee. The Senior Trust Agreement secures HRSD’s Senior Bonds. No additional Senior Bonds may be issued under the Senior Trust Agreement.

- 2.97 Serial Bond.** A bond that matures on one date with no mandatory sinking fund redemptions that is part of an issue containing multiple Serial Bonds.
- 2.98 S&P.** S&P Global Ratings is an NRSRO.
- 2.99 Stripped Security.** Securities for which the rights to receive principal and interest payments have been decoupled and separately sold.
- 2.100 Subordinate Bonds.** Bonds and other indebtedness issued by HRSD and secured by the Subordinate Trust Agreement.
- 2.101 Subordinate Trust Agreement.** The Trust Agreement, dated October 1, 2011, as amended and restated as of March 1, 2016, as amended and supplemented from time to time, between HRSD and a trustee. The Subordinate Trust Agreement secures HRSD's Subordinate Bonds.
- 2.102 Swaption.** An option on a forward swap. The purchaser of a swaption (counterparty) has the right, but not the obligation, to compel the swaption seller (usually an issuer) to enter into a pre-negotiated swap agreement at some future date (exercise date). In exchange for this right, the swaption purchaser pays the swaption seller a premium amount. This amount can be paid up front, at some future date, or as an annuity over time.
- 2.103 Syndicate Policies.** The contractual obligations placed on the underwriting group relating to distribution, price limitations and market transactions.
- 2.104 Term Bond.** A Bond whose principal is amortized based on sinking fund redemption.
- 2.105 Termination Payment Risk.** The risk that an issuer is forced to liquidate a swap when it owes a termination payment to its counterparty.
- 2.106 Treasury Bills.** A non-interest bearing discount security issued by the U.S. Treasury to finance the national debt. Most Treasury Bills are issued to mature in three months, six months, or one year.
- 2.107 Treasury Bonds.** Long-term interest-bearing U.S. Treasury securities issued as direct obligations of the U.S. Government and having initial maturities of more than 10 years.
- 2.108 Treasury Inflation Protected Security (TIPS).** The principal of a TIPS increases with inflation and decreases with deflation, as measured by the Consumer Price Index. When a TIPS matures, the adjusted principal or original principal, whichever is greater, is paid.

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- 2.109 Treasury Notes.** Medium-term interest-bearing U.S. Treasury securities issued as direct obligations of the U.S. Government and having initial maturities from one to 10 years.
- 2.110 Trust Agreements.** Collectively, the Senior Trust Agreement and the Subordinate Trust Agreement.
- 2.111 Underwriter.** A dealer that purchases new issues of municipal securities from the Issuer and resells them to investors.
- 2.112 Underwriter's Discount.** The difference between the price at which bonds are bought by the Underwriter from the Issuer and the price at which they are offered to investors.
- 2.113 Underwriter's Expenses.** Compensates senior managers for out-of-pocket expenses, generally including underwriter's counsel DTC charges, travel, syndicate expenses, dealer fees, communication expenses, CUSIP fees and postage. Underwriter's expenses are subject to negotiation and can vary from transaction to transaction.
- 2.114 Uniform Net Capital Rule.** SEC requirement that member firms as well as nonmember broker-dealers in securities maintain a maximum ratio of indebtedness to liquid capital, also called net capital rule or net capital ratio. Indebtedness covers all money owed to a firm, including margin loans and commitments to purchase securities, one reason new public issues are often spread among members of underwriting syndicates. Liquid capital includes cash and assets easily converted into cash.
- 2.115 Variable Rate Debt (VRD).** An interest rate on a security that changes at intervals according to an index or a formula or other standard of measurement or that changes in connection with a mandatory tender and remarketing or where interest is not set to maturity.
- 2.116 VRA Master Financing Agreement.** The Amended and Restated Master Financing Agreement, as amended and supplemented from time to time, between Virginia Resources Authority and HRSD.
- 2.117 Water Infrastructure Finance and Innovation Act (WIFIA).** - The Water Infrastructure Finance and Innovation Act of 2014, as amended (WIFIA), established the WIFIA, a federal credit program administered by EPA for eligible water and wastewater infrastructure projects. The WIFIA program provides long-term, low-cost supplemental loans for up to 49% of the total cost of an eligible project.

2.118 WIFIA Agreements. Means the WIFIA Master Agreement, dated as of September 28, 2020, between the EPA and HRSD, and each of the loan agreements entered into thereunder from time to time

2.119 Yield. The rate of annual income return on an investment, expressed as a percentage. Income/current yield is obtained by dividing the current dollar income by the current market price for the security. Net yield or yield to maturity is the current income yield minus any premium above par or plus any discount from par in purchase price, with the adjustment spread over the period from the date of purchase to the date of maturity of the bond. In addition, Yield may, for certain purposes, be calculated in accordance with the IRS Code.

3.0 GUIDING PRINCIPLES

3.1 RESERVES. An important metric of HRSD's financial flexibility is its liquidity position as measured by available cash and investments. Setting a minimum liquidity position for known risks and obligations helps provide funding in emergency or other unexpected situations as they arise. The reserves represent an earmarking, for budgetary and Policy purposes, of cash and liquid investments (current and non-current). These reserves are in addition to existing reserves required by the Trust Agreements, if any, and any funds earmarked for debt service, capital improvements or budget carryover amounts.

3.1.1 General Reserve. HRSD will maintain sufficient liquidity to ensure adequate working capital for HRSD's operations. These funds are intended to help HRSD cover unanticipated expenses that cannot be paid from the current fiscal year's budgetary resources. Liquidity will be determined in terms of Days Cash on Hand and Adjusted Days Cash on Hand. Adjusted Days Cash on Hand at the end of a fiscal year should not be less than 270 days or greater than 365 days.

In the event the cash and investments are used to provide funding for unanticipated expenses and the Adjusted Days Cash on Hand falls below the 270 day minimum, the General Manager will submit a plan in writing to the Commission that will restore it to the policy level over a period not to exceed five fiscal years.

3.1.2 Risk Reserve. HRSD maintains a self-insurance program for some of its risk exposures.

- A. HRSD will maintain a Risk Reserve as of the end of the fiscal year of not less than 25 percent of projected annual self-insured claims costs for known, retained risks.
- B. In the event the Risk Reserve is used and reduced to a level that is less than the 25 percent minimum to provide funding of unanticipated self-insured expenses, the General Manager will submit a plan in writing to the

Commission that will restore the reserve to the policy level over a period not to exceed five fiscal years.

3.1.3 Renewal and Replacement Reserve. As permitted by the Enabling Act, HRSD's Trust Agreements establish a reserve to finance "anticipated renewals, replacements, extensions, additions and extraordinary repairs" to wastewater system the extent needed. Under the Trust Agreements, the funding of the Renewal and Replacement Reserve is discretionary.

3.2 BUDGETARY PRINCIPLES.

3.2.1 Long-Range Financial Forecast. Each fiscal year the General Manager will submit to the Commission a 20-year financial forecast of anticipated annual revenues and expenses and capital improvements.

This forecast will serve as the foundation for the General Manager's annual budget proposal to the Commission.

3.2.2 Annual Operating Budget. The Commission is required to adopt an operating budget no later than June 30 each fiscal year.

The Commission will adopt an operating budget that:

- A. Is structurally balanced whereby current budgetary revenues are sufficient to meet current budgetary expenses (those that are ongoing in nature);
- B. Considers the affordability of rates within the context of local wealth and income indicators;
- C. Is at a level necessary to ensure the adequate maintenance and operations of the wastewater system and ensure material compliance with all applicable regulatory requirements;
- D. Is sufficient to meet Actuarially Determined Contribution (ADC) for HRSD's defined benefit plans;
- E. Includes amounts necessary to maintain the required reserves in amounts at least equal to the minimum balances as defined in this Policy;
- F. Enables HRSD to meet the debt service coverage targets defined in these policies and the covenants contained in its Trust Agreements; and
- G. Annually funds at least 15 percent of its capital improvement program in cash.

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3.2.3 Capital Improvement Program (CIP). Each year HRSD will adopt a ten-year CIP that identifies capital projects to be undertaken over the next ten years to meet projected needs for regulatory compliance, infrastructure renewal, expansion, replacing old or new facilities, principally Capital Assets and Locality Assets.

3.2.4 Budgetary Accounting and Control. HRSD operates in accordance with annual operating and capital budgets prepared on a basis of accounting that is different from generally accepted accounting principles.

- A. The operating budget is adopted by department, with budgetary controls exercised administratively by management at the department level. The General Manager is authorized to transfer funds among departments without further approval by the Commission. Appropriations lapse at the end of the fiscal year. Valid, outstanding encumbrances (those for which performance under a contract is expected in the next year) are re-appropriated without further approval by the Commission and become part of the subsequent fiscal year's budget.
- B. The capital budget is a ten-year plan of CIP spending based on estimated project costs and prioritized schedules. Prior to beginning a capital project, however, , the Commission must appropriate funding for the total project cost. If a project is expected to exceed its approved budget, staff must seek additional funding from the Commission through a supplemental appropriation.

3.3 DEBT SERVICE COVERAGE. HRSD will comply with the debt service coverage ratios included in its Trust Agreements. Beyond the Trust Agreements' minimums, HRSD will adopt operating and capital budgets that it projects will enable HRSD to maintain a Debt Service Coverage Ratio – Adjusted at a minimum of 1.5 times on Senior Bonds and 1.4 times on total debt.

3.4 DERIVATIVES. The Derivatives section outlined herein is intended to provide general direction regarding the use, procurement and execution of Derivatives by HRSD. The Policy is intended to relate to the use of various interest rate hedging techniques, including the contractual exchange of different fixed and variable rate payment streams through interest rate swap agreements. The Policy is not intended to relate to other derivative products, such as hedges for fuel or other commodities that HRSD may consider for hedging exposures other than to interest rates.

3.5 ACCOUNTING AND FINANCIAL REPORTING. Except as permitted by the Subordinate Trust Agreement, HRSD will adhere to all Generally Accepted Accounting Principles (GAAP). As permitted by the Subordinate Trust Agreement, HRSD may present, or cause to be presented, certain calculations that reflect certain adjustments that are not in accordance with GAAP.

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HRSD will maintain a comprehensive framework of internal controls, and policies and procedures.

Over a period of not more than every five years, HRSD under the direction of the Finance Committee of the Commission will seek proposals from qualified firms of certified public accountants, including its current auditors if their performance has been satisfactory, to perform an annual audit of HRSD's financial statements.

3.6 RISK MANAGEMENT. HRSD will make diligent efforts to protect and preserve HRSD assets through a risk management program that generally transfers risk (purchase insurance) for high severity-low frequency exposures and retains risk (self-insurance) for low severity-high frequency exposures.

3.7 INTERNAL AUDIT. HRSD or its designee will conduct internal audits using a risk-based approach. Such audit efforts will be approved and directed by the Finance Committee of the Commission.

4.0 PROCEDURES

4.1 DEBT MANAGEMENT. HRSD's debt management program represents an effort to smooth out the fiscal impact of major capital investments while aligning the costs of utility service with the payment of those who will actually use the service.

The proceeds of long-term indebtedness will not be used to finance current operations or expenses for normal maintenance. Long-term indebtedness will be structured such that financial obligations do not exceed the aggregate expected useful lives of the assets financed. Short-term borrowing may be utilized for the temporary funding of operational cash flow deficits or interim construction requirements.

The most appropriate instrument for a proposed sale of debt shall be determined in light of financing needs and expected market conditions at the time of sale.

4.1.1 Permitted Debt by Type.

- A. **Lease Financing.** HRSD may use leasing for facilities or equipment if (1) it can be demonstrated that this is the most cost effective or appropriate way to secure financing, or (2) on small projects that do not warrant entry into the bond market.
- B. **Installment Purchases or Conditional Sale Contracts.** HRSD may utilize installment purchase or conditional sale contracts having an original term of one year or less.
- C. **Bond Anticipation Notes, Commercial Paper (CP) and Lines of Credit.** Each are typically short duration debt instruments issued to provide interim

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financing and, due to their short duration, expose HRSD to interest rate risk and market access risk upon renewal. Bond Anticipation Notes, Commercial Paper and Lines of Credit may be used

- (1) to provide interim financing designed to reduce the frequency of bond sales, thereby reducing cost of issuance;
- (2) during times of high interest rates and when the expectation is that interest rates will stabilize in the future or trend downward;
- (3) when market conditions are such that a Bond Anticipation Notes, Commercial Paper or Lines of Credit may be more readily received in the market than long-term debt; or
- (4) as an interim financing tool during the construction period for a project(s) until the project(s) is placed into service and / or HRSD sells long-term debt or is reimbursed through a clean water revolving loan or WIFIA loan.

- D. **Long-Term Revenue Bonds.** HRSD may issue long-term revenue bonds to fund Capital Assets and Locality Assets.
- E. **Revenue Anticipation Notes.** May be issued to meet HRSD's operational cash flow needs.

4.1.2 Guidelines on Debt Issuance.

- A. **Trust Agreements, VRA Master Financing Agreement and WIFIA Agreements.** HRSD will abide by the covenants contained in its Trust Agreements, the VRA Master Financing Agreement and the WIFIA Agreements. As a matter of prudence, HRSD considers its financial covenants to be minimum requirements to be exceeded.
- B. **Authorization.** Prior to the issuance of debt, the Commission will pass a resolution authorizing the financing arrangements and setting appropriate limits and parameters for the anticipated financing.
- C. **Lowest Cost Financing.** Generally, HRSD intends to pursue the lowest cost of financing within the parameters of this Policy, the Trust Agreements, the VRA Master Financing Agreement, the WIFIA Agreements and the Enabling Act.
- D. **Cash Financing from Available Sources.** HRSD intends to contribute at least 15 percent of each year's CIP in cash.

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- E. **Project Costs Prior to Debt Issue.** If project costs are incurred prior to the issuance of debt, the Commission will pass a resolution documenting its intent to be reimbursed from bond proceeds. As a general practice, the Commission will consider and adopt a reimbursement resolution in connection with the adoption of each fiscal year's CIP.
- F. **Variable Rate Debt and Bond Anticipation Notes.** VRD and Bond Anticipation Notes carry inherent interest rate risk. Such securities typically have interest rates lower than fixed rate securities and offer the potential for lower debt service costs over the term of the bond issue without regard to the cost of Credit Enhancement. HRSD will consider using VRD when it improves matching of assets and liabilities, potentially lowers debt service costs, adds flexibility to HRSD's capital structure, or diversifies HRSD's investor base.
- (1) Debt service on VRD will be budgeted at a conservative rate based on historical fluctuations in interest activity and current market assumptions. Before issuing VRD, HRSD will determine how potential volatility in the debt service will be funded and consider the impact of various interest rate scenarios on its financial position and on various debt ratios.
 - (2) HRSD does not intend to issue VRD in excess of 15 percent of its total debt portfolio. This limitation, however does not apply to debt issued as part of an interim financing program (e.g. Bond Anticipation Notes, Lines of Credit, Commercial Paper) nor does it apply to hedged variable rate debt. In addition, if HRSD can demonstrate historical and projected sufficiency of offsetting principal and interest coverage from short-term and variable rate investment assets held in unrestricted, non-operating accounts, these assets may be netted from variable rate liabilities.
- G. **Derivative Products.** HRSD recognizes that the use of Derivatives may aid HRSD in reducing the cost of capital and gaining flexibility in structuring its debt portfolio. The use of such products is governed by the Derivatives section of this policy.
- H. **Method of Sale.** HRSD will select a method of sale it believes is the most appropriate and economically advantageous in light of financial, market, transaction-specific and HRSD-related conditions. Acceptable methods of sale may include a competitive sale, a negotiated sale, a private placement, or a direct institutional investor purchase.
- I. **Duration of Debt.** HRSD will not issue debt for a period longer than the weighted useful lives of the projects being financed. Pursuant to the Enabling

Act, HRSD cannot issue debt with a final maturity more than 40 years from its issuance date. Factors to be considered when determining the final maturity of debt include the average life of the assets being financed, relative level of interest rates, and HRSD's overall outstanding debt service.

4.1.3 Debt Structure

- A. **Interest Rate Structure.** HRSD may make use of both VRD and fixed-rate debt in accordance with limitations set forth in this Policy.
- B. **Tax Status.** Tax-exempt debt will be used whenever possible and appropriate.
- C. **Maturity Structure.** HRSD's long-term debt may include serial and term bonds. Other maturity structures may also be considered when demonstrated to be advantageous to HRSD.
- D. **Coupon Structure.** Fixed-rate debt may include par, discount, and premium bonds, and may include current interest bonds and Capital Appreciation Bonds.
- E. **Call Provisions.** In order to preserve flexibility and refinancing opportunities, HRSD debt shall generally be issued with Call Provisions. HRSD may consider Call Provisions that are shorter than traditional or non-callable debt or debt with yield maintenance features when warranted by market conditions. For each transaction, various call option scenarios will be evaluated so that the most beneficial can be utilized.
- F. **Credit Enhancement.** HRSD may use Credit Enhancement when it is economically advantageous to do so.
 - (1) When considering the use of Bond Insurance, HRSD will perform a maturity-by-maturity analysis. The economic feasibility of Bond Insurance will be analyzed based on the value of insurance as priced to the earlier of each maturity's first applicable call date and the maturity date of such maturity. Bond Insurance will be used when present value savings result or when such use permits HRSD to incorporate less restrictive covenants into a transaction which results in greater flexibility or lower user charges. HRSD may insure bonds in maturities that are borderline from an economic feasibility standpoint if warranted by other factors (e.g., use of insurance to attract investor interest where certain bond maturities might otherwise be difficult to sell).

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(2) When considering the use of a Letter of Credit or Line of Credit as a Credit Enhancement or Liquidity Facility, HRSD will examine the economic feasibility thereof by taking into account the trading spread, the cost of the Letter of Credit or Liquidity Facility and the effect on interest costs of HRSD's debt.

G. **Debt Service Reserve Fund.** The Senior Trust Agreement requires HRSD to fund a Debt Service Reserve Fund when certain debt service coverage and liquidity ratios are not met. HRSD will fund such reserve when and if it is required. The Subordinate Trust Agreement permits, but does not require, the funding of a Debt Service Reserve Fund.

H. **Capitalized Interest.** Capitalized Interest increases the amount of debt that is issued. If HRSD capitalizes interest on one or more series of indebtedness, it will do so only for the period prior to the project being financed is expected to be placed in service.

I. **Refinancing of Debt.** HRSD will refinance debt from time to time to achieve debt service savings as market opportunities arise or if it determines that it is beneficial for another compelling business reason. To refinance debt, HRSD may use a range of financing tools including but not limited to tax-exempt current refundings, taxable advance refundings, and forward delivery bonds. HRSD's Director of Finance will determine the appropriate financing tool based on tax law, market conditions and the risks associated with each tool (in addition to present value savings and refunding efficiency considerations).

When a refinancing is undertaken to achieve debt service savings, HRSD will target minimum net present value savings of three percent of the amount refinanced. As set forth above, HRSD may refinance debt that does not meet this threshold for another compelling business reason. In addition, HRSD may consider the efficiency of a proposed refinancing transaction and any changes to the callability of debt after such refinancing. In any refinancing of long-term debt, HRSD maintains a bias to not extend maturities.

J. **Escrow Structuring.** HRSD will utilize the least costly securities available in structuring refinancing escrows. Unless State and Local Government Securities (SLGS) are used, a certificate will be provided by a third-party agent stating that the securities were procured through an arms-length, competitive bid process (in the case of open market securities), and that the price paid for the securities was reasonable within federal guidelines. Under no circumstances will an underwriter, agent or financial advisor sell escrow securities to HRSD from its own account. HRSD will consult with Bond Counsel in connection with any defeasance escrows.

- K. **Hiring of Professionals.** All key members of the financial advisory team including underwriter, financial advisor, bond counsel, and other professionals will be selected in a manner consistent with HRSD's procurement policy for professional services.

4.1.4 Underwriter Selection.

- A. **Senior Manager Selection.** HRSD will select a senior manager for any proposed negotiated sale. The selection criteria will include but not be limited to the following:
- (1) The firm's ability and experience in managing transactions similar to that contemplated by HRSD;
 - (2) Prior knowledge and experience with HRSD;
 - (3) The firm's ability and willingness to risk capital and demonstration of the firm's capital availability and underwriting of unsold balances;
 - (4) Quality and experience of personnel assigned to HRSD's engagement;
 - (5) Financing plan presented; and
 - (6) Cost, including underwriting fees and anticipated pricing.
- B. **Co-Manager Selection.** Co-managers may be selected on the same basis as the senior manager with the exception of underwriting fees, which are determined by the senior manager. In addition to their qualifications, co-managers appointed to specific transactions will be a function of transaction size and the necessity to ensure maximum distribution of HRSD's bonds.
- C. **Selling Groups.** HRSD may establish selling groups in certain transactions. To the extent that selling groups are used, HRSD may make appointments to selling groups, as the transaction dictates.
- D. **Underwriter's Counsel.** In any negotiated sale of HRSD debt in which the underwriter desires legal counsel, the appointment will be made by the senior managing underwriter.
- E. **Underwriter's Discount.** HRSD will evaluate the proposed underwriter's discount against other proposals and/or comparable issues in the market. Any additional expenses payable to an underwriter and paid out of the Underwriter's Discount must be substantiated.

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- F. **Evaluation of Underwriter Performance.** HRSD will evaluate each bond sale after completion to assess the following: costs of issuance including underwriters' compensation, pricing of the bonds in terms of the overall interest cost and on a maturity-by-maturity basis, the distribution of bonds and sales credits, and the use of capital by the underwriters to take down bonds.
- G. **Syndicate Policies.** For each negotiated transaction, HRSD will establish syndicate policies that will describe the priority of orders and designation policies governing the upcoming sale.
- H. **Designation Policies.** To encourage the pre-marketing efforts of each member of the underwriting team, orders for HRSD's bonds will be net designated, unless otherwise expressly stated. HRSD shall require the senior manager to:
- (1) Fairly allocate bonds to other managers and the selling group.
 - (2) Comply with the Municipal Securities Rulemaking Board's (MSRB) regulations governing the priority of orders and allocations.
 - (3) Within 10 working business days after the sale date, submit to HRSD a detail of orders, allocations and other relevant information pertaining to HRSD's sale.

4.1.5 Consultants.

- A. **Financial Advisor.** HRSD will select a financial advisor (or advisors) to assist in its debt issuance and debt administration processes. Such financial advisor(s) will be an Independent Registered Municipal Advisor within the meaning of the Securities Exchange Act of 1934, as amended. Selection of HRSD's financial advisor(s) will be based on, but not limited to, the following criteria:
- (1) Experience in providing consulting services to entities similar to HRSD;
 - (2) Knowledge and experience in structuring and analyzing bond issues;
 - (3) Experience and reputation of assigned personnel; and
 - (4) Fees and expenses.
- B. **Bond Counsel.** HRSD debt will include a written opinion by legal counsel affirming that HRSD is authorized to issue the proposed debt, that HRSD has met all legal requirements necessary for issuance, and, if the interest on the debt to be issued is to be exempt under the IRS Code, a determination

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consistent therewith. The approving opinion and other documents relating to the issuance of debt will be prepared by counsel with extensive experience in public finance and tax issues. The Bond Counsel will be selected by HRSD.

- C. **Conflicts of Interest.** HRSD requires that its consultants and advisors provide objective advice and analysis, maintain the confidentiality of HRSD financial plans, and be free from any conflict of interest. In no case will HRSD's financial advisor be permitted to underwrite any portion of HRSD's bond issues, whether sold competitively or negotiated.
- D. **Disclosure by Financing Team Members.** All financing team members will be required to provide full and complete disclosure, relative to agreements with other financing team members and outside parties. The extent of disclosure may vary depending on the nature of the transaction. However, in general terms, no agreements will be permitted which could compromise the firm's ability to provide independent advice which is solely in HRSD's best interests or which could reasonably be perceived as a conflict of interest.

4.1.6 Communication and Disclosure.

- A. **Rating Agencies [NRSROs].** HRSD seeks to maintain the highest credit ratings it believes appropriate for its debt without compromising the delivery of its basic core services. The Director of Finance will manage relationships with the rating analysts assigned to HRSD by the NRSROs.
- B. **Investors, Bond Insurers, Liquidity Providers.** The Director of Finance will manage relationships using both informal and formal methods to disseminate information.
- C. **Continuing Disclosure.** HRSD recognizes that ongoing disclosure is imperative to maintaining the high credit quality of its debt and its reputation in the credit markets. HRSD will comply with all of its contractual obligations and applicable law and will meet such disclosure requirements in a timely and thorough manner.
- D. **Arbitrage Compliance.** HRSD will maintain a system of record keeping and reporting in order to comply with the Arbitrage Rebate Compliance Requirements of the IRS Code.
- E. **Post-Issuance Compliance Procedures.** Separate from this policy, HRSD will maintain and follow post-issuance compliance procedures. Such procedures will include provisions regarding continuing disclosure and arbitrage and private use compliance, among others.

4.2 DERIVATIVES.

4.2.1 Approach and Objectives. Interest Rate Swaps and options (swaps) are Derivatives that can help HRSD meet important financial objectives. Properly used, these instruments can increase HRSD's financial flexibility, provide opportunities for interest rate savings or enhanced investment yields, and help HRSD manage its balance sheet through better matching of assets and liabilities.

A. **Specific Objectives for Using Interest Rate Swaps.** HRSD may consider the use of specific Interest Rate Swaps if they meet one or more of the benefits previously described in this Policy or if they:

- (1) Result in an expected lower net borrowing cost than traditional debt alternatives;
- (2) Result in an improved capital structure (e.g., altered pattern of debt service payments or to create variable rate exposure) or better asset/liability matching;
- (3) Cap, limit, or hedge HRSD's exposure to changes in interest rates on a particular financial transaction; or
- (4) Provide a specific benefit not otherwise available.
- (5) Swaps must not be speculative or create unreasonable risk. Each swap will be reviewed on a case-by-case basis to determine whether or not the level of risk is appropriate for HRSD. Examples of swaps that HRSD considers speculative, and which create unreasonable risk include, without limitation:
 - Basis Swaps;
 - Constant Maturity Swaps;
 - Knock-in Options on Swaps;
 - Interest Rate Swaps that including a floating index multiplier greater than 1.0 (e.g., three times SIFMA); and
 - Interest Rate Swaps that are not associated with a specific bond issue.
- (6) HRSD prefers Swaps that meet the "consistent critical terms method" for evaluating the effectiveness of Interest Rate Swaps as defined by the Governmental Accounting Standards Board in Statement #53: Accounting and Financial Reporting for Derivative Instruments.

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- B. **Prohibited Interest Rate Swap Features.** HRSD will not use Interest Rate Swaps that:
- (1) Are speculative or create extraordinary leverage or risk;
 - (2) Lack adequate liquidity to terminate without incurring a significant bid/ask spread;
 - (3) Provide insufficient price transparency to allow reasonable valuation;
or
 - (4) Are not reasonably uniform to the risk evaluation criteria by this Policy.
- C. **Legal Authority.** As stated in Section 29 of HRSD's Enabling Act, as amended by the Virginia General Assembly on March 11, 2008,

"With respect to contracts concerning interest rates, currency, cash flow and other basis, the District may enter into any contract that the Commission determines to be necessary or appropriate to place any obligation or investment of the District, as represented by bonds or the investment of their proceeds, in whole or in part, on the interest rate, cash flow or other basis desired by the Commission. Such contracts may include, without limitation, contracts commonly known as interest rate swap agreements, rate locks, forward purchase agreements, and futures or contracts providing for payments based on levels of, or changes in, interest rates. Such contracts or arrangements may be entered into by the District in connection with, or incidental to, entering into or maintaining any (i) agreement that secures bonds or (ii) investment, or contract providing for investment, otherwise authorized by law. These contracts and arrangements may contain such payment, security, default, remedy, and other terms and conditions as determined by the Commission, after giving due consideration to the creditworthiness of the counterparty or other obligated party, including any rating by any nationally recognized rating agency."

All Derivative contracts require Commission approval prior to execution.

- D. **Permitted Instruments.** HRSD may utilize the following financial products on a current or forward basis, after identifying the objective(s) to be realized and assessing the attendant risks.
- (1) Interest Rate Swaps, including fixed and floating rate swaps.
 - (2) Options, including Swaptions, Interest Rate Caps, Interest Rate Floors, and Interest Rate Collars.

HRSD prefers Interest Rate Swaps that have strong price transparency and which are of a type referred to as “plain vanilla,” e.g., a fixed to floating rate SIFMA -based Interest Rate Swap.

Interest Rate Swaps will be subject to the legal provisions set forth in HRSD’s Trust Agreements, applicable debt documents, and statutory requirements.

E. Procedure for Submission and Execution. HRSD may consider Interest Rate Swaps that are either presented as proposals or that are developed by HRSD in consultation with its financial advisor and legal counsel. HRSD will give detailed consideration only to proposals that HRSD, in its sole discretion, believes will offer the projected savings or other benefits and will have the ability to meet one or more of the objectives outlined herein.

- (1) When feasible, Interest Rate Swaps should be competitively procured either under a competitive sealed bid or competitive negotiation (e.g. initiated via RFP). On a product-by-product basis, HRSD will have authority to negotiate the procurement of financial instruments that have customized or specific attributes designed for HRSD.
- (2) For both competitive and negotiated procurements, the execution of any Interest Rate Swap transaction will be subject to receipt of a fairness opinion from HRSD’s financial advisor, finding that the terms and conditions of the swap reflect a fair market value of such transaction as of the date and time of its execution.
- (3) The execution of all Interest Rate Swaps will be subject to receipt of an opinion from a law firm with extensive experience in public finance and tax issues that the contract is a legal, valid and binding obligation of HRSD that complies with applicable law and has no adverse effect on the tax status of any related bonds.

F. Interest Rate Swap Analysis and Participant Requirements. In connection with any Interest Rate Swap, HRSD, its financial advisor and legal counsel will review the proposed transaction and outline considerations associated with the transaction. Such a review will include the following:

- (1) The identification of the proposed benefit and potential risks, which will include, but not necessarily be limited to, those risks outlined in this Policy;
- (2) Analysis of potential savings and stress testing of the proposed transaction;
- (3) Fixed versus variable rate and Interest Rate Swap exposure;

(4) To the extent HRSD deems relevant, any rating reports or criteria regarding Interest Rate Swaps by rating agencies; and

(5) Legal constraints.

G. **Interest Rate Swap Risks.** In reviewing proposed or possible Interest Rate Swaps, HRSD will consider at a minimum each of the following types of risks, as applicable:

(1) **Counterparty Risk.** The risk of a payment default on a an Interest Rate Swap by a counterparty.

(2) **Termination Risk.** The risk that an Interest Rate Swap has a negative value and HRSD owes a “breakage” fee if the contract has to be terminated.

(3) **Tax Risk.** A mismatch between changes in the rate or price on HRSD’s underlying debt and the Interest Rate Swap caused by a reduction or elimination in the benefits of the tax exemption for municipal bonds, e.g. a tax cut that results in an increase in the ratio of tax-exempt to taxable yields.

(4) **Basis Risk.** A mismatch between the rate on HRSD’s underlying debt and the rate paid under the Interest Rate Swap (for example, an issue of tax-exempt Variable Rate Debt that bears interest at a variable rate equal to 67% of SOFR while HRSD receives 80% of SOFR under the swap).

(5) **Liquidity/Remarketing Risk.** The risk that HRSD cannot secure a cost-effective renewal of a Letter or Line of Credit or suffers a failed remarketing with respect to its Variable Rate Debt.

(6) **Rollover Risk.** The risk that the maturity of an Interest Rate Swap does not match maturity of the related debt or asset.

H. **Counterparty Risk Assessment.** HRSD will only enter into an Interest Rate Swap with highly rated financial institutions. Credit criteria for financial institutions are as follows:

(1) The institutions’ long-term, unsecured and unsubordinated obligations are rated at the time of execution of the Interest Rate Swap by at least one rating agency at least “Aa3” by Moody’s or “AA” by S&P, or “AA” by Fitch and by at least one other rating agency at no lower than “A2” by Moody’s, “A” by S&P, or “A” by Fitch; or

- (2) The institutions' obligations under the Interest Rate Swap and the Credit Support Annex are unconditionally guaranteed by a bank or non-bank financial institution the long-term, unsecured and unsubordinated obligations of which are rated at the time of execution of the swap by at least one credit agency at least "Aa3" by Moody's or "AA" by S&P or "AA" by Fitch and by at least one other rating agency at no lower than "A2" by Moody's, "A" by S&P, or "A" by Fitch.

In the event of downgrade of an Interest Rate Swap counterparty below the minimal rating standard set forth above, the counterparty will be required to:

- a. Provide a substitute guarantor or assign the swap contract to an acceptable counterparty meeting the rating criteria, or
- b. Provide collateral as described in the Collateral section of this Policy.

- I. **Benefit Expectation.** Financial transactions using Interest Rate Swaps or other Derivatives related to a debt issue should generate at least two percent or greater projected debt service savings than a traditional debt alternative. Such savings analysis will include, where applicable, the consideration of the probability (based on historical interest rate indices, where applicable, or other accepted analytic techniques) of the realization of savings for the Derivative structure. The savings target requirement is intended to reflect the complexity and risk of derivative financial instruments, and should include a risk adjustment for other factors. For example, if the underlying debt is callable and the Interest Rate Swap is not, then the analysis should include a risk adjustment for this factor.

In determining any benefit in implementing an Interest Rate Swap, the cost of remarketing, in addition to the cost of credit enhancement or liquidity fees, will be added to the projected variable rate. Such a calculation should consider the trading performance of comparable indebtedness and any trading premium resulting from a specific form of credit enhancement or liquidity and/or any impact related to broader industry trends.

- J. **Hedging Derivatives.** When utilizing a Derivative to cap, limit or hedge HRSD's exposure to changes in interest rates, HRSD will evaluate various interest rate scenarios and the estimated impact on projected wastewater rates.
- K. **Legal and Contractual Requirements.** HRSD will use standard International Swap and Derivatives Association, Inc. swap documentation, including the Schedule to the Master Agreement and a Credit Support Annex,

and related protocols. HRSD may use additional documentation if the product is proprietary or HRSD deems in its sole discretion that such documentation is otherwise in its interest. The Interest Rate Swap agreement between HRSD and each counterparty will include payment, term, security, collateral, default, remedy, termination, and other terms, conditions, provisions and safeguards as HRSD, in consultation with its legal counsel, deems necessary or desirable.

L. **Legal Terms of Swaps.** Terms and conditions of any Interest Rate Swap agreement will be negotiated by HRSD in the best interests of HRSD. Swap documentation and terms should include the following:

- (1) Downgrade provisions triggering termination based on HRSD's credit rating will in no event be less advantageous than those permitting termination based on a downgrade of the counterparty.
- (2) Governing law for swaps will be New York law to the extent permitted by law, but should reflect that HRSD's authorization of the related agreement is governed by Virginia law.
- (3) The specified debt related to credit events in any swap agreement should be narrowly drafted and refers only to specific debt.
- (4) Collateral thresholds will be set on a sliding scale reflective of credit ratings (see Collateral Section).
- (5) Eligible collateral will be as set forth in the Collateral Section.
- (6) Termination value will be established by "market quotation" methodology, which involves the solicitation of quotations from unrelated brokers regarding the valuation of the swaps.

M. **Notional Amount.** HRSD will limit the aggregate notional amount of derivatives to an amount not to exceed 20 percent of aggregate outstanding debt.

To the extent that HRSD is party to multiple derivatives contracts at any given time, HRSD will seek to diversify its counterparty credit risk by limiting its credit exposure to any single counterparty.

N. **Final Maturity.** The final maturity of any Interest Rate Swap will not extend beyond the lesser of the final maturity date of HRSD's related debt and the expiration date of any Letter of Credit or Liquidity Facility on the related bonds unless HRSD has the right to cancel the swap agreement without cost on such expiration date.

- O. **Termination Provisions.** Interest Rate Swaps will contain provisions granting HRSD the right to optionally terminate an Interest Rate Swap at any time over its term. Such a provision will be required even if the termination is at market. In general, exercising the right to terminate an agreement should produce a benefit to HRSD, either through the receipt of a payment from a termination or, if the termination payment is made by HRSD, in conjunction with the conversion of the related indebtedness to a more beneficial interest rate mode or mitigates a risk to HRSD, as will be determined by HRSD in its sole discretion.

Any termination payment will be established by a “market quotation” methodology, unless HRSD deems an alternate methodology to be appropriate. HRSD’s Director of Finance will provide a written report to the Commission with respect to any termination, including the reason(s) why the swap was terminated.

- P. **Collateral.** As part of any swap, HRSD will require collateralization or other forms of credit enhancement to secure any or all swap payment obligations. As appropriate, HRSD, in consultation with its financial advisor and legal counsel, will require collateral or other credit enhancement to be posted by each swap counterparty as follows:
- (1) Each counterparty to HRSD will be required to post collateral if the long-term credit rating of the counterparty or its guarantor falls below the requirements outlined in the Counterparty Risk Assessment section of this Policy. Additional collateral for further decreases in credit ratings of a counterparty will be posted by the counterparty in accordance with the provisions contained in the related Collateral Support Annex. Threshold amounts for collateral posting will be determined by HRSD on a case-by-case basis.
 - (2) In determining maximum uncollateralized exposure, HRSD will consider financial exposure that it may have to the same corporate entities through other forms of financial dealings, such as commercial paper investments.
 - (3) Collateral will be deposited with a third-party trustee, or as mutually agreed upon between HRSD and the counterparty.
 - (4) A list of acceptable securities that may be posted as collateral and the valuation of such collateral will be determined and mutually agreed upon during negotiation of the swap agreement with each swap counterparty. A complete list of acceptable securities and valuation percentages is included in the Acceptable Collateral section of the Policy.

- (5) The market value of the collateral will be determined on at least a weekly basis, or more frequently if HRSD determines it is in its best interest given the specific collateral.

Q. Ongoing Management. HRSD will seek to maximize the benefits and minimize the risks it carries by actively managing its Interest Rate Swap program. This will entail frequent monitoring of market conditions for emergent opportunities and risks. Active management may require modification of existing positions including, for example:

- Early full or partial termination;
- Shortening or lengthening the term of Interest Rate Swaps; or
- Sale or purchase of options.

Legal modification to an existing swap will require approval from the Commission. In modifying any swap, HRSD will fulfill all terms of this Policy and refer back to the original procurement and execution procedures outlined in this Policy.

R. Ongoing Reporting Requirements. HRSD will take steps to ensure that there is full and complete disclosure of all Swaps to the Commission, to Rating Agencies and to EMMA. HRSD will also present a summary description of its swaps in its disclosure documents.

HRSD will provide a written report regarding the status of all Swap agreements to the Commission at least on a semi-annual basis and will include the following:

- (1) A description of all outstanding swap agreements, including, if and when applicable, bond series, type of Swap, rates paid and received by HRSD, total notional amount, average life of each swap agreement, remaining term of each Swap agreement and covenant compliance;
- (2) Highlights of all material changes to swap agreements or new swap agreements entered into by HRSD since the last report;
- (3) The credit rating of each Swap counterparty and credit enhancer insuring swap payments, if any;
- (4) A summary of Swap agreements that were terminated or that have expired;
- (5) A mark-to-market valuation of swap agreements and the source of the valuation, which HRSD may use for financial reporting purposes; and

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(6) A summary of Collateral postings.

S. Acceptable Collateral.

<u>Security</u>	<u>Collateral Requirement</u>	<u>Valuation</u>	<u>Example:</u>
		<u>Percentage*</u>	<u>\$ Value Based</u>
			<u>on \$1.0 Million</u>
Cash		100%	\$1.0 million
(x) Negotiable debt obligations issued by the U.S. Treasury Department or GNMA, or			
(y) Mortgage-backed securities issued by GNMA (but with respect to either (x) or (y) excluding interest only or principal only Stripped Securities, securities representing residual interests in mortgage pools, or securities that are not listed on a national securities exchange or regularly quoted in a national quotation service) and in each case having a remaining maturity of:			
• less than one year		98%	\$1.02 million
• greater than one year		95%	\$1.05 million

*To calculate the dollar amount required to satisfy the collateral requirement, divide the collateral requirement by the valuation percentage shown above.

T. Conformance with Dodd-Frank Act. It is the intent of HRSD to conform to the requirements relating to legislation and regulations for over-the-counter derivatives transactions under Title VII of the Dodd-Frank Wall Street Transparency and Accountability Act of 2010, as amended from time to time, and the regulations promulgated thereunder (herein collectively referred to as Dodd-Frank). It is the policy of HRSD that (i) each swap advisor engaged or to be engaged by HRSD will function as the designated qualified investment representative of HRSD (Designated Qualified Independent Representative or QIR); (ii) each swap advisor agrees to meet and meets the requirements specified in the Commodity Futures Trading Commission Regulation 23.450(b)(1) or any successor regulation thereto (hereinafter referred to as the QIR Regulation); (iii) each swap advisor provide a written certification to HRSD to the effect that such swap advisor agrees to meet and meets the requirements specified in the QIR Regulation; (iv) HRSD monitor the performance of each swap advisor consistent with the requirements specified in the QIR regulation; (v) HRSD exercise independent judgment in

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consultation with its swap advisor in evaluating all recommendations, if any presented by any counterparty with respect to transactions authorized pursuant to this Financial Policy; (vi) HRSD rely on the advice of its swap advisor with respect to transactions authorized pursuant to this Financial Policy and not rely on recommendations, if any, presented by any counterparty with respect to transactions authorized pursuant to this Financial Policy; (vii) HRSD comply with all recordkeeping reporting and certification requirements for end-users as applicable under the Commodity Exchange Act.

4.3 INVESTMENT

4.3.1 Ethics and Conflicts of Interest. The Director of Finance and other employees involved in the investment process will comply with the Code of Virginia Section 2.2-3100 et seq., the State and Local Government Conflict of Interests Act (the "Conflict of Interests Act").

- A. Specifically, no officer or employee will:
- (1) Accept any money, loan, gift, favor, service, or business or professional opportunity that reasonably tends to influence him in the performance of his official duties;
 - (2) Accept any business or professional opportunity when he knows there is a reasonable likelihood that the opportunity is being afforded to influence him in the performance of his official duties; or
 - (3) Violate any of the provision of the Conflict of Interests Act.
- B. All employees involved in the investment process will refrain from personal business activity that could conflict with the proper execution and management of the investment program, or that could impair their ability to make impartial decisions.
- C. All employees involved in the investment process will disclose to the Director of Finance and the General Manager any material interest in financial institutions with which they conduct business. They will further disclose any personal financial or investment positions that could be related to the performance of the investment portfolio.
- D. All employees involved in the investment process will refrain from undertaking personal investment transactions with the same individual with whom business is conducted on behalf of HRSD.

4.3.2 Operating Funds

- A. **Scope.** Except for funds maintained in trust for retirement and health and welfare benefits for employees and/or retirees, this Policy applies to all HRSD's cash and investments (the Investment Portfolio). The Policy will apply to such monies from the time of receipt until the time the monies leave HRSD's accounts. Although these assets may be pooled for investment purposes, they may be segregated as necessary for accounting and budgetary reporting purposes.
- B. **Objectives.**
- (1) All investments will be in compliance with the Code of Virginia Sections 2.2-4400 et seq. and 2.2-4500 et seq. and the Trust Agreements.
 - (2) The cash management and investment activities of HRSD will be conducted in a manner which is consistent with applicable law and prevailing prudent business practices which may be applied by other public organizations of similar size and financial resources.
 - (3) The Investment Portfolio will be managed to accomplish the following fundamental goals:
 - a. **Safety of Principal.** The single most important objective of the investment program is the preservation of principal of those funds within the Investment Portfolio.
 - b. **Maintenance of Liquidity.** The Investment Portfolio will be managed at all times with sufficient Liquidity to meet all daily and seasonal needs, to fund special projects and other operational requirements which are either known or which might reasonably be anticipated, and to provide adequate Self-Liquidity, if applicable.
 - c. **Maximizing Return.** The Investment Portfolio will be managed so as to maximize the return on investments within the context and parameters set forth by the safety and liquidity objectives above.
- C. **Standard of Prudence.** All investments will be in compliance with the Code of Virginia Sections 2.2-4400 et seq. and 2.2-4500 et seq. and the Trust Agreements. Public funds held and invested by HRSD are held for the benefit of its ratepayers and any investment of such funds will be made solely in the interest of the ratepayers and with the care, skill, prudence, and diligence under the circumstances then prevailing that a person acting in a

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like capacity and familiar with such matters would use in the conduct of an enterprise of a like character and with like aims.

The Director of Finance and other HRSD employees acting in accordance with written procedures, including this Policy and exercising due diligence will be relieved of personal responsibility for an individual security's performance, provided that deviations from expectations are reported in a timely fashion to the Commission.

- D. **General Account Structure.** In order to meet HRSD's general objectives, the Investment Portfolio is divided into three major investment strategies: an Operating Liquidity Strategy, a Total Return Strategy and a Capital Investment Strategy.
- (1) The **Operating Liquidity Strategy** consists of funds that are expected to provide for HRSD's day-to-day disbursement and operational needs. As such, Liquidity is the emphasis in this strategy. This strategy will be funded to meet all known operating needs. Selection of investment maturities will be consistent with the cash requirements of HRSD in order to minimize the forced sale of securities prior to maturity. It is expected that a portion of the Operating Liquidity Strategy will be invested in highly liquid funds such as money market funds, overnight repurchase agreements, bank deposit accounts, or other short-term investment vehicles. Funds invested pursuant to this strategy may be utilized to provide Self-Liquidity on debt financings.
 - (2) The **Total Return Strategy** consists of operating funds that are not expected to be a major source of HRSD's day-to-day disbursement requirements and operational needs. The Total Return Strategy may therefore be invested in longer-term securities in order to generate an investment return, which, over time, is higher than the total return of the Operating Liquidity Strategy. Funds invested pursuant to this strategy may be utilized to provide Self-Liquidity on debt financings.
 - (3) The **Capital Investment Strategy** is the source for capital improvement disbursements. The strategy will consist of unspent debt proceeds and unspent HRSD cash contributions to its CIP. It is anticipated that investments will be made in the Capital Investment Strategy with maturity dates matching the anticipated expenditures or invested in highly liquid funds such as money market funds, overnight repurchase agreements, bank deposits or other short-term investment vehicles.
- E. **Authorized Investments.** Under the Trust Agreements, the Director of Finance may invest in such of the following securities that are in compliance with the Investment of Public Funds Act (Code of Virginia Section 2.2-4500 et

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seq.), the Government Non-Arbitrage Investment Act (Code of Virginia Section 2.2-4700 et seq.) and any successor statutes as from time to time amended. The Director of Finance, however, may impose additional requirements and restrictions in order to ensure that HRSD's goals are met.

- (1) **U.S. Treasury Obligations.** TIPS, Treasury Bills, Treasury Notes and Treasury Bonds, and any other obligation or security issued by or backed by the full faith and credit of the United States of America. The final maturity will not exceed a period of five years from the time of purchase.
- (2) **Federal Agency Obligation.** Bonds, notes and other obligations of Federal Agencies, provided that such investments must be rated in one of the two highest rating categories by at least one NRSRO and or the have the same rating as those of U.S. Treasury obligations. The final maturity will not exceed a period of five years from the time of purchase.
- (3) **Municipal Obligations.** Bonds, notes and other general obligation indebtedness, upon which there is no default, with a rating of at least "AA" from S&P and "Aa" from Moody's, maturing within five years of the date of purchase, and otherwise meeting the requirements of Code of Virginia Section 2.2-4501. However, HRSD is prohibited from purchasing its own debt for the purpose of investing its Operating Funds. Please see the *Self-Liquidity* section of this policy for important information related to Self-Liquidity and HRSD's purchase of its own debt.
- (4) **Commercial Paper.** Commercial Paper issued by domestic corporations (corporations organized and operating under the laws of the United States or any state thereof) provided that the issuing corporation, or its guarantor, has a short-term debt rating of no less than "A-1" (or its equivalent) from at least two of the NRSROs.
- (5) **Bankers' Acceptances.** Issued by domestic banks or a federally chartered office of a foreign bank, which are eligible for purchase by the Federal Reserve System with a maturity of 180 days or less. The issuing corporation, or its guarantor, must have a short-term debt rating of no less than "A-1" (or its equivalent) from at least two of the NRSROs.
- (6) **Corporate Notes.** Corporate Notes with a rating of at least "Aa" by Moody's and at least "AA" by S&P. [The final maturity will not exceed a period of five years from the time of purchase.]

- (7) **Negotiable Certificates of Deposit and Bank Deposit Notes.** Negotiable CDs and negotiable bank deposit notes of domestic banks and domestic offices of foreign banks with ratings of at least “A-1” from P-1 from Moody’s, for maturities of one year or less, and a rating of at least “AA” from S&P and “Aa” from Moody’s, for maturities over one year. The final maturity may not exceed a period of five years from the time of purchase.
- (8) **Money Market Mutual Funds (Open-Ended Investment Funds).** Shares in open-end, no-load investment funds provided such funds are registered under the Federal Investment Company Act of 1940, provided that the fund is rated at least “AAAm” or the equivalent by an NRSRO. The mutual fund must comply with the diversification, quality and maturity requirements of SEC Rule 2(a)-7, or any successor rule, provided the investments by such funds are restricted to investments otherwise permitted by the Code of Virginia for political sub-divisions.
- (9) **Local Government Investment Pool.** A specialized fund pursuant to Code of Virginia Section 2.2-4000 et seq. designed to offer a convenient, liquid, and cost-effective investment vehicle for public entities. The Fund is administered by the Treasury Board of the Commonwealth of Virginia.
- (10) **State Non-Arbitrage Pool Fund.** The pooled investment vehicle established for the investment of bond proceeds under the Government Non-Arbitrage Investment Act (Virginia Code Section 2.2-4700 et seq.).
- (11) **Repurchase Agreements.** In overnight, term and open repurchase agreements provided that the following conditions are met:
- a. The contract is fully secured by deliverable U.S. Treasury Bills, Bonds or Notes or Federal Agency obligations as described in paragraph 1 and 2 above (with a maximum maturity of five years), having a market value at all times of at least 102 percent of the amount of the contract;
 - b. A Master Repurchase Agreement or specific written Repurchase Agreement governs the transaction;
 - c. The securities are free and clear of any lien and held by an independent third-party custodian acting solely as agent for HRSD, provided such third party is not the seller under the Repurchase Agreement;

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- d. A perfected first security interest under the Uniform Commercial Code in accordance with book entry procedures prescribed at 31 C.F.R. 306.1 et seq. or 31 C.F.R. 350.0 et seq. in such securities is created for the benefit of HRSD;
- e. For Repurchase Agreements with terms to maturity of greater than one day, HRSD will value the collateral securities daily and require that if additional collateral is required then that collateral must be delivered within one business day (if a collateral deficiency is not corrected within this time frame, the collateral securities will be liquidated);
- f. The counterparty is a:
 - (1) Primary government securities dealer who reports daily to the Federal Reserve Bank of New York; or
 - (2) A bank, savings and loan association, or diversified securities broker-dealer having at least \$5 billion in assets and \$500 million in capital and subject to regulation of capital standards by any state or federal regulatory agency; and
 - (3) The counterparty meets the following criteria: A long-term credit rating of at least 'AA' or the equivalent from an NRSRO; has been in operation for at least five years; is reputable among market participants.
- (12) **Collateralized Bank Deposits.** CDs and other evidence of deposit as permitted by Section 2.2.4400 et seq. of the Code of Virginia.
- (13) **U.S. Dollar Denominated Supra Sovereign Agency Bonds.** Bonds and other obligations issued, guaranteed or assumed by the International Bank for Reconstruction and Development, by the Asian Development Bank or by the African Development Bank, provided that the obligation is rated by an NRSRO the higher of "AA" or the rating on U.S. Treasury obligations.
- (14) **Virginia Investment Pool Trust Fund (VIP) Stable NAV Liquidity Pool.** This pool supports the cash management needs of municipalities, other governmental agencies and political subdivisions in Virginia that must manage investments conservatively. The objective of the fund is to obtain a competitive market yield on available financial assets consistent with the constraints imposed by the safety objectives, cash flow considerations and the laws of the

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Commonwealth of Virginia that govern the placement of public funds while facilitating daily liquidity and the maintenance of a stable Net Asset Value, with the price of shares in the portfolio targeted to maintain a value of \$1.00. The fund is governed by the Board of Trustees of the VIP.

- (15) **VIP 1-3 Year High-Quality Bond Fund.** This fund is a fixed income investment portfolio designed to provide another pooled investment alternative to those Participants that have excess funds and that have an investment horizon greater than that of money market instruments, typically one year or longer. The investment objective is to:
- a. Exceed the return of the Bank of America Merrill Lynch One-to Three-Year U.S. Corporate & Government Index over three-year periods
 - b. Preserve capital

The VIP 1-3 Year High Quality Bond Fund will generally invest in securities with greater potential returns and risk than those offered by money market type instruments. The fund is governed by the Board of Trustees of the VIP.

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- E. **Portfolio Diversification.** The Investment Portfolio will be diversified by security type and institution. The maximum percentage of the portfolio permitted in each eligible security is as follows:

<u>Permitted Investment</u>	<u>Sector Limit</u>	<u>Issuer Limit</u>
Treasury Bonds, Notes and Bills	100%	100%
Federal Agency Obligations	100%	35%
Municipal Obligations	15%	5%
Commercial Paper	25%	5%
Bankers' Acceptances	25%	5%
Corporate Notes	25%	3%
Negotiable CDs and Bank Deposit Notes	25%	3%

<u>Permitted Investment</u>	<u>Sector Limit</u>	<u>Issuer Limit</u>
Money Market Mutual Funds	100%	100%
LGIP	100%	100%
SNAP Fund (bond proceeds only)	100%	100%
Repurchase Agreements	35%	35%
Collateralized Bank Deposits	100%	100%
Supra Sovereign Agency Bonds	15%	10%
VIP Stable NAV Liquidity Pool	100%	100%
VIP 1-3 Year High-Quality Bond Fund	100%	100%

The Sector Limit and Issuer Limit will be applied to the total Investment Portfolio value at the date of acquisition.

- F. **Maximum Maturity.** Maintenance of adequate Liquidity to meet the cash flow needs of HRSD is essential. Accordingly, to the extent possible, the investment portfolio will be structured in a manner that ensures sufficient cash is available to meet anticipated Liquidity needs. Whenever practical, selection of investment maturities will be consistent with the known cash requirements of HRSD in order to minimize the forced sale of securities prior to maturity. For the purposes of the Investment Policy:

- (1) The Funds Invested under the **Operating Liquidity Strategy** will be invested in short-term investments maturing in 12 months or less. Because of the difficulties inherent in accurately forecasting all cash flow requirements, at least 25 percent of the funds invested under this strategy will be continuously invested in readily available funds such as bank deposit accounts, money market funds and overnight repurchase agreements and at least 75 percent of this strategy will be invested in securities with maturities less than 180 days.

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- (2) The Funds Invested in pursuant to **Total Return Strategy** will be invested in permitted investments with a stated maturity of not more than five years from the date of purchase. To manage volatility, the Director of Finance will from time-to-time determine an investment duration target which will not exceed three years and which will be comparable to the selected performance standards as identified under the Performance Standards section of this Policy.
 - (3) The Funds invested under the **Capital Investment Strategy** will be invested in compliance with the specific requirements of the Trust Agreements. However, in no case will bond proceeds, or funds set aside for capital projects, be invested in securities with a term to maturity that exceeds the expected disbursement date of those monies.
 - (4) Accounts credited to Debt Service Reserve funds with longer term investment horizons may be invested in securities exceeding five years, provided that such investments will mature no later than the first call date for the related bonds.
- G. **Security Downgrades.** If any security held in the Investment Portfolio is downgraded below "AA" or equivalent rating by any NRSRO, the security will be sold within 180 days of such downgrade.
- H. **Self-Liquidity.** In the event that HRSD determines to provide Self-Liquidity for any issuance of CP, VRDs, or related indebtedness, funds invested under the Operating Liquidity Strategy and the Total Return Strategy may be used to support such obligations, if necessary, provided that HRSD will not be legally obligated to pledge such funds for such purpose. The investments identified to provide Self-Liquidity coverage will be sufficient to meet the quality, volatility, liquidity, and maturity guidelines of the NRSRO's then providing ratings on HRSD's debt obligations. If needed, HRSD is permitted to purchase its own debt on a temporary basis or for the retirement of the debt. Such purchase will not be limited to the sector and issuer diversification limits as set forth in the Portfolio Diversification section of this policy or the maximum maturity requirement as set forth in the Capital Investment Strategy section of this Policy.
- I. **Investment of Bond Proceeds.** HRSD intends to comply with all applicable sections of the Internal Revenue Code as it relates to Arbitrage Rebate and the investment of bond proceeds. All investment records will be maintained to ensure compliance with all regulations.
- J. **Collateralization of Bank Deposits.** All bank deposits of HRSD should be considered Public Deposits as defined by Code of Virginia Security for Public

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Deposits Act (Section 2.2-4400 et seq.) and all deposits must be made with Qualified Public Depositories within the meaning of such law.

- K. **Selection of Broker/Dealers.** All broker/dealers who desire to provide investment services to HRSD will be provided with current copies of HRSD's Financial Policy. Before an organization can provide investment services to HRSD, it must confirm in writing that it has received and reviewed HRSD's Financial Policy.
- (1) At the request of the Director of Finance, broker/dealers will supply HRSD with information sufficient to adequately evaluate their financial capacity and creditworthiness. The following information will be provided:
 - (a) Audited financial statements;
 - (b) Regulatory reports on financial condition;
 - (c) Proof of Financial Institution Regulatory Authority (FINRA) certification and of state registration;
 - (d) A sworn statement by an authorized representative of the broker/dealer pledging to adhere to Capital Adequacy Standards established by the Federal Reserve Bank and acknowledging the broker/dealer understands that HRSD has relied upon this pledge; and
 - (e) Any additional information requested by the Director of Finance in evaluating the creditworthiness of the institution.
 - (2) Only firms meeting the following requirements will be eligible to serve as broker/dealers for HRSD:
 - (a) "Primary" dealers and regional dealers that qualify under SEC Rule 15c3-1 (Uniform Net Capital Rule);
 - (b) Unrestricted Capital of at least \$10,000,000;
 - (c) Registered as a dealer under the Securities Exchange Act of 1934;
 - (d) Member of the FINRA;
 - (e) Registered to sell securities in the Commonwealth of Virginia; and

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- (f) Engaged in the business of effecting transactions in U.S. government and agency obligations for at least five consecutive years.
 - (3) HRSD will designate broker/dealers on an annual basis.
- L. **Competitive Selection of Investment Instruments.** All securities purchases and sales will be transacted only with designated broker/dealers through a formal and competitive process requiring the solicitation and evaluation of at least three bids/offers, taking into consideration current market conditions and any applicable provisions of the IRS Code. Electronic bids will be accepted. HRSD will accept the bid which, in the sole judgment of the Director of Finance or his/her designee: (1) can be accepted under applicable provisions of the IRS Code; (2) offers the highest rate of return within the maturity required; and (3) optimizes the investment objective of the overall investment portfolio, including diversification requirements. When selling a security, HRSD will select the bid that generates the highest sale price, consistent with the diversification requirements and any applicable provisions of the IRS Code.
- M. **Safekeeping and Custody.** All investment securities purchased by HRSD or held as collateral on deposits or investments will be held by HRSD or by a third-party custodial agent that may not otherwise be counterparty to the investment transaction.
 - (1) All securities in HRSD's investment portfolio will be held in the name of HRSD and will be free and clear of any lien. Further, all investment transactions will be conducted on a delivery versus payment basis. On a monthly basis, the custodial agent will provide reports that list all securities held for HRSD, the book value of holdings, and the market value as of month-end.
 - (2) HRSD officials and representatives of the custodial agent responsible for, or in any manner involved with, the safekeeping and custody process of HRSD will be bonded in such a manner as to protect HRSD from losses from malfeasance and misfeasance.
 - (3) Confirming copies of all other investment transactions must be delivered to HRSD or its custodial agent.
- N. **Internal Controls.** The Director of Finance will establish a framework of internal controls governing the administration and management of HRSD's investment portfolio, and these controls will be documented in writing. Such controls will be designed to prevent and control losses of HRSD monies arising from fraud, employee error, and misrepresentation by third parties,

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unanticipated changes in financial markets, or imprudent actions by any personnel. The internal control structure will be designed to provide reasonable assurance that these objectives are met. The concept of reasonable assurance recognizes that: (1) the cost of a control should not exceed the benefits likely to be derived, and (2) the valuation of costs and benefits requires estimates and judgments by management.

- O. **Records and Reports.** The Director of Finance will prepare an investment report on at least a quarterly basis for the Commission.
- P. **Performance Standards.** The investment portfolio will be designed to obtain at least a market level rate of return, given budgetary and economic cycles, commensurate with HRSD's investment risk and cash flow needs. HRSD's portfolio management approach will be active, allowing periodic restructuring of the investment portfolio to take advantage of current and anticipated interest rate movements.
- (1) The returns on HRSD's investments will be compared on a quarterly basis to indices of U.S. Treasury securities having similar maturities or to other appropriate benchmarks.
- (2) The applicable benchmarks for each of HRSD's three major Investment strategies are listed below:

<u>Fund</u>	<u>Benchmark</u>
Operating Liquidity	3-Month Treasury Bill or Effective Federal Funds rate
Total Return	Merrill Lynch 1-3 Year U.S. Corporate & Government Index over three-year periods
Capital Investment	3-Month Treasury Bill, Effective Federal Funds rate, Virginia LGIP or similar index appropriate to the duration of the expected cash flows

- Q. **Engagement of Investment Managers.** The Director of Finance may engage one or more qualified firms to provide discretionary investment management services in compliance with this Policy for HRSD. All investment management firms who desire to provide investment services to HRSD will be provided with current copies of HRSD's Investment Policy. Before an organization can provide investment services to HRSD, it must confirm in writing that it has received and reviewed HRSD's Investment Policy. The Director of Finance will conduct appropriate due diligence in the selection of qualified investment management firms and will periodically

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confirm a manager's qualifications by visiting that manager's operational facilities that provide services to HRSD.

- (1) Only firms meeting the following requirements will be eligible to serve as investment manager for HRSD:
 - (a) Must be registered with the SEC under the Investment Advisers Act of 1940;
 - (b) Must provide to HRSD an annual updated copy of Form ADV, Part II;
 - (c) Must be registered to conduct business in the Commonwealth of Virginia; and
 - (d) Must have proven experience in providing investment management services under Code of Virginia Sections 2.2-4500 et seq.
- (2) Any firm engaged by HRSD to provide investment services will:
 - (a) Maintain a list of approved security brokers/dealers selected by creditworthiness who are authorized to provide investment services in the Commonwealth of Virginia;
 - (b) Provide monthly reports of transactions and holdings to the Director of Finance;
 - (c) Provide performance reports, at least quarterly, that display investment performance in comparison to HRSD's investment benchmarks; and
 - (d) Not collect any soft dollar fees from any broker/dealer or other financial firm in relation to services provided to HRSD.

4.3.3 Retiree Health Plan Trust

- A. **Background.** HRSD established the Hampton Roads Sanitation District Retiree Health Plan Trust (the Trust) originally effective July 1, 2002, and amended and restated effective January 22, 2008 and November 25, 2008. The Trust provides for funding of non-pension and Other Post-Employment Benefits (OPEB), for employees who meet the age and service requirements outlined in the Hampton Roads Sanitation District Health Benefits Plan (the Plan) originally effective July 1, 2002, as it may be amended from time to time.

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- B. **Purpose.** The main investment objective of the Trust is to achieve long-term growth of Trust assets by maximizing long-term rate of return on investments and minimizing risk of loss in order to fulfill HRSD's current and long-term OPEB obligations. The purpose of the Policy is to achieve the following:
- (1) Document investment objectives, performance expectations and investment guidelines for Trust assets.
 - (2) Establish an appropriate investment strategy for managing all Trust assets, including an investment time horizon, risk tolerance ranges and asset allocation to provide sufficient diversification and overall return over the long-term time horizon of the Trust.
 - (3) Establish investment guidelines to control overall risk and liquidity.
 - (4) Establish periodic performance and cost reporting requirements that will effectively monitor investment results and ensure that the investment policy is being followed.
 - (5) Comply with all fiduciary, prudence, due diligence and legal requirements for Trust assets.
- C. **Investment Authority.** HRSD, as Plan Administrator (the Administrator), has oversight authority of certain policies and procedures related to the operation and administration of the Trust. Pursuant to the terms of the Trust, the Trustee is to hold title to the trust assets held for the Plan and to operate exclusively in the capacity as a directed Trustee. HRSD, as the named Administrator, has the authority not only to direct the Trustee but to appoint one or more investment managers. The Administrator will have authority to implement the investment policy and guidelines in the best interest of the Trust to best satisfy the purposes of the Trust.
- (1) The Administrator has a fiduciary duty to the Trust and the participants and beneficiaries, which requires integrity and competence. Integrity requires management of the Trust and the assets for the exclusive benefit of the Trust's participants and beneficiaries. The required level of competence is that of a prudent person acting in like capacity and familiar with such matters would act. This standard of competence extends to the retention and supervision of expert investment advice and all other areas of Trust's management.
 - (2) In implementing this Policy, the Administrator, in accord with the provisions of the Trust, may delegate certain functions to:

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- (a) An investment advisor (the Investment Advisor) to assist the Administrator in the investment process and to maintain compliance with this Policy. The Investment Advisor may assist the Administrator in establishing investment policy objectives and guidelines. The Investment Advisor will adjust asset allocation for the Trust subject to the guidelines and limitations set forth in this Policy. The Investment Advisor will also select investment managers (Managers) and strategies consistent with its role as a fiduciary for the Trust. The investment vehicles allowed may include mutual funds, commingled trusts, separate accounts, limited partnerships and other investment vehicles deemed to be appropriate by the Investment Advisor. The Investment Advisor is also responsible for monitoring and reviewing investment managers; measuring and evaluating performance; and other tasks as deemed appropriate in its role as Advisor for Trust assets. The Investment Advisor may also select investment managers with discretion to purchase, sell, or hold specific securities, such as Exchange Traded Funds, that will be used to meet the Trust's investment objectives. The Investment Advisor shall never take possession of securities, cash or other assets of the Trust, all of which shall be held by the custodian. The Investment Advisor must be registered with the SEC. The Director of Finance will conduct appropriate due diligence in the selection of the Investment Advisor and will periodically confirm the Investment Advisor's qualifications by visiting its operational facilities that provide services to the Trust and HRSD.
- (b) A custodian to physically maintain possession of securities owned by the Trust, collect dividend and interest payments, redeem maturing securities, and effect receipt and delivery following purchases and sales, among other things. The custodian may also perform regular accounting of all assets owned, purchased, or sold, as well as movement of assets into and out of the Trust.
- (c) A trustee appointed by the Trust, such as a bank trust department, if the Trust does not have its own Trustees, to assume fiduciary responsibility for the administration of Trust assets; provided, however, that if the Administrator shall have appointed an investment advisor, then any trustee appointed under this paragraph shall have no authority with respect to selection of investments.

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- (d) Specialists such as attorneys, auditors, actuaries and, retirement plan consultants to assist the Administrator in meeting its responsibilities and obligations to administer Trust assets prudently.
- (3) HRSD Commissioners, staff, investment advisors, consultants and managers will refrain from engaging in any activity that impairs (or has the potential to impair) their ability to make impartial investment decisions for the Trust. Persons who nevertheless engage in such conduct will immediately disclose the conduct to the Administrator. HRSD members, staff, investment managers and advisers will also immediately disclose to the Administrator any activity engaged in by their respective firms, employers, employees and agents which conflicts (or has the potential to conflict) with the execution of HRSD's investment program for the Trust.

D. **Statement of Investment Objectives.** The investment objectives of the Trust are as follows:

- (1) **Funding.** The primary objective of the Administrator is to maintain the assets of the Trust at the funding level necessary to provide a pool of funds to be used to provide post-retirement welfare benefits to Plan participants. To obtain this objective the Administrator will diversify Trust assets and adopt an investment strategy consistent with the Trust's investment objectives.
- (2) **Safety.** In order to maintain the safety of Trust assets the Administrator will:
 - (a) Invest assets of the Trust in a manner consistent with the following fiduciary standards: all transactions undertaken must be for the sole interest of Trust beneficiaries and defray reasonable expenses in a prudent manner, and assets are to be diversified in order to minimize the impact of large losses in individual investments.
 - (b) Conserve and enhance the value of Trust assets in real terms through asset appreciation and income generation, while maintaining a moderate investment risk profile.
 - (c) Minimize principal fluctuations over the Time Horizon (as defined below).
 - (d) Achieve a long-term level of return commensurate with contemporary economic conditions and equal to or exceeding

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the investment objective set forth in this policy under the Performance Expectations section of the Policy.

- (3) **Liquidity.** The Trust's Investment Portfolio in combination with the projected net cash flows will provide sufficient Liquidity to enable the Plan to meet all operating requirements which may be reasonably anticipated.

E. **Investment Guidelines.** Within this section of the Policy, several terms will be used to articulate various investment concepts. The descriptions are meant to be general and may share investments otherwise considered to be in the same asset class. They are:

- (1) **Growth Assets** - a collection of investments and/or asset classes whose primary risk and return characteristics are focused on capital appreciation. Investments within this category can include income and risk mitigating characteristics, so long as the predominant investment risk and return characteristic is capital appreciation. Examples of such investments or asset classes are: domestic and international equities or equity funds, private or leveraged equity, certain real estate investments, and hedge funds focused on equity risk mitigation or equity-like returns.
- (2) **Income Assets** - a collection of investments and/or asset classes whose primary risk and return characteristics are focused on income generation. Investments within the Income Assets category can include capital appreciation and risk mitigating characteristics, so long as the primary investment risk and return characteristic is income generation. Examples of such investments or asset classes are: fixed income securities, guaranteed investment contracts, certain real estate investments, and hedge funds focused on interest rate risk mitigation or income investment-like returns.
- (3) **Real Return Assets** - a collection of investments and/or asset classes whose primary risk and return characteristics are focused on real returns after inflation. Investments within this category can include inflation protected securities, commodities, certain real estate investments and hedge funds.

F. **Time Horizon.** The Trust's investment objectives are based on a market-cycle investment horizon so that interim fluctuations should be viewed with appropriate perspective. HRSD has adopted a long-term investment horizon such that the chances and duration of investment losses are carefully weighed against the long-term potential for appreciation of assets.

- G. **Liquidity and Diversification.** Trust will hold an adequate amount of protected liquidity needs for benefit payments and expenses in cash or cash equivalents, as determined necessary. The liquidity assets will be invested in accordance with statutory requirements applicable to liquid assets, as determined by the Administrator. The remaining assets will be invested in longer-term securities.

Investments will be diversified with the intent to minimize the risk of long-term investment losses. The total portfolio will be constructed and maintained to provide prudent diversification with regard to the concentration of holdings in individual issues, issuers, countries, governments or industries.

- H. **Asset Allocation.** The Administrator recognizes that asset allocation is one of the most important investment decisions that an investor makes. The Administrator or Investment Advisor, as appropriate, will allocate Trust assets in keeping with the Prudent Person Rule. The Administrator or Investment Advisor has determined that to achieve the greatest likelihood of meeting the applicable investment objectives and achieving the best balance between risk and return for optimal diversification, the Trust should allocate assets into two broad classes called Investment Assets and Liquidity Assets.

- (1) The Investment Assets will be invested in accordance with the targets for each asset class as follows to achieve an average total annual rate of return that is equal to or greater than the Trust's actuarial discount rate as described in the Section titled "Performance Expectations." The Liquidity Assets will be held in cash equivalent investments and used to pay for benefits and expenses of the Trust.
- (2) The Administrator, Investment Advisor, or Managers will have discretion to temporarily invest a portion of the assets in cash reserves when they deem it appropriate. However, the Investment Advisor and each Manager will be evaluated against their peers on the performance of the total funds under their direct management.



INVESTMENT ASSETS

<u>Asset Classes</u>	<u>Asset Range</u>	<u>Weightings Target</u>
Growth Assets		
Domestic Equity	19% - 59%	39%
International Equity	1% - 41%	21%
Other	0% - 10%	0%
Income Assets		
Fixed Income	20% - 60%	40%
Other	0% - 10%	0%
Real Return Assets	0% - 20%	0%
Cash Equivalents	0% - 20%	0%

LIQUIDITY ASSETS

<u>Asset Classes</u>	<u>Asset Range</u>	<u>Weightings Target</u>
Cash Equivalents	0% - 100%	100%

- I. **Rebalancing Philosophy.** The asset allocation range established by this Policy represents a long-term perspective. For that reason, rapid unanticipated market shifts or changes in economic conditions may cause the asset mix to fall outside the Policy range. When these divergences occur, the Administrator or Investment Advisor, as appropriate, will rebalance the asset mix to its appropriate targets and ranges. Rebalancing will typically occur on at least a quarterly basis, unless the divergence is deemed an appropriate tactical strategy by the Administrator or Investment Advisor. Similarly, if the cash requirement to handle liquidity needs falls to a level at which near-term distributions (over the following six months or less) cannot be met and no contributions are anticipated, the Administrator or Investment Advisor will rebalance the fund to its appropriate targets and ranges.

Regarding allocating contributions to the Trust, the Administrator or Investment Advisor will review the Trust allocation and fill the liquidity allocation first and the remaining investment allocations last.

- J. **Risk Tolerance.** The Trust will be managed in a style that seeks to minimize principal fluctuations over the established Time Horizon and that is consistent with the Trust's investment objectives.

- K. **Performance Expectations.** Over the long-term, a rolling five- year period, the performance objective for Trust assets will be to achieve an average total annual rate of return that is equal to or greater than the Trust's current actuarial discount rate. Additionally, it is expected that the annual rate of return on Trust assets will be commensurate with the then prevailing investment environment. Measurement of this return expectation will be judged by reviewing returns in the context of industry standard benchmarks, peer universe comparisons for individual Trust investments and blended benchmark comparisons for the Trust in its entirety. Costs will be reviewed by the Administrator and Investment Advisor to determine that they are minimized to the extent possible and are reasonable when compared to benchmarks.
- L. **Selection of Investment Managers.** The Administrator or Investment Advisor will prudently select appropriate investment managers to manage the assets of the Trust. Managers must meet the following criteria:
- (1) The investment manager must be a bank, insurance company, or investment adviser as defined by the Investment Advisers Act of 1940.
 - (2) With respect to Trust assets invested in a mutual fund, the investment manager must provide historical quarterly performance data for the mutual fund compliant with SEC and FINRA standards.
 - (3) The investment manager must provide historical quarterly performance data compliant with Global Investment Performance Standards, SEC, FINRA or industry recognized standards, as appropriate, calculated on a time-weighted basis, based on a composite of all fully discretionary accounts of similar investment style and reported net of fees.
 - (4) The investment manager must provide detailed information on history of the firm, key personnel, key clients, fee schedule (including most favored nation clauses) and support personnel.
 - (5) The investment manager must clearly articulate the investment strategy that will be followed and document that the strategy has been successfully adhered to over time.
 - (6) The investment professionals making the investment decisions must have a minimum of three years of experience managing similar strategies either at their current or at previous firms.
 - (7) The investment manager for portfolios other than Pooled Vehicles (see the following Guidelines for Portfolio Holdings) must confirm that it has

received, understands and will adhere to this policy and any manager specific policies by signing a consent form.

M. **Guidelines for Portfolio Holdings.** The Administrator will make every effort to prudently select funds that follow the guidelines listed below.

(1) Until the Trust reaches a size for which investment in separate accounts is viable and appropriate, the Trust will invest in pooled vehicles such as commingled and/or mutual funds. Pooled vehicles are regulated by either the Office of the Comptroller of the Currency (OCC) or the SEC and provide the Trust the ability to appropriately diversify its holdings in a cost-effective manner. Inherent within the Pooled Vehicle structure is the limitation on customizing the underlying security selection based on Trust specific economic, social or other screens.

(2) **Direct Investments by Advisor.** Every effort shall be made, to the extent practical, prudent and appropriate, to select investments that have investment objectives and policies that are consistent with this Policy (as outlined in the following sub-sections of the Guidelines for Portfolio Holdings). However, given the nature of the investments, it is recognized that there may be deviations between this Policy and the objectives of these investments.

(3) **Limitations on Investment Manager's Portfolios.**

(a) **Growth Assets.**

Equities. Not more than five percent or weighting in the relevant index (Russell 3000 Index for U.S. issues and MSCI All County World Index (ACWI) ex-U.S. for non-U.S. issues) of the total equity portfolio valued at market may be invested in the common stock of any one corporation. MSCI is a publicly traded company that is an independent provider of research-driven insights and tools for institutional investors. The MSCI ACWI is an index that captures all sources of equity returns in 23 developed and 23 emerging markets. Ownership of the shares of one company will not exceed two percent of those outstanding. Not more than 25 percent of stock valued at market may be held in any one sector, as defined by the Global Industry Classification Standard.

(1) **Domestic Equities.** Other than these constraints, there are no quantitative guidelines suggested as to issues, industry or individual security diversification. However,

prudent diversification standards should be developed and maintained by the investment manager(s).

- (2) **International Equities.** The overall non-U.S. equity allocation, if any, should include a diverse global mix that is comprised of the equity of companies from multiple countries, regions and sectors.

(b) **Income Assets.**

Fixed Income. Fixed income securities, other than U.S. Treasury Bonds/Note/Bills or Federal Agency issues, of any one issuer or obligation will not exceed five percent of the total bond portfolio at time of purchase. The five percent limitation does not apply to issues of the U.S. Treasury.

The overall weighted rating of the fixed income assets will be at least "A", based upon the ratings of such assets from a NRSRO.

(c) **Other Assets (Growth and Income Assets).**

Other Assets (Alternatives). Alternatives may consist of non-traditional asset classes such as real estate and commodities, when deemed appropriate. The total allocation to this category may not exceed 10 percent of the overall portfolio.

Real Estate. Consists of publicly traded Real Estate Investment Trust (REIT) securities and/or non-publicly traded private real estate and shall be diversified across a broad array of property types and geographic locations. Investments of this type are designed to provide a stable level of income combined with potential for price appreciation, particularly in periods of unexpected inflation. For private real estate, the illiquid, long-term nature should be considered. For purposes of asset allocation targets and limitations, publicly traded REITs will be categorized as "Other" under the Growth Assets category. Depending on the investment characteristics of a private real estate fund, the fund will be categorized as "Other" under either the Income Assets category, for example, a core real estate fund, or under the Growth Assets category, for example, an opportunistic real estate fund where capital gains are expected to make up a significant portion of the total return.

Portfolio Risk Hedging. Portfolio investments designed to hedge various risks including volatility risk, interest rate risk, etc. are allowed to the extent that the investments are not used for the sole purpose of leveraging Trust assets. One example of a hedge vehicle is an Exchange Traded Fund (“ETF”) which takes short positions.

(d) **Real Return Assets.**

Inflation Hedge. Shall consist of pooled vehicles holding among other assets: TIPS, commodities or commodity contracts, index-linked derivative contracts, certain real estate or real property funds and the equity of companies in businesses thought to hedge inflation. Inflation hedge assets will be reported in the Real Return Assets category.

If the credit quality of any one issue should drop below investment grade (as defined by at least two of the following three NRSROs – Fitch, Moody’s and S&P), the investment manager should notify the Administrator and Investment Advisor immediately detailing a plan of action regarding the security.

(e) **Cash Equivalents.** Liquidity and temporary cash equivalent reserves will be invested according to the provisions of Code of Virginia Sections 2.2-4500 through 2.2-4518 applicable to liquid assets.

(f) **Additional Limitations.**

(1) **Prohibited Investments.** Except for purchase within authorized investments, the following investments and transactions are not authorized and will not be purchased:

- Letter stock and other unregistered securities,
- Direct commodities or commodity contracts,
- Short sales,
- Margin transactions,
- Private placements (with the exception of Rule 144A securities),
- Venture capital funds,
- Private equity,
- Hedge funds;
- Cryptocurrencies

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Further, derivatives, options or futures for the sole purpose of portfolio leveraging (portfolio leveraging refers specifically to investments which can lead to losses in excess of 100 percent of initial invested capital) are also prohibited. Direct ownership of real estate, natural resource properties such as oil, gas or timber and the purchase of collectibles is also prohibited.

(2) **Safekeeping.** All securities will be held by a third-party custodian selected through a public procurement process by the Administrator, pursuant to contract approval, for safekeeping. The custodian will produce statements monthly listing the name and value of all assets held, and the dates and nature of all transactions. Assets of the Trust held as liquidity or investment reserves will, at all times, be invested in interest-bearing accounts. Investments and portfolio securities may not be loaned.

(g) **Control Procedures.**

(1) **Legal Requirements, Controls, and Investment Policy Statement Review.** At all times the Administrator will comply with all State, and federal reporting requirements. The Administrator will establish, maintain and review prudent internal controls for the assets of the Trust, including those used by HRSD staff, and the Trust's Investment Advisor and custodian. The Administrator will provide for annual review of the adequacy and compliance of these control procedures.

(2) The Administrator will review the Financial Policy no less than annually and provide documentation to HRSD when their review is complete. Specifically, the investment component of the Financial Policy will be reviewed when any one of the following occurs:

- Change in investment advisors
- Initial use of investment vehicles other than mutual funds
- Significant change in Trust assets
- Significant change in funded status
- Significant change in market conditions

(3) **Review of Investment Objectives.** The Administrator will review annually the appropriateness of this Policy for

achieving the Trust's stated objectives. It is not expected that the Policy will change frequently. In particular, short-term changes in the financial markets should not require an adjustment in the investment policy.

- (4) **Review of Investment Performance.** The Administrator, on a quarterly basis, will review the total Trust investment performance, including all fees and costs and provide a report to the Commission. In addition, should investment functions be delegated, the Investment Advisor will be responsible for keeping the Administrator advised of any material change in investment strategy, investment managers, and other pertinent information potentially affecting performance of the Trust.

The Administrator will compare the investment results, including all fees and costs, on a quarterly basis to appropriate benchmarks, as well as to market index returns in both equity and debt markets. Examples of benchmarks and indexes that will be used include the:

- Russell 3000 Index for broad U.S. equity strategies;
- S&P 500 Index for large cap U.S. equities,
- Russell 2000 Index for small cap U.S. equities,
- MSCI ACWI ex-U.S. Index for broad based non-U.S. equity strategies;
- MSCI Europe, Australasia, and Far East (EAFE) Index for developed markets international equities,
- Barclays Capital Aggregate Bond Index for fixed income securities, and
- U.S. 91 Day Treasury Bill for cash equivalents
- Russell 3000 Index will be used to benchmark the U.S. equities portfolio;
- MSCI ACWI ex-U.S. Index will be used to benchmark the non-U.S. equities portfolio;
- Barclays U.S. Aggregate Bond Index will be used to benchmark the fixed income portfolio.

The categories "Other" will be benchmarked against appropriate indices depending on the specific characteristics of the strategies and funds used. The Administrator will also compare investment results with

the Virginia Retirement System at the end of each fiscal year.

- (5) **Voting of Proxies.** The Administrator recognizes that proxies are a significant and valuable tool in corporate governance. The voting rights of individual stocks held in separate accounts or collective, common, or pooled funds will be exercised by the investment managers in accordance with their own proxy voting policies. The voting rights of funds will be exercised by the Investment Advisor.

Investment manager(s) are expected to be aware of corporate provisions that may adversely affect stockholdings, including but not limited to “golden parachutes,” “super majorities,” “poison pills,” “fair price” provisions, staggered boards of directors, and other tactics. Proxies should be vigorously voted with the interest of preserving or enhancing the security’s value.

The investment manager(s) of a commingled trust or mutual fund that holds the assets of the Trust along with assets of other funds with conflicting proxy voting policies must reconcile the conflicting policies to the extent possible, and, if necessary, to the extent legally permissible, vote the proxies to reflect the policies in proportion to each fund’s interest in the pooled fund.

- (6) **Review of Actuarial Data.** The Administrator will review the Trust’s actuarial data at least once every two years or more frequently if deemed necessary, to determine whether any substantive change in the investment policy is appropriate. The Administrator will provide for an actuarial valuation in compliance with GAAP, at least every two years.

4.4 ASSET CAPITALIZATION

4.4.1 Notifications. Accounting must be notified when any Capital Asset is placed in service or is in the process of disposal to ensure accurate asset records are kept.

A. Cost.

- (1) Property, plant and equipment purchased, donated or constructed is recorded at historical cost as of the date acquired.

COMMISSION ADOPTED POLICY
Financial Policy



Adopted: May 26, 2009

Commission Revision:
Effective:

November 22, 2022
December 1, 2022

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- (2) Cost includes capitalized interest borrowed to finance the construction of major capital additions.
- (3) Generally, for projects funded with both debt proceeds and other resources, it is HRSD's policy to use available debt proceeds to pay project expenditures prior to using its own resources.
- (4) Assets costing below the \$5,000 threshold amount are recorded as an expense in HRSD's financial statements.
- (5) Routine repairs and maintenance are expensed as incurred.
- (6) Vehicles, office furniture, equipment, software and intangible assets are reviewed monthly to determine whether the asset meets the capitalization threshold.
- (7) Assets that are constructed over a period of time, such as capital projects, treatment plants, buildings and facilities, and interceptor systems, are reviewed at completion to determine the appropriate capitalization value, which may include interest costs.

B. Useful Life.

- (1) Assets with an economic useful life of less than 60 months are required to be expensed for financial statement purposes, regardless of the acquisition or production cost.
- (2) Major repairs that substantially extend the life of an asset or expand its service capacity may be capitalized. For example, if a roof repair or coating is expected to extend the asset's useful life 20 years or beyond, the cost may be capitalized.
- (2) The service lives for Capital Assets are as follows:

Treatment plants, buildings and facilities	30 years
Interceptor systems	50 years
Office furniture, computer hardware and equipment	5-10 years
Software and intangible assets	5-7 years
Automotive	5 years

COMMISSION ADOPTED POLICY
Financial Policy



Adopted: May 26, 2009

Commission Revision:
Effective:

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December 1, 2022

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5.0 RESPONSIBILITY AND AUTHORITY

These financial policies were created after much study and evaluation and were specifically adopted by the Commission. They were developed subject to the requirements of HRSD's Trust Agreements, the VRA Master Financing Agreement, the Enabling Act and the Code of Virginia. Any changes and exceptions to these policies will be made in writing and approved by the Commission.

HRSD's General Manager and Director of Finance are the designated administrators of these policies. The Director of Finance shall have the day-to-day responsibility and authority for implementing the provisions of these policies.

HRSD understands that changes in the capital markets or other unforeseen circumstances may from time to time produce situations that are not covered by the Policy and will require modifications or exceptions to achieve the Policy goals. In these cases, HRSD's management flexibility is appropriate provided specific authorization from the Commission is obtained. This Policy is not a contract or other obligation of HRSD, and no party shall have any right or standing to enforce any provision of this Policy. Failure to comply in any manner with this Policy will not result in any liability on the part of HRSD to any party.

HRSD, together with HRSD's financial advisor and legal counsel, will no less than every two years review the Policy and recommend appropriate changes.

Approved:

Frederick N. Eloffson, CPA
Commission Vice-Chair

Date

Attest:

Jennifer L. Cascio
Commission Secretary

Date



HRSD Commission Meeting Minutes
November 22, 2022
Attachment #4

5. Regional Wet Weather Capacity
Commission Adopted Policy

1.0 Purpose and Need

The Regional Wet Weather Capacity Policy supports the identification, understanding, and resolution of sanitary sewer overflows occurring within the Regional Sanitary Sewer System consistent with the Federal Consent Decree, State Consent Order, and Locality Memorandum of Agreement.

2.0 Definitions

Capacity Deficiency: SSO or surcharge condition within 18” of the manhole rim resulting from rainfall-driven wet weather inflow and infiltration and/or high tides and flooding.

Capacity-Weather Related SSO: Overflow caused by a lack of available capacity in the pipe, pump station or downstream infrastructure caused by infiltration and/or inflow due to rainfall, antecedent rainfall, and/or high tides and flooding.

Collection System: A network of pipes, manholes, and pumping stations to convey sewage from the point that individual properties connect to public sewer system. Sewer service laterals on private property are not included.

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

High Priority Project (or HPP): Capital projects identified to satisfy the wet weather capacity requirements of the Federal Consent Decree.

HRSD Service Area: The area of sewer service that is defined through coordination with the localities that HRSD serves. The existing Service Area boundaries can be found on the HRSD website.

Localities: Cities, Counties, and Towns within the HRSD Service Area.

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

MOM Program: Management, operations, and maintenance program

COMMISSION ADOPTED POLICY
Regional Wet Weather Capacity



Adopted: November 22, 2022

Revised: N/A

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Regional Interceptor System: A network of gravity and/or force main pipes owned and operated by HRSD which convey sanitary sewer flow received from locality or HRSD pump stations to the HRSD treatment works.

Regional Sanitary Sewer (SS) System: All the wastewater collection and transmission systems, including all pipes, force mains, gravity lines, pumping stations, pressure reducing stations, manholes and appurtenances thereto, which are owned or operated by the Localities as well as the HRSD SS System. Regional SS System therefore refers to all portions of the individual Locality and HRSD collection and transmission systems and appurtenances thereto. Sewer laterals from buildings are not considered part of the Regional Sanitary Sewer System.

Sanitary Sewer Overflow (or SSO): An overflow, spill, diversion, or release of wastewater from or caused by the Regional Sanitary Sewer System

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

Terminal Pump Station: Any pump station that connects to; (1) the regional interceptor system or; (2) to a collection system force main that ties into the regional interceptor system.

3.0 Guiding Principles

HRSD is responsible for ensuring there is adequate capacity in the Regional Interceptor System and treatment works to support current and future development activity within the HRSD Service Area. HRSD is also responsible for adequate wet weather capacity consistent with the 5th Amendment to the Federal Consent Decree entered on February 8th, 2022 and the Locality Memorandum of Agreement (MOA) executed on February 26th, 2014, as amended. Localities in the Metro Area are responsible for implementing approved sanitary sewer MOM Programs consistent with the Locality MOA and in accordance with the State Order by Consent effective December 19th, 2014.

Localities are responsible for defining sewer collection service areas within their communities and for constructing collection systems to convey sanitary waste from individual properties to the Regional Interceptor System. Direct and effective communication and collaboration with the localities regarding development planning, land use, population estimates and other factors that have the potential

to impact regional wastewater infrastructure is required for HRSD to adequately plan and size the Regional Interceptor System and treatment works. HRSD does not subsidize development and growth driven capacity upgrades are independent from wet weather capacity.

To ensure adequate dry weather capacity, HRSD tracks new connections to the sanitary sewer system via the Flow Acceptance process consistent with the HRSD Capacity Assurance and Connection Commission Adopted Policy. The tracking of connections and other relevant data enables HRSD to anticipate and plan for future growth driven capacity upgrades in the HRSD system.

To ensure adequate wet weather capacity, HRSD uses a Regional Hydraulic Model (RHM), meter data, Sanitary Sewer Overflow Reporting System (SSORS), and other data sources to continuously monitor the performance of the regional sewer system. A series of High Priority Projects will be implemented to achieve the required wet weather capacity according to the Federal Consent Decree.

4.0 Level of Service

- 4.1 The Federal Consent Decree specifies a required level of service (LOS) expressed as a reduction in wet weather SSO volume from a baseline modeled 5-year peak flow event. HRSD designs new infrastructure and provides design guidance on Locality infrastructure consistent with achieving this LOS. A series of wet weather capacity projects have been identified to achieve the required reduction in SSO volume and are referred to as High Priority Projects. HRSD will assess the performance of the regional sanitary sewer system during actual wet weather events to inform the need for additional capacity improvements or changes to operational strategy.
- 4.2 The design storm used to generate the 5-year peak flow recurrence (0.80 spatial distribution factor) corresponds to a 5-year, 4-hour duration rainfall recurrence event when plotted against Norfolk Airport NOAA Atlas 14 rainfall recurrence interval (RRI) curves. Comparison of actual wet weather event flows to the model's generated 5-year peak flow is not practicable as flow meter data is not universally available throughout the system. Therefore, determination of capacity deficiencies will be measured by using a 5-year RRI as a logical surrogate for the 5-year peak flow recurrence.

4.3 The rainfall data will be evaluated from one or more appropriate gauges with valid data as determined by HRSD and consistent with HRSD Post-Storm Analyses methods. Additional data sources including but not limited to flow, tide, storm surge, and groundwater level may also be considered when evaluating individual events.

4.4 Locality infrastructure not identified for capacity enhancements as part of a High Priority Project (HPP) or other Capital Improvement Program (CIP) project that experiences verifiable wet weather capacity deficiencies during events up to a 5-year RRI will be evaluated for capacity enhancements according to this policy.

5.0 Area of Influence

5.1 HRSD will develop and maintain Area of Influence (AOI) maps to expedite the evaluation of reported SSOs. The AOI maps display the areas of the regional sanitary sewer system that are expected to benefit from enhanced wet weather capacity following implementation of HPPs or other CIP projects. The projects associated with these maps represent effective investments in regional wet weather capacity as they are informed by modeled and observed conditions. A wet weather capacity deficiency reported within an AOI does not require further evaluation. AOI maps are reviewed for concurrence with each impacted locality and will be updated periodically. Influenced areas will be removed from the AOI maps following completion of the corresponding project.

6.0 Procedures

6.1 The Locality shall promptly notify HRSD of any capacity concerns resulting from wet weather events. All available corroborating data including but not limited to high water alarms, pump operating data, and physical observations should be provided with the notification. SSO events must be reported in the Hampton Roads Planning District Commission's Sanitary Sewer Overflow Reporting System (SSORS) by the Locality.

6.2 HRSD maintains mapping of all Locality wet weather capacity related SSOs reported in SSORS.

6.3 Evaluation Criteria

All reported locality wet weather capacity deficiencies will be screened according to the following:

- Did the capacity deficiency occur during conditions greater than the 5-year RRI?
- Is the capacity deficiency within a designated HPP Area of Influence?
- Is the capacity deficiency within a designated CIP Area of Influence?

An affirmative answer to any one or more of these criteria will end the evaluation process and any SSO will be recorded in the HRSD Geographic Information System (GIS). A capacity deficiency without an affirmative answer to one of the three questions above will trigger additional evaluations and creation of an HRSD Action Plan.

6.4 HRSD will use Action Plans to track progress toward a resolution of Locality wet weather capacity related SSOs. Action Plans provide increased awareness of observed capacity deficiencies while allowing flexibility in determining the optimal solution. The Action Plan process will be styled on HRSD's SSO Response Plan approach which has successfully developed, tracked, and resolved Action Plans on HRSD's regional interceptor system assets. Action Plans will be developed in coordination with the Localities.

6.5 Prioritization of Action Plan resolution will be informed by, among other factors, frequency of capacity related SSO recurrences, proximity to drinking water supply, other sensitive areas, affordability, and complexity of remediation.

7.0 Locality Obligations

7.1 Localities shall maintain collection systems in good order through implementation of their approved MOM programs, including the repair of significant defects and elimination of excessive inflow/infiltration as required in the State Order by Consent.

7.2 Pumps, appurtenances, and pumping operations must be maintained in satisfactory condition capable of providing reliable capacity comparable to the information submitted for the RHM including any permanently mounted bypass pumps. SSOs stemming from inadequate maintenance exacerbated by wet weather will not be addressed under this policy.

COMMISSION ADOPTED POLICY
Regional Wet Weather Capacity



Adopted: November 22, 2022

Revised: N/A

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- 7.3 Localities agree to provide regular RHM data updates in accordance with the MOA. Flow parameter and infrastructure updates are essential to maintain an accurate understanding of capacity in the regional sanitary sewer system and to develop cost effective solutions.
- 7.4 Localities are subject to the HRSD Capacity Assurance and Connection Commission Adopted Policy. The process allows HRSD to ensure adequate capacity in the regional interceptor system and treatment works to support current and future development activity within the HRSD Service Area. New development-driven flows must be discretely quantified to accurately differentiate from any wet weather capacity limitations. Localities which are penalized by regulatory authorities for wet weather capacity related SSOs up to the approved level of service may seek reimbursement from HRSD consistent with this policy.

8.0 Solutions

- 8.1 Solutions shall be developed to address the capacity deficiency with consideration of potential impacts both upstream and downstream. HRSD will be responsible to implement the solution which may include capital or operational improvements to the Regional Sanitary Sewer System.
- 8.2 HRSD is responsible for the implementation of the solutions and will coordinate as necessary when Locality assets are identified for improvements. Localities may elect to administer any improvements on their own infrastructure.

COMMISSION ADOPTED POLICY
Regional Wet Weather Capacity



Adopted: November 22, 2022

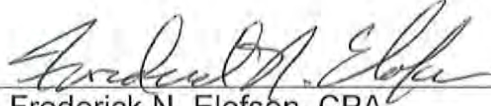
Revised: N/A


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9.0 Responsibility and Authority

The Planning and Analysis Division (PAD) of the Engineering Department shall review and evaluate claims applicable to this policy. Any Locality aggrieved by a finding of the PAD may appeal such findings to the General Manager within 30 days of receipt of the PAD's written determination.

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

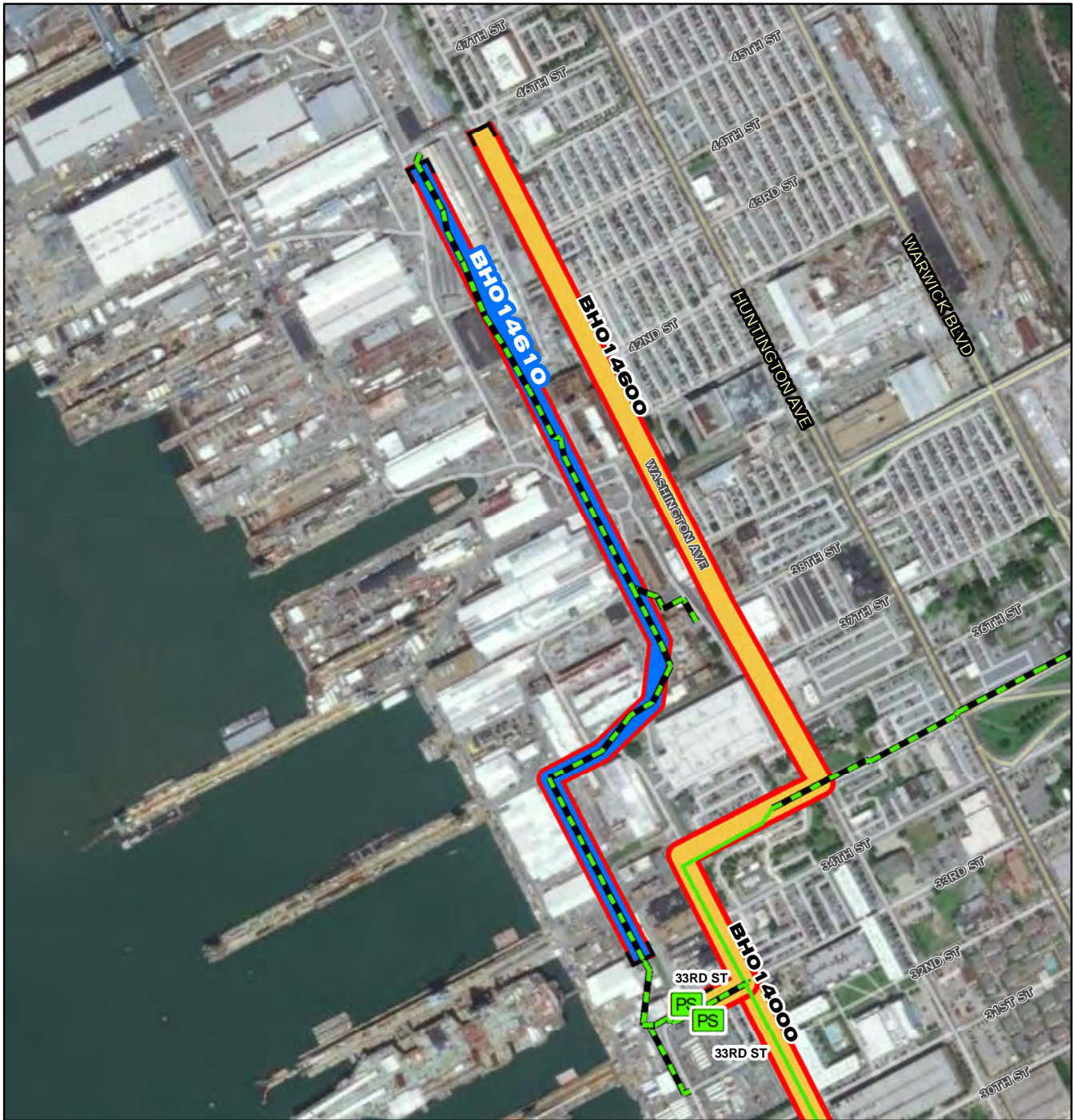
Approved:  11/22/2022
Frederick N. Elofson, CPA
Commission Vice-Chair
Date

Attest:  11/22/2022
Jennifer L. Cascio
Commission Secretary
Date



HRSD Commission Meeting Minutes
November 22, 2022
Attachment #5

6. 46th Street Diversion Sewer Rehabilitation/Replacement, Huntington
Ingalls Incorporated, Newport News Shipbuilding (HII-NNS)
Additional Appropriation

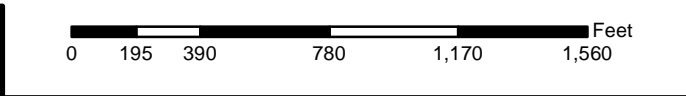


BHO14610

- 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



BHO 146 10

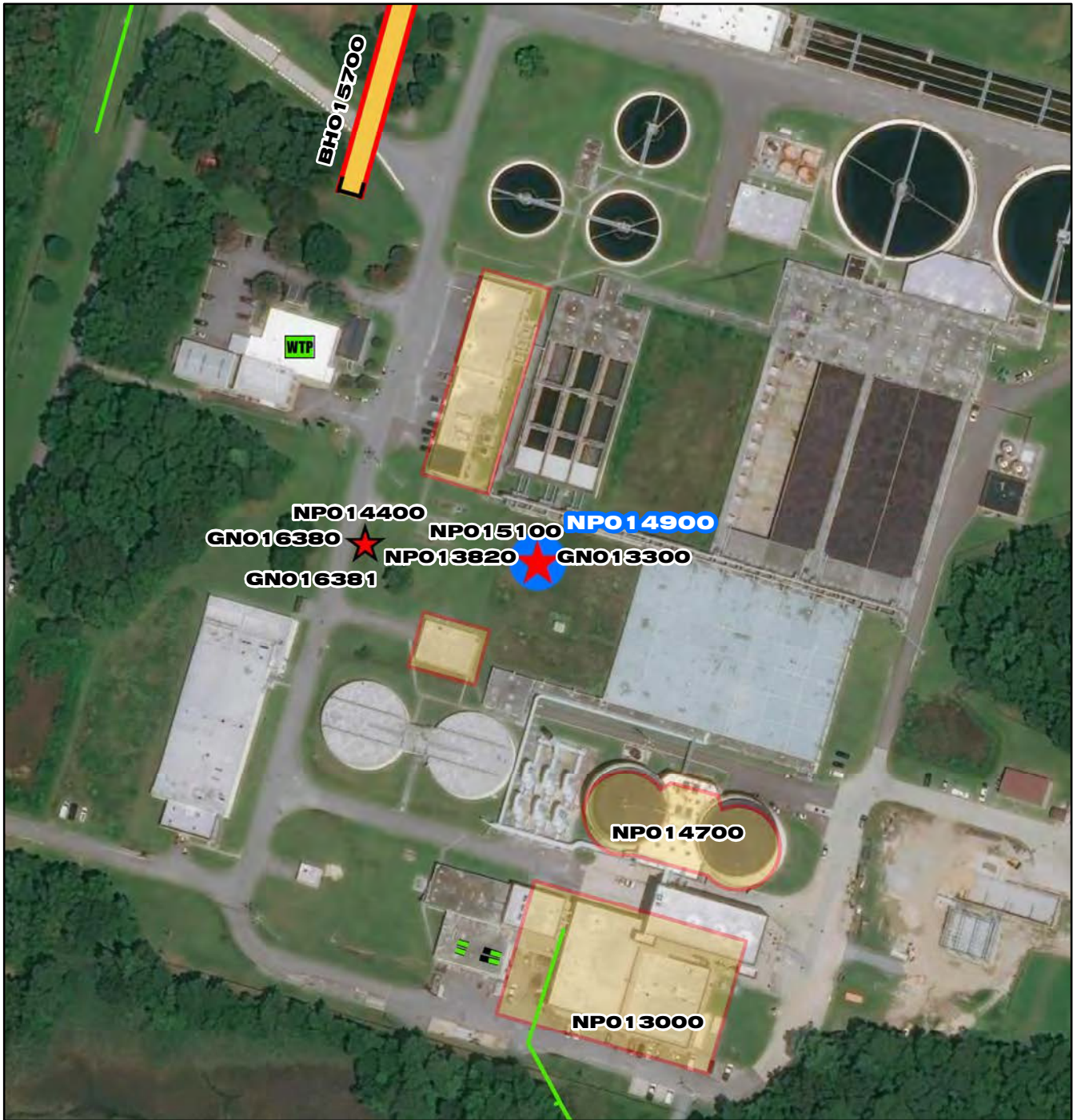
**46th Street Diversion Sewer
Rehabilitation Replacement, HII-NNS**

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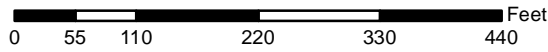
CIP Location

HRSD Commission Meeting Minutes
November 22, 2022
Attachment #6

7. Nansemond Treatment Plant Interceptors Storage Yard
Initial Appropriation



- NPO 14900**
- 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



CIP Location



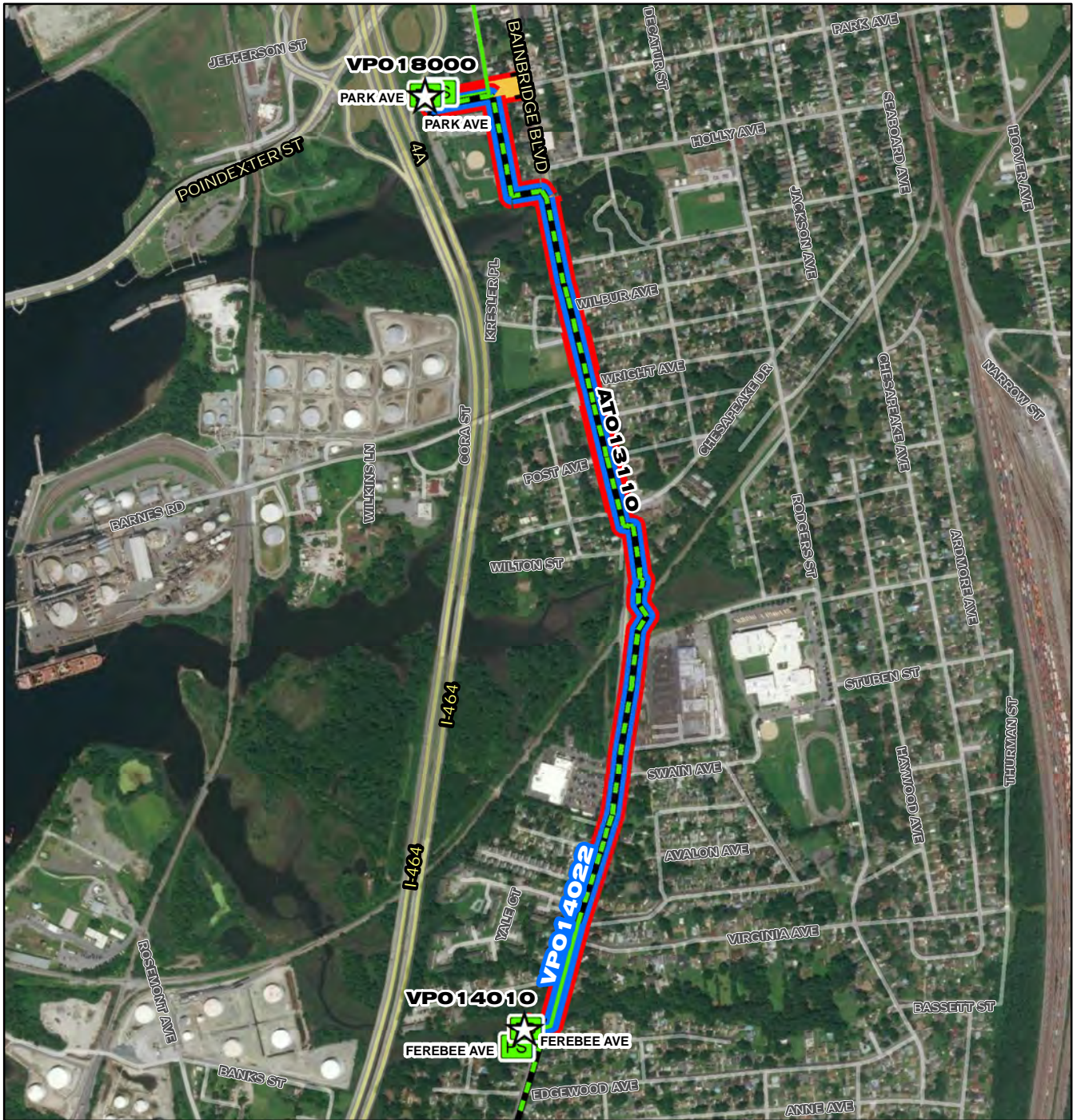
NPO 14900

Nansemond Treatment Plant Interceptors Storage Yard



HRSD Commission Meeting Minutes
November 22, 2022
Attachment #7

8. Sanitary Sewer Replacement 1950 – Part 2
Initial Appropriation, Reduction in Scope and Appropriation, Rejection of Bid, Contract Award (>\$200,000), and Task Order (>\$200,000)

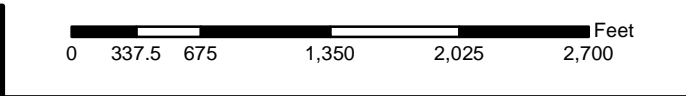


VPO14022

- 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



VPO 14022

Sanitary Sewer Replacement 1950
- Part 2

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CIP Location

HRSD Commission Meeting Minutes
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Attachment #8

9. Surry Hydraulic Improvements and Interceptor Force Main
Additional Appropriation, Agreement – Cost Sharing and Contract Change
Order

**HAMPTON ROADS SANITATION DISTRICT AND DOMINION ENERGY VIRGINIA
COST SHARING AGREEMENT
FOR
SURRY HYDRAULIC IMPROVEMENTS AND INTERCEPTOR FORCE MAIN –
DOMINION ENERGY EXTENSION
(SU010400)**

THIS COST SHARING DESIGN AND CONSTRUCTION AGREEMENT (“**Agreement**”), between VIRGINIA ELECTRIC AND POWER COMPANY d/b/a DOMINION ENERGY VIRGINIA (“**DOMINION**”) and HAMPTON ROADS SANITATION DISTRICT (“**HRSD**”), (each individually a “**Party**” and collectively, the “**Parties**”), is entered this 10th day of January, 2023 (the “**Effective Date**”).

RECITALS

R:1. DOMINION is the owner of certain real property located in the County of Surry, Virginia, and commonly known as the Surry Power Station at 5570 Hog Island Road, Surry, Virginia 23883 (the “**Property**”), on which DOMINION owns a wastewater treatment plant (the “**Plant**”) that it desires to close. The new infrastructure, including the Hog Island Pump Station (defined below), required to facilitate the closure of the Plant will be referred to as the Improvements (the “**Improvements**”).

R:2. The Parties desire to enter into this Agreement to provide for the design and construction of a new pump station (the “**Hog Island Pump Station**”) on the Property and associated wastewater force main to convey wastewater flow to the Mt. Ray Pump Station owned and operated by HRSD, and thereby allow for the closure of the Plant. This is further described in the report entitled “Final Preliminary Engineering Report, Dominion Energy Sewage Treatment Plant Pump Station and Force Main (SU010400)” dated February 2022 attached hereto as **Exhibit 1** and incorporated herein by reference (the “**Report**”).

R:3. Subject to Dominion’s obligations set forth herein, HRSD agrees to design and construct in accordance with the Report the following Improvements to be owned and operated by HRSD, (i) the Hog Island Pump Station on the Property; (ii) a new gravity sewer pipeline with associated manholes (the “**Gravity Alignment**”) on the Property; (iii) approximately 7 miles of a new wastewater force main from the new Hog Island Pump Station to the Mt. Ray Pump Station (the “**Force Main**”), located on the Property and any easements to be obtained by or on behalf of HRSD from multiple property owners; and (iv) a connection of the Force Main into a manhole at the Mt. Ray Pump Station more particularly shown on the map attached hereto as **Exhibit 2**.

R:4. The Parties have agreed to proceed with the construction of the Improvements as detailed in the Report using the Design-Build project delivery method.

R:5. The Parties further agree that the most cost efficient and expeditious manner to allow HRSD to manage the design and construction of the Improvements is to include it in the current design build contract that HRSD has for other improvements in Surry County known as Surry Hydraulic Improvements & Interceptor Force Main (the “**HRSD Surry Contract**”), managed by a team comprised of the following three firms: MEB GENERAL CONTRACTORS, INCORPORATED, RUMMEL, KLEPPER & KAHL, LLP, and TIMMONS GROUP (referred to herein collectively as the “**Design-Builder**”).

R:6 The Design-Builder has provided a cost proposal for the Improvements, which includes the cost of design, construction, permits, as well as easement acquisition services.

R.7 HRSD agrees to manage the design and construction of the Improvements.

R.8 Subject to the terms and conditions of this Agreement, Dominion agrees to reimburse HRSD for all costs associated with the design and construction of the Improvements.

TERMS

NOW THEREFORE, in consideration of the above provisions, mutual covenants 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. DESIGN AND CONSTRUCTION OF IMPROVEMENTS

- A. Upon the execution of this Agreement, HRSD and Design-Builder will execute a contract change order to include the Improvements in the HRSD Surry Contract. Execution of such change order shall be a condition precedent to Dominion’s obligation to make any payments hereunder.

- B. Management of the Project
 - 1. DOMINION shall not be involved in the management or day to day operations of the Improvements except as expressly set forth herein. HRSD will share with Dominion the monthly schedule progress updates received from Design-Builder. HRSD will invite Dominion to Design-Builder team meetings involving the Improvements.
 - 2. For the construction work on the Property, HRSD understands and agrees that such work must be performed by HRSD and Design-Builder in compliance with Dominion’s standards as reflected in Dominion Energy’s Nuclear Fleet Standard Design Process, Industry Standard, IP-ENG-001, Dominion Energy, Nuclear Fleet, Administrative Procedure SA-AA-106

and Dominion Energy, Nuclear Fleet, Guidance and Reference Document, Supplemental Personnel, MA-AA-1001, copies of which have been reviewed by HRSD and Design-Builder.

C. Payment for the Project

1. HRSD shall compensate Design-Builder for all the design and construction costs related to the Improvements.
2. Subject to the terms and conditions of this Agreement, DOMINION shall reimburse HRSD for all costs related to the Improvements pursuant to periodic invoices provided by HRSD; provided, however, in no event shall HRSD submit more than one (1) invoice in any calendar month. Each invoice shall include: (a) an itemization of specific work provided by HRSD and/or Design-Builder as set forth on the Schedule of Values attached as **Exhibit 3**; and (b) the dates of such work. Dominion shall reimburse HRSD within thirty (30) days of its receipt of such invoice.
3. Costs of Improvements
 - a. The fixed amount to be paid by Dominion to HRSD for performance of all work hereunder, including the installation of the Improvements, shall be \$8,233,277 (as such amount may be adjusted by Change Order, the “**Contract Price**”). The Contract Price shall be payable in portions corresponding to, and reimbursable upon completion of, the tasks set forth on the Schedule of Values.
 - b. Dominion acknowledges and agrees that the performance of HRSD’s obligations under this Agreement may require the expenditure by HRSD or Design Builder of amounts in excess of \$8,233,277. Accordingly, Dominion acknowledges and agrees that, subject to the approval of Dominion and HRSD, the Contract Price may be increased by an amount of up to \$2,470,000 (the “**Contingency**”) as a contingency for unforeseen changes, with any such increase to be evidenced by a change order.
 - c. The Contract Price (as it may be modified by a change order) includes the compensation to be paid by Dominion to HRSD for one hundred percent (100%) of the installation of the Improvements, including, without limitation:
 - i. Cost of design and construction
 - ii. Cost of approvals and permits

- iii. Cost of construction administration and inspections
 - iv. Cost of any repair work for damage to existing infrastructure as a result of the construction
 - d. HRSD acknowledges and agrees that, in the event the performance of HRSD's obligations under this Agreement require the expenditure by HRSD or Design Builder of amounts in excess of \$10,703,277 (the "**Guaranteed Maximum Price**"), such additional amounts shall be entirely for HRSD's account and shall not permit HRSD to discontinue performance of the work hereunder.
- 4. Costs or delays associated with any change to the estimated cost of the Improvements shall be as follows:
 - a. HRSD shall be responsible for one hundred percent (100%) of all costs due to a change order requested by HRSD resulting from the acts or omissions of HRSD.
 - b. DOMINION shall be responsible for one hundred percent (100%) of all costs due to a change order requested by DOMINION resulting from the acts or omissions of DOMINION.
 - c. DOMINION shall be responsible for one hundred percent (100%) of all costs associated with changed field conditions on the Property (and, subject to Section 3.b, such costs shall be paid from the Contingency) until DOMINION's expenditures under this Agreement have equaled or exceeded the Guaranteed Maximum Price, in which case any such costs to be borne by HRSD.
 - d. DOMINION shall be responsible for one hundred percent (100%) of all costs associated with contaminated soil and groundwater on the Property (and, subject to Section 3.b, such costs shall be paid from the Contingency) until DOMINION's expenditures under this Agreement have equaled or exceeded the Guaranteed Maximum Price, in which case any such costs to be borne by HRSD.
 - e. DOMINION shall be responsible for one-hundred percent (100%) of all costs associated with unforeseen conditions within the public right-of-way or within any easements required for the Improvements other than easements located on the Property (and, subject to Section 3.b, such costs shall be paid from the Contingency) until DOMINION's

expenditures under this Agreement have equaled or exceeded the Guaranteed Maximum Price, in which case any such costs to be borne by HRSD.

5. Easement Acquisition

- a. The Contract Price includes the amount payable by Dominion to HRSD for all costs and expenses associated with easement acquisitions for the Improvements.
- b. Prior to Design-Builder's commencement of construction of the Improvements, DOMINION will provide HRSD with a permanent easement on the Property for construction and operation of the new Hog Island Pump Station, Force Main, and Gravity Alignment substantially in the form attached as **Exhibit 4**. Dominion and HRSD shall each use commercially reasonable efforts to finalize such easement as soon as reasonably practicable following the Effective Date, including preparing a metes and bounds legal description of the easement area, with the costs of preparing any survey required for such legal description to be paid out of the Contingency.
- c. HRSD shall be responsible for acquiring all other easements.

D. Operation and Maintenance of the Pump Station - HRSD shall, at its own cost, own and be responsible for the operation and maintenance of the Hog Island Pump Station, Force Main and Gravity Alignment during and after construction.

E. Schedule; Termination

1. The Design- Builder shall complete the Improvements in accordance with the Schedule provided by the Design-Builder and attached hereto as **Exhibit 5** (the "**Schedule**"), and HRSD shall enforce the terms of the HRSD Surry Contract that relate to completion of the Improvements in accordance with the Schedule.
 - a. Dominion and HRSD agree that it would be extremely difficult to determine precisely the amount of actual damages that would be suffered by Dominion due to deficiencies in HRSD's installation of the Improvements, but that liquidated damages set forth herein ("**Liquidated Damages**") are a fair and reasonable determination of the amount of actual damages that would be suffered by Dominion, and that these Liquidated Damages and other amounts do not constitute a penalty. HRSD hereby waives any defense or right to contest the validity of these Liquidated Damages on the grounds that they are void as penalties or are

not reasonably related to actual damages. HRSD acknowledges that if completion of the Improvements has not occurred on or before July 1, 2025 (as such date may be adjusted by Change Order, the “Required Completion Date”), Dominion will suffer damages, but such damages are extremely difficult to determine precisely. HRSD specifically agrees that, if completion of the Improvements has not occurred on or before August 1, 2025, HRSD shall be liable for Liquidated Damages per day until completion of the Improvements, equal to \$975 dollars per day.

2. This Agreement may be terminated by (i) DOMINION or HRSD, with cause in the event that the other party materially breaches this Agreement and such breach is not cured within sixty (60) days of the defaulting party’s receipt of written notice of such breach from the non-defaulting party; (ii) DOMINION, if the Required Completion Date has not occurred within one hundred eighty (180) days after the Required Completion Date, or (iii) by mutual agreement of the DOMINION and HRSD. Anything herein or elsewhere to the contrary notwithstanding, any such termination of this Agreement shall not relieve DOMINION of its obligation to pay all of the costs of Improvements incurred prior to effective date of the termination, whether or not those amounts are due and payable as of the termination date.

F. Miscellaneous

1. Right of Entry: HRSD personnel, representatives, contractors, sub-contractors, consultants, and agents shall have the right to access the Property for the purpose of the design and construction of the Improvements, provided such work does not materially interfere with DOMINION’S ability to operate its business thereon and provided that all such entrants comply with all applicable laws and with all of Dominion’s regulations and requirements (including, without limitation, background checks). HRSD shall notify DOMINION staff a minimum of 48-hours prior to commencing any such entry.
2. Operations and Maintenance Responsibilities: Following the startup of the Improvements, DOMINION agrees to comply with HRSD’s Industrial Wastewater Discharge Regulations to the extent they later become applicable to the Surry nuclear power station and any other future permit requirements set forth by HRSD, in each case to the extent such future permit requirements arise solely from Dominion’s operation of the Surry nuclear power station in ways that fail to comply with the current permits therefor. HRSD acknowledges that existing permits for the discharge of

sanitary wastewater allow for the discharge from the power station to the Improvements of more than 100,000 gallons of sanitary wastewater per day.

G. Warranty. HRSD represents and warrants that the Improvements will: (i) strictly conform to the description and specifications contained in this Agreement and the Report; (ii) be free from defects in workmanship, materials and design for one (1) year from the date of completion of the Improvements; and (iii) be new. No surplus, rebuilt, reconditioned, or used material or equipment will be provided pursuant to this Agreement. Upon receipt of written notice from Dominion of a warranty claim, HRSD shall, if required by Dominion, at HRSD's sole expense, promptly repair, reperform, correct, or replace as determined by Dominion, all portions of the Improvements that fail to conform to these warranties, including without limitation the removal of any non-conforming Improvements. HRSD shall reimburse Dominion for any costs incurred by Dominion incidental to such repair, reperformance, correction, or replacement. If HRSD fails within a reasonable time, or refuses, to repair, replace, correct, reperform, or remove the Improvements as required by Dominion, Dominion may, in its sole discretion, repair, replace, correct, reperform, or remove any Improvements, retain a third party to repair, replace, correct, reperform, or remove any Improvements, or take other reasonable remedial action, and in such event, HRSD shall promptly refund to Dominion the portion of the Contract Price paid to HRSD for the milestone or milestones which incorporated the defective Improvements. Any repair, replacement, correction, or reperformance made pursuant to this Agreement will be warranted for the later of: (i) one (1) year after completion of such repair, replacement, correction, or reperformance, or (ii) the end of the original warranty period.

H. Insurance.

1. During the term of this Agreement, HRSD shall cause Design-Builder to obtain and maintain the policies of insurance set forth in Exhibit 7, incorporated by this reference, with responsible insurance carriers having a Best's Insurance Reports rate of "A-" or better and a financial size category of "IX" or higher or otherwise acceptable to Dominion. Payment of all insurance costs, deductible amounts, and/or self-insured retentions shall be Design-Builder's sole responsibility. Design-Builder shall also require each of its subcontractors to obtain and maintain insurance consistent with and covering the risks and perils for which provision is made in this Section I.H or ensure that its subcontractors are covered under Design-Builder's insurance policies. HRSD shall cause Design-Builder and its subcontractors to name Dominion as an additional insured on all such insurance policies. HRSD shall cause Design-Builder and its subcontractors to waive and shall cause its insurers to waive all rights against Dominion and its Affiliates, and

their directors, officers, and employees, whether in contract or tort (including negligence and strict liability) for recovery of losses or damages to the extent these losses or damages are covered by the insurance required by this Agreement. The insurance required by this Agreement will be amended to waive any rights by the insurer to subrogate against Dominion, its Affiliates, and their directors, officers, and employees.

I. Safety.

1. At any time when personnel of HRSD, Design-Builder, or any of its or their subcontractors is located on the Property, HRSD shall ensure that such personnel comply with Dominion’s safety program attached as **Exhibit 6**.

2. At any time when personnel of HRSD, Design-Builder, or any of its or their subcontractors is located on the Property, Dominion may issue a stop work directive (“**SWD**”) if: (a) there exists an actual or potential safety issue that is an imminent threat to persons or property or (b) a violation of any applicable laws or regulations has occurred or is reasonably likely to occur. The SWD shall be limited to stopping installation of the Improvements only to the extent reasonably necessary to prevent the circumstance giving rise to the SWD from becoming worse or threatening person(s) or property or violating any applicable law. Dominion shall permit HRSD to continue installation of the Improvements as needed to remedy the circumstance giving rise to the SWD and to continue installation of the Improvements not creating the circumstance giving rise to the SWD. Upon receipt of a SWD, HRSD and its subcontractors shall cease performance on any specified work to the extent stipulated by the SWD.

II. **NOTICES:** All notices required pursuant to the terms of this Agreement shall be deemed effective when delivered by hand-delivery, electronic mail, or certified mail, return receipt requested, postage prepaid, to DOMINION and to HRSD at the respective addresses shown below, or at such other addresses for such party as shall be specified by notice given hereunder:

Virginia Electric and Power Company	HRSD
c/o Jignesh Jain	c/o General Manager
5570 Hog Island Road	PO Box 5911
Surry, VA 23883	Virginia Beach, VA 23471
Email: jignesh.jain@dominionenergy.com	Email: jbernas@hrsd.com

With Copies to:

HRSD General Counsel:
Robyn Hansen, Attorney
Sands Anderson PC
4801 Courthouse Street, Suite 203
Williamsburg, VA 23188
Email: Rhansen@sandsanderson.com

And

Dominion General Counsel:
Dominion Energy Services, Inc.
120 Tredegar Street
Richmond, VA 23219
Attention: Peter A. Gambardella – Senior Counsel – Project Acquisition,
Development and Construction
Email: peter.a.gambardella@dominionenergy.com

- III. **ENTIRE AGREEMENT:** This Agreement, and any exhibits or attachments made hereto, represent the full agreement and understanding of the Parties hereto, there being no additional agreements written, oral or otherwise. This Agreement may be amended only by a writing signed by both Parties.
- IV. **AUTHORITY:** DOMINION and HRSD both warrant that they have permission and authority to execute and undertake this Agreement. This Agreement shall apply to, and be binding upon both Parties, their officers, Commissioners, agents, employees, successors, and assigns.
- V. **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.
- VI. **NO VIOLATION:** The execution of this Agreement by the Parties will not violate any covenant, condition, or contract to which the Parties hereto are subject at the time of execution.
- VII. **GOVERNING LAW; VENUE:** This Agreement shall be deemed to be a Virginia Contract and shall be governed as to all matters whether of validity, interpretations, obligations, performance or otherwise exclusively by the laws of the Commonwealth of Virginia, and all questions arising with respect thereto shall be determined in accordance with such laws. Regardless of where actually delivered and accepted, this contract shall be deemed to have been delivered and accepted by the Parties in the Commonwealth of Virginia.
- VIII. **ENFORCEMENT:** The failure of either Party to enforce the terms of this Agreement shall not be considered a waiver as to the enforceability of such

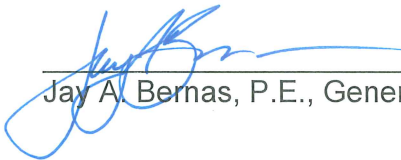
terms. If any provision of this Agreement is found to be unenforceable, the remainder of this Agreement shall remain in full force and effect.

- IX. FORCE MAJEURE:** 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 acts of God; labor strikes; war or terrorism; epidemics/pandemics; the actions of a third party; the actions of another Party; lockouts; or other events not reasonably within the control of the Party claiming force majeure. A Party experiencing a force majeure event that prevents fulfillment of a material obligation hereunder 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.
- X. 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.
- XI. 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 successors and assigns.
- XII. RESERVATION:** Except as expressly provided herein, nothing in this Agreement shall be construed to limit or otherwise affect the authority, rights, or responsibilities of the Parties.
- XIII. CONFLICTS:** In the event of any conflict between this Agreement and the Report or any Exhibit hereto, the following order of precedence shall apply: (i) this Agreement; (ii) the Exhibits to this Agreement; and (iii) the Report.

[Signatures on following page(s)]

IN WITNESS WHEREOF, the Hampton Roads Sanitation District (HRSD) Commission has caused this Agreement to be signed on its behalf by its General Manager in accordance with authorization granted at its regular meeting held on November 22, 2022.

HRSD:
HAMPTON ROADS SANITATION DISTRICT

By 
Jay A. Bernas, P.E., General Manager

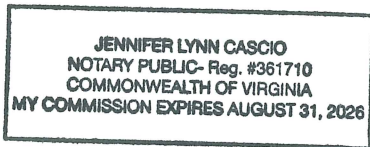
COMMONWEALTH OF VIRGINIA
CITY OF VIRGINIA BEACH, to-wit:

The foregoing instrument was acknowledged before me this 9th day of January, 2023, by Jay A. Bernas, P.E., General Manager, Hampton Roads Sanitation District. He is personally known to me or provided _____ as identification.


Notary Public

Notary#: 361710

My Commission expires: August 31, 2026



IN WITNESS WHEREOF, DOMINION has caused this Agreement to be signed on its by the following:

DOMINION :
Virginia Electric and Power Company

By: [Signature]
Name: Fred Mladen
Title: Site Vice President

COMMONWEALTH OF VIRGINIA
CITY/COUNTY OF Surry, to-wit:

The foregoing instrument was acknowledged before me this 9 day of January, 2023 by Fred Mladen, Site Vice President, of Virginia Electric and Power Company, on behalf of the company. He is personally known to me or provided VA DMV - License as identification.

[Signature]
Notary Public

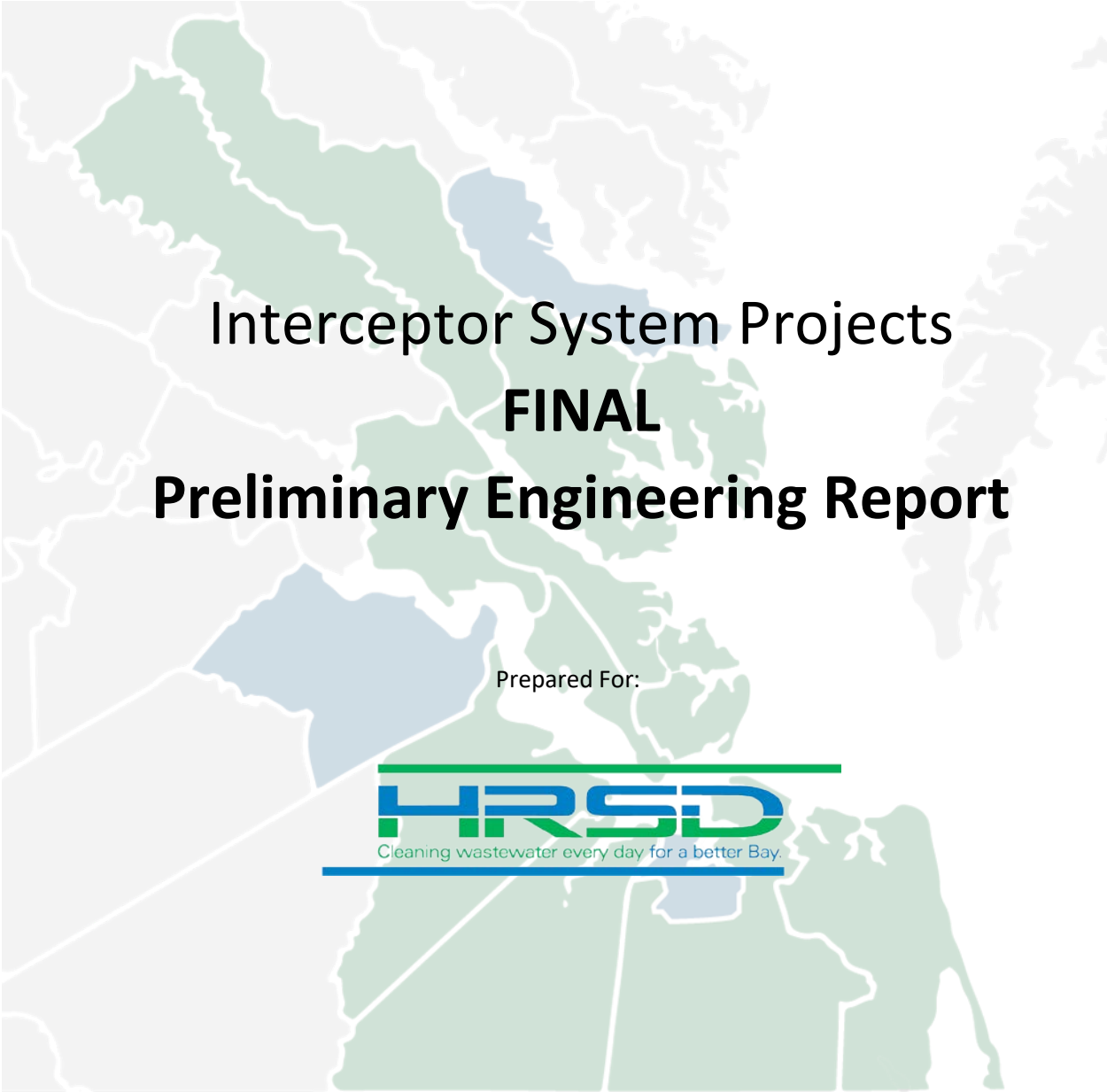
Notary#: 7766423

My Commission expires: 11-30-2026

PHILLISSIA M. CLINTON
NOTARY PUBLIC
REG. #7766423
COMMONWEALTH OF VIRGINIA
MY COMMISSION EXPIRES 11-30-2026

Exhibit 1: Final Preliminary Engineering Report, Dominion Energy Sewage Treatment Plant Pump Station and Force Main (SU010400)” dated February 2022 and prepared for HRSD by RK&K

[Provided separately due to file size; first page attached for identification purposes.]



Interceptor System Projects
FINAL
Preliminary Engineering Report

Prepared For:



HRSD
Cleaning wastewater every day for a better Bay.

Dominion Energy Sewage Treatment Plant
Pump Station and Force Main
(SU010400)



2901 South Lynnhaven, Suite 300
Virginia Beach, VA 23452
757-498-4123

February 2022

Exhibit 2



Exhibit 3

Schedule of Values

Preliminary Schedule Of Values
 Project Hog Island PS & FM
 Design Builder MEB General Contractors, Inc

Item	Description	Total Value	Previous Completed		Total Completed		Balance Value	
			%	To Date Value	This Period	To Date %		To Date Value
Design and Permitting Related Services								
A1	Prepare 30% Design	\$224,250	0.00%	\$0.00	\$0.00	0.00%	\$0.00	\$ 224,250
A2	Survey Field Services	\$90,750	0.00%	\$0.00	\$0.00	0.00%	\$0.00	\$ 90,750
A3	Geotechnical Services	\$90,000	0.00%	\$0.00	\$0.00	0.00%	\$0.00	\$ 90,000
A4	Cultural Resources	\$25,000	0.00%	\$0.00	\$0.00	0.00%	\$0.00	\$ 25,000
A5	Prepare 60% Design	\$252,767	0.00%	\$0.00	\$0.00	0.00%	\$0.00	\$ 252,767
A6	Prepare 90% Design	\$200,000	0.00%	\$0.00	\$0.00	0.00%	\$0.00	\$ 200,000
A7	Prepare 100% Design Construction Documents	\$60,000	0.00%	\$0.00	\$0.00	0.00%	\$0.00	\$ 60,000
B1	30% Builder Support During Design	\$69,625	0.00%	\$0.00	\$0.00	0.00%	\$0.00	\$ 69,625
B2	60% Builder Support During Design	\$81,900	0.00%	\$0.00	\$0.00	0.00%	\$0.00	\$ 81,900
B3	90% Builder Support During Design	\$45,750	0.00%	\$0.00	\$0.00	0.00%	\$0.00	\$ 45,750
B4	100% Builder Support During Design	\$27,875	0.00%	\$0.00	\$0.00	0.00%	\$0.00	\$ 27,875
Construction Phase Services								
C.	Engineering Services During Construction	\$536,254	0.00%	\$0.00	\$0.00	0.00%	\$0.00	\$ 536,254
D.	General Requirements, Bonds, Insurance, Mobilization/Demobilization	\$371,833	0.00%	\$0.00	\$0.00	0.00%	\$0.00	\$ 371,833
E	Easement Acquisition	\$300,835	0.00%	\$0.00	\$0.00	0.00%	\$0.00	\$ 300,835
F Construction Related Services								
Hog Island Force Main								
F1	Traffic Control	\$30,000	0.00%	\$0.00	\$0.00	0.00%	\$0.00	\$ 30,000
F2	6" FM Station 00+00 to 30+00	\$321,000	0.00%	\$0.00	\$0.00	0.00%	\$0.00	\$ 321,000
F3	6" FM Station 30+00 to 60+00	\$321,000	0.00%	\$0.00	\$0.00	0.00%	\$0.00	\$ 321,000
F4	6" FM Station 60+00 to 90+00	\$321,000	0.00%	\$0.00	\$0.00	0.00%	\$0.00	\$ 321,000
F5	6" FM Station 90+00 to 120+00	\$321,000	0.00%	\$0.00	\$0.00	0.00%	\$0.00	\$ 321,000
F6	6" FM Station 120+00 to 150+00	\$321,000	0.00%	\$0.00	\$0.00	0.00%	\$0.00	\$ 321,000
F7	6" FM Station 150+00 to 180+00	\$321,000	0.00%	\$0.00	\$0.00	0.00%	\$0.00	\$ 321,000
F8	6" FM Station 180+00 to 210+00	\$321,000	0.00%	\$0.00	\$0.00	0.00%	\$0.00	\$ 321,000
F9	6" FM Station 210+00 to 230+00	\$321,000	0.00%	\$0.00	\$0.00	0.00%	\$0.00	\$ 321,000
F10	6" FM Station 230+00 to 260+00	\$321,000	0.00%	\$0.00	\$0.00	0.00%	\$0.00	\$ 321,000
F11	6" FM Station 260+00 to 290+00	\$321,000	0.00%	\$0.00	\$0.00	0.00%	\$0.00	\$ 321,000
F12	6" FM Station 290+00 to 320+00	\$321,000	0.00%	\$0.00	\$0.00	0.00%	\$0.00	\$ 321,000
F13	6" FM Station 320+00 to 350+00	\$321,000	0.00%	\$0.00	\$0.00	0.00%	\$0.00	\$ 321,000
F14	Final Tie @ Mt. Ray PS	\$5,000	0.00%	\$0.00	\$0.00	0.00%	\$0.00	\$ 5,000
F15	Seeding/Restoration	\$50,000	0.00%	\$0.00	\$0.00	0.00%	\$0.00	\$ 50,000
F16	Pavement Repairs	\$40,000	0.00%	\$0.00	\$0.00	0.00%	\$0.00	\$ 40,000
F17	E&S Control	\$100,000	0.00%	\$0.00	\$0.00	0.00%	\$0.00	\$ 100,000
Hog Island Pump Station								
F18	Pump Building	\$320,000	0.00%	\$0.00	\$0.00	0.00%	\$0.00	\$ 320,000
F19	Pumps	\$125,000	0.00%	\$0.00	\$0.00	0.00%	\$0.00	\$ 125,000
F20	Electrical	\$200,000	0.00%	\$0.00	\$0.00	0.00%	\$0.00	\$ 200,000
F21	Slipwork	\$40,000	0.00%	\$0.00	\$0.00	0.00%	\$0.00	\$ 40,000
F22	Process Piping	\$125,000	0.00%	\$0.00	\$0.00	0.00%	\$0.00	\$ 125,000
F23	HVAC/Plumbing	\$60,928	0.00%	\$0.00	\$0.00	0.00%	\$0.00	\$ 60,928
F24	Controls	\$150,000	0.00%	\$0.00	\$0.00	0.00%	\$0.00	\$ 150,000
Mark-Up								
G	Overhead and Profit -5%	\$602,083	0.00%	\$0.00	\$0.00	0.00%	\$0.00	\$ 602,083
H	Easement Purchase Allocation	\$162,877	0.00%	\$0.00	\$0.00	0.00%	\$0.00	\$ 162,877
Total Original Contract		\$8,233,277	0.00%	\$0.00	\$0.00	0.00%	\$0.00	\$ 8,233,277

Exhibit 4

Form of Permanent Easement

[See attached.]

PREPARED BY AND RETURN TO:

[]
[]
[]
[]

Exempt from recordation taxes (Va. Code § 58.1-811(A)(3))

Tax ID: []

DEED OF EASEMENT

THIS DEED OF EASEMENT, made this ___ day of _____, [], by and between **VIRGINIA ELECTRIC AND POWER COMPANY, a Virginia public service corporation, doing business in the Commonwealth of Virginia as Dominion Energy Virginia, GRANTOR** (whether one or more) and **HAMPTON ROADS SANITATION DISTRICT, a political subdivision of the Commonwealth of Virginia, GRANTEE**, whose mailing address is: P.O. Box 5911, Virginia Beach, Virginia, 23471-0911.

WITNESSETH:

That for and in consideration of the sum of TEN AND 00/100 (\$10.00) DOLLARS and other good and valuable consideration, receipt of which is hereby acknowledged, **GRANTOR** does hereby grant and convey with SPECIAL WARRANTY OF TITLE, unto **GRANTEE**, its successors and assigns, forever, the perpetual non-exclusive right, privilege, easement, and right-of-way, hereinafter described, for the purpose of laying, erecting, constructing, operating, and maintaining underground wastewater and/or water reuse force mains and/or gravity mains together with above- and/or below-ground equipment, accessories, and appurtenances thereto, hereinafter called "Facilities," on, over, and under the lands of the **GRANTOR**, said Permanent Easement and Temporary Easements, each as defined below (collectively, the "Easement") being further described as follows:

- 1. The Permanent Easement: That certain permanent easement shown and designated as "[]"; as shown on that certain plat entitled, "[]", made by [], dated [] (the "Plat"), a copy of which Plat is attached hereto and made a part hereof, to which reference is hereby made.
- 2. The Temporary Easements: All those certain temporary easements shown and designated as:
 - (a) "[];" and
 - (b) "[];"

all as shown on the Plat, a copy of which Plat is attached hereto and made a part hereof, to which reference is hereby made; provided, that notwithstanding the foregoing, if construction of

the Facilities is not complete on or before the end of the Term (as defined below), then the Easement shall terminate and be void and of no further effect, and **GRANTEE** shall execute all such documentation as **GRANTOR** shall reasonably request to evidence the same, including such documentation as **GRANTOR** may reasonably deem necessary for recordation in the land records of the County in which the Easement is located.

The Easement is subject to the following conditions and provisions:

A. **GRANTEE** will apply for and obtain all construction permits and licenses required by law before beginning the construction of its Facilities. **GRANTEE** will apply for and obtain all operating permits and licenses required by law before operating its Facilities.

B. The Temporary Easements will expire and terminate on August 1, 2025 (as such date may be extended in accordance with this Section 2.B, the "Term"), and thereafter be of no further force and effect, unless the parties extend the Term by written mutual agreement executed prior to the expiration of the Term. Otherwise, termination shall be automatic, and **GRANTOR** and **GRANTEE** shall not be required to execute or record any further documentation to confirm the termination of the Temporary Easements.

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

D. Any disturbance of the land within the Easement by the **GRANTEE** or its contractor will be restored by the **GRANTEE** as nearly as practicable. This includes re-paving (to the extent allowed under the below-defined Environmental Laws), re-stripping roads and parking surfaces, repairing fences, backfilling of trenches, re-planting grass, reseeding, replacing or replanting landscaping, and removal of trash or debris. Landscaping will be replaced with immature trees, shrubs, and ground cover.

E. **GRANTEE** shall have the right to trim, cut and remove trees, shrubbery or other obstructions (with the exception of (i) **GRANTOR's** security fences and related security facilities, (ii) **GRANTOR's** service water pipes, and (iii) **GRANTOR's** underground electric lines) that interfere with or threaten the efficient and safe operation, construction and maintenance of said Facilities. All trees and limbs cut by **GRANTEE** shall remain the property of **GRANTOR**. All brush, branches, and other debris resulting from any cutting, trimming, or clearing by **GRANTEE** of said Easement shall be removed by **GRANTEE** from lands of **GRANTOR** for disposal. All brush, branches, and other debris resulting from any cutting, trimming, or clearing by **GRANTOR** within the Easement shall be removed from the Easement by **GRANTOR**.

F. Subject to **GRANTOR's** security protocols, provided for herein,

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

Prior to initial entry by **GRANTEE** on **GRANTOR'S** property to exercise any rights under the Easement, **GRANTEE** shall notify (including by e-mail) **GRANTOR**. **GRANTEE** acknowledges that **GRANTOR** is operating an electric power generation facility on **GRANTOR'S** property and that **GRANTOR** will take appropriate security precautions. Such precautions may include, but not be limited to, (1) having all personnel, contractors, or agents of **GRANTEE** who are to enter **GRANTOR'S** property be screened and approved by **GRANTOR'S** security team prior to their entry on **GRANTOR'S** property, (2) requiring all personnel, contractors, or agents of **GRANTEE** who are to enter **GRANTOR'S** property to wear an identification badge provided by **GRANTOR** while on **GRANTOR'S** property, and (3) having a security escort from **GRANTOR** present during any construction, maintenance, or repairs within the Easement.

Submittals made by **GRANTEE** in connection with this paragraph shall be sent by (i) registered or certified mail, return receipt requested, (ii) hand delivery or (iii) a nationally recognized overnight courier service for next business day delivery to **GRANTOR** at: [____], with a copy to: [____], or by e-mail to **GRANTOR'S** Generation Property Manager or such other authorized representative of **GRANTOR**.

Notwithstanding the requirement in this paragraph F above to obtain **GRANTOR'S** prior written approval before entering **GRANTOR'S** property, in emergency situations where **GRANTEE'S** failure to act poses an imminent risk of danger to the health, safety or welfare of the general public, **GRANTEE** may obtain **GRANTOR'S** verbal permission to enter **GRANTOR'S** property to repair **GRANTEE'S** Facilities without obtaining **GRANTOR'S** prior written approval as set forth above.

In emergency situations, the following protocol shall be observed: (i) **GRANTEE** shall notify **GRANTOR** of the nature of the emergency and the proposed repairs by calling **GRANTOR'S** Generation Project Manager, [____] at [____], (ii) **GRANTOR'S** Generation Project Manager shall promptly notify the appropriate **GRANTOR** field representative of the emergency situation, (iii) depending upon the nature of the emergency, **GRANTOR'S** field representative shall promptly call **GRANTEE'S** field representative at the telephone number given to **GRANTOR'S** Generation Project Manager, or meet **GRANTEE'S** field representative at the site of the emergency, or both, (iv) **GRANTEE** may initiate any repairs verbally approved by **GRANTOR'S** field representative, provided that **GRANTEE** takes reasonable measures to mitigate any potential interference with **GRANTOR'S** operations and to protect **GRANTOR'S** facilities, employees, and the general public

G. **GRANTOR**, its successors and assigns, may use said Easement for any purpose not inconsistent with the rights hereby granted, provided such use does not interfere with the safe and efficient construction, operation or maintenance of said Facilities, and further provided that such use is not inconsistent with any laws, ordinances

or codes pertaining to the construction, operation or maintenance of said Facilities. **GRANTOR** shall not place any additional permanent improvements within the Easement without permission of **GRANTEE**, or its successors, including but not limited to houses, buildings, pools, sheds, signs, or similar permanent structures. **GRANTOR** may install fences, driveways, pavement (to the extent allowed under the Environmental Laws) and landscaping (trees and shrubs shall be varieties that will not exceed 20 feet tall at maturity). **GRANTOR** shall have the right, upon reasonable advance notice to **GRANTEE**, to carry out reasonable inspections of the Facilities within the Easement to ensure that the Facilities do not interfere either with **GRANTOR's** existing improvements within the Easement or the operations of **GRANTOR's** Surry Power Station.

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

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

J. **GRANTOR** makes no representations or warranties, express or implied, with respect to the condition of the property that is subject to the Easement, and **GRANTEE** accepts the Easement, AS IS, in its present physical condition. **GRANTEE** acknowledges that **GRANTOR** has, within and around the Easement, certain underground facilities, including underground high-voltage electric lines. **GRANTEE** will exercise all appropriate precautions when working within the Easement, and shall not damage **GRANTOR's** facilities within the Easement.

K. To the extent permitted by law, and conditioned upon and to the extent of its insurance coverage, and without **GRANTEE** waiving any right of sovereign immunity, **GRANTEE** agrees to protect, defend, and hold **GRANTOR**, its employees, and agents, harmless from and against all claims, actions, losses, damages, costs, expenses, and liabilities arising out of injury to or death of any person or loss or damage to any property in or upon the Easement or **GRANTOR's** contiguous area or the James River, including the person or property of **GRANTOR**, its employees, agents, licensees, or others, to the extent such injury, death, loss, or damage is caused by the acts or omissions of **GRANTEE**, its agents, or employees. The foregoing responsibility shall not apply to any claims, actions, losses, damages, costs, expenses, and liabilities arising from any act or omission of **GRANTOR**, its agents, employees, or licensees. For so long as the Facilities remain on the Easement, **GRANTEE** shall maintain insurance coverage consistent with its prior practice and in an amount that a reasonable and prudent provider of services similar to those provided by **GRANTEE** would maintain.

L. **GRANTEE** will be solely responsible for monitoring the quantity and quality of the effluent being transported through and discharged by the Facilities. **GRANTEE** will be solely responsible for ensuring that the Facilities and all discharges therefrom comply with all Environmental Laws (as defined below).

M. To the extent permitted by law, and conditioned up and the extent of its insurance coverage, and without Grantee waiving any right of sovereign immunity, **GRANTEE** hereby assumes liability for, and hereby agrees to pay, protect, defend (at trial and appellate levels and with attorneys, consultants and experts acceptable to **GRANTOR**), hold **GRANTOR** harmless from and against any and all liens, damages (including, without limitation, punitive or exemplary damages), losses, liabilities (including, without limitation, strict liability), obligations, settlement payments, penalties, fines, assessments, citations, directives, claims, litigation, demands, defenses, judgments, suits, proceedings, costs, disbursements and expenses of any kind or of any nature whatsoever (including, without limitation, reasonable attorneys', consultants' and experts' fees and disbursements actually incurred in investigating, defending, settling or prosecuting any claim, litigation or proceeding) (collectively "Costs") which may at any time be imposed upon, incurred by or asserted or awarded against **GRANTOR** its employees, and agents, and arising directly or indirectly from or out of, whether now, hereafter or heretofore occurring: (i) any violation or alleged violation of or liability or alleged liability under, any local, state or federal law, rule or regulation or common law duty pertaining to human health, natural resources or the environment, including, without limitation the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (42 U.S.C. §9601 et seq.) ("CERCLA"), the Resource Conservation and Recovery Act of 1976 (42 U.S.C. § 6901 et seq.), the Federal Water Pollution Control Act (33 U.S.C. §1251 et seq.), the Clean Air Act (42 U.S.C. §7401 et seq.), the Emergency Planning and Community-Right-to-Know Act (42 U.S.C. §11001 et seq.), the Endangered Species Act (16 U.S.C. §1531 et seq.), the Toxic Substances Control Act (15 U.S.C. §2601, et seq.), the Occupational Safety and Health Act (29 U.S.C. §651 et seq.) and the Hazardous Materials Transportation Act (49 U.S.C. §1801 et seq.), and those relating to Lead Based Paint (as hereinafter defined) and the regulations promulgated pursuant to said laws, all as amended from time to time (collectively, "Environmental Laws"), relating to or affecting the **GRANTEE's** use of the Easement; (ii) the presence, release or threat of release of or exposure to any hazardous, toxic or harmful substances, wastes, materials, pollutants or contaminants (including, without limitation, asbestos or asbestos-containing materials, polychlorinated biphenyls, petroleum or petroleum products or byproducts, flammable explosives, radioactive materials, paint containing more than .05% lead by dry weight ("Lead Based Paint"), Toxic Mold (as hereinafter defined), infectious substances or raw materials which include hazardous constituents) or any other substances or materials which are included under or regulated by Environmental Laws (collectively, "Hazardous Substances") or radon, on, in, under or affecting all or any portion of the Easement; (iii) any transport, treatment, recycling, storage, disposal or arrangement therefor of Hazardous Substances whether on the Easement, originating from the Easement, or otherwise associated with the **GRANTEE's** operations conducted on the Easement at any time; or (iv) any environmental investigation, assessment, audit or review conducted in connection with the Easement or the operations conducted at any time thereon, including, without limitation, the cost of assessment, investigation, containment, removal and/or remediation of any and all Hazardous Substances from all or any portion of the Easement or any surrounding areas, the cost of any actions taken in response to the presence, release or threat of release of any Hazardous Substances on, in, under or affecting any portion of the Easement or any surrounding areas (including the James River) to prevent or minimize such release or threat of release so that it does not migrate or otherwise cause or threaten danger to present or future public health, safety, welfare or the environment,

and costs incurred to comply with Environmental Laws in connection with all or any portion of the Property or any surrounding areas. "Costs" as used in this Deed of Easement shall also include, but not be limited to, any diminution in the value of the security afforded by **GRANTOR's** underlying property or any future reduction of the sales price of **GRANTOR's** underlying property by reason of any matter set forth in this paragraph M. For the purposes hereof, "Toxic Mold" shall mean any mold or fungus within the Easement which is of a type (i) that might pose a significant risk to human health or the environment or (ii) that would negatively impact the value of **GRANTOR's** underlying property.

WITNESS the following signatures and seals, all as of the day and year first above written.

[SIGNATURES APPEAR ON FOLLOWING PAGES]

THIS SIGNATURE PAGE IS PART OF THE DEED OF EASEMENT BETWEEN THE HAMPTON ROADS SANITATION DISTRICT AND VIRGINIA ELECTRIC AND POWER COMPANY

GRANTOR:

VIRGINIA ELECTRIC AND POWER COMPANY,
a Virginia public service corporation, doing
business in Virginia as Dominion Energy Virginia

By: _____

Its: _____

COMMONWEALTH OF VIRGINIA,

CITY/COUNTY OF _____, to-wit:

The foregoing instrument was acknowledged before me this ____ day of _____, 20__, by _____ the _____ of Virginia Electric and Power Company, a Virginia public service corporation, doing business in Virginia as Dominion Energy Virginia, for and on behalf of Virginia Electric and Power Company.

My comm. expires: _____

Notary Public Registration No: _____

THIS SIGNATURE PAGE IS PART OF THE DEED OF EASEMENT BETWEEN THE HAMPTON ROADS SANITATION DISTRICT AND VIRGINIA ELECTRIC AND POWER COMPANY

GRANTEE:

HAMPTON ROADS SANITATION DISTRICT, a political subdivision of the Commonwealth of Virginia

By: _____

Its: _____

COMMONWEALTH OF VIRGINIA,

CITY/COUNTY OF _____, to-wit:

The foregoing instrument was acknowledged before me this ____ day of _____, 20__, by _____ of Hampton Roads Sanitation District, a political subdivision of the Commonwealth of Virginia, for and on behalf of Virginia Electric and Power Company.

My comm. expires: _____

Notary Public Registration No: _____

REV. 1/99

Exhibit 5

Schedule

[See attached.]

Surry Dominion Pump Station and Force Main Design-Build Schedule	Duration (Months)	2021					2022					2023					2024					2025															
		J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D
Preliminary Engineering (NTP June 2, 2021)	8																																				
Design and Construction Total	30																																				
Design (NTP June 1, 2022)	13																																				
Preliminary Easement Work to Obtain Right of Entry	3																																				
Fieldwork (survey, geotechnical)	4																																				
Easements (Dominion, Private Owners, VA DWR)	12																																				
60% Design (without final survey) ³	4																																				
Permitting (Surry Co., VDOT, DEQ, ACOE) ¹	10																																				
90% Design	3																																				
Final Design/Construction Ready Documents	2																																				
Construction	23																																				
Preconstruction (Submittals & Equipment Procurement) ²	8																																				
Pump Station Construction	8																																				
Force Main Construction	14																																				
Startup & Closeout	2																																				

Notes:

1. Permitting as required to meet the ACOE Preliminary Jurisdictional Determination. In the event the permitting requires additional archeological investigations, this duration will be extended.
2. Reflects ordering long lead time materials at 60% design.
3. 60% design will reflect the use of available topographic augmented with minimal field survey.
4. This preliminary schedule as provided is based on known assumptions at the time and is not contractually binding.

Exhibit 6

Dominion Safety Program

[See attached.]

**SUPPLEMENTAL TERMS AND CONDITIONS
ON-SITE SERVICES, NUCLEAR**

Rev. 01-31-19

These Supplemental Terms and Conditions, On-Site Services, Nuclear (“Supplemental Terms and Conditions”) are incorporated into the Agreement to which they are attached. These Supplemental Terms and Conditions apply to Supplier Personnel whenever Supplier Personnel have physical access to Purchaser’s Premises. Supplier shall be liable for any breach of these Supplemental Terms and Conditions by Supplier’s Personnel. Unless otherwise noted, it is Supplier’s responsibility to perform all tasks and ensure conformance with all provisions set forth below. Unless otherwise expressly provided by a provision of the Agreement that takes precedence over these Supplemental Terms and Conditions, Supplier’s obligations to comply with the terms hereof shall be at Supplier’s expense.

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PART ONE – DEFINITIONS

All capitalized terms herein, unless otherwise defined below, have the meaning ascribed to them in the Agreement or as defined by the U.S. Nuclear Regulatory Commission (“NRC”).

(i) “Environmental Laws” means any and all applicable federal, foreign, state, and local laws, treaties, ordinances, codes, rules and regulations, judgments, decrees, injunctions, writs and orders, in effect from time to time, of any arbitrator or governmental authority, including all Environmental Permits, industry codes and standards, and all other generally recognized building and safety standards governing performance of the Work relating to actual or potential effects on human health, wildlife, safety, or the environment of the activities under this Agreement, the disposal of materials, the discharge or release of chemicals, gases, or other substances or materials into the environment, or the presence of such materials, chemicals, gases, or other substances including the Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. Section 9601 et seq.; the Federal Insecticide, Fungicide and Rodenticide Act, 7 U.S.C. Section 136 et seq.; the Resource Conservation and Recovery Act, 42 U.S.C. Section 6901, et seq.; the Toxic Substances Control Act, 15 U.S.C. Section 2601 et seq.; the Clean Air Act, 42 U.S.C. Section 7401 et seq.; the Federal Water Pollution Control Act, 33 U.S.C. Section 1251 et seq.; the Oil Pollution Act, 33 U.S.C. Section 2701 et seq.; the Endangered Species Act, 16 U.S.C. Section 1531 et seq.; the Migratory Bird Treaty Act, 16 U.S.C. Section 703 et seq.; the Bald and Golden Eagle Protection Act, 16 U.S.C. 668 et seq.; the National Environmental Policy Act, 42 U.S.C. Section 4321 et seq.; the Occupational Safety and Health Act (OSHA), 29 U.S.C. Section 651 et seq.; the Homeland Security Appropriations Act of 2007, 109 P.L. 295; 120 Stat. 1355; the Hazardous Materials Transportation Act, 49 U.S.C. Section 5101 et seq.; the Safe Drinking Water Act, 42 U.S.C. Section 300f et seq.; Emergency Planning and Community Right-to-Know Act, 42 U.S.C. Section 11001 et seq.; and their state, tribal, and local counterparts or equivalents and regulations issued pursuant to any of those statutes.

(ii) “Environmental Permits” means all permits, licenses, approved plans, contracts, filings, authorizations or approvals required by or entered into with any governmental authority in connection with the proper conduct, performance, and completion of the Work required by Environmental Laws including but not limited to all air emission permits, water discharge permits, land disturbance permits, erosion and sediment control permits, storm water management permits and wetlands permits.

(iii) “Hazardous Waste” means any and all “hazardous waste,” as defined in any Environmental Laws.

(iv) “Non-Hazardous Waste” means any “solid waste,” “residual waste,” or other waste that is not a “Hazardous Waste” as those terms are defined under Environmental Laws.

(v) “Purchaser” means Virginia Electric and Power Company, a Virginia public service corporation.

(vi) “Purchaser’s Environmental Compliance Coordinator” means the individual designated by Purchaser for environmental compliance matters.

(vii) “Purchaser’s Premises” means any property, project site or facility owned or controlled by Purchaser or any of its Affiliates.

(viii) “Supplier” means the Design-Builder, as defined in the agreement to which these Supplemental Terms and Conditions are attached.

(ix) “Supplier Personnel” means Supplier and Supplier’s Subcontractors of whatever tier, and Supplier’s and Supplier’s Subcontractors’ personnel and visitors.

PART TWO – SAFETY AND OTHER ONSITE REQUIREMENTS

1. Scope and Regulatory Requirements

(a) The safety and other onsite requirements in these Supplemental Terms and Conditions are not all-inclusive, and are intended to supplement, not supplant, the safety requirements contained in (i) federal, state, and local laws, regulations, rules, orders, and ordinances, (ii) Supplier's own safety requirements, (iii) the safety requirements of any Subcontractor, or (iv) any additional site-specific safety requirement provided by Purchaser (the safety requirements contained in (i), (ii), (iii), and (iv) above are jointly the "Safety Requirements"). Purchaser reserves the right to include applicable sections from the Purchaser Safety Resource Manual in this contract when necessary. In the event of any conflict among the provisions of the Safety Requirements or between the Safety Requirements and the Purchaser Safety Resource Manual, Supplier shall abide by the most stringent provision.

(b) The provisions of Parts 20, 21, 26, 50, and 73 of Title 10 of the Code of Federal Regulations ("CFR"), as further implemented by Nuclear Energy Institute ("NEI") publication NEI03-01 "Nuclear Power Plant Access Authorization Program" are applicable to the Work. Supplier shall comply with such provisions as required by law. Effective August 1, 2009, Purchaser will implement, and Supplier shall comply with the requirements of 10 CFR Part 26, Subpart I ("Managing Fatigue") promulgated by the NRC on March 31, 2008.

2. Security

(a) General Policy. Purchaser may provide such security as it deems necessary and may specify to Supplier such additional security precautions and procedures to be followed by Supplier at Purchaser's Premises as Purchaser deems necessary for the safety and security of Purchaser's personnel and property and for Supplier's Personnel and property. Purchaser will not be liable or responsible for any loss or damage to Supplier's or its Subcontractors' tools and materials, except to the extent that the same is caused by Purchaser's gross negligence or willful misconduct.

(b) Restrictions. Purchaser prohibits the use, possession or sale of alcoholic beverages, illegal or illicit drugs, or other intoxicants, impairing prescription or impairing over the counter/non-prescription drugs ("Banned Substances") on Purchaser's Premises or in connection with the Work. Supplier Personnel shall not bring any Banned Substances onto Purchaser's Premises nor be allowed to perform any Work while under the influence of Banned Substances. Furthermore, the abuse of prescription or non-prescription drugs that adversely affects any person's ability to perform his or her duties is prohibited. Purchaser reserves the right to prohibit any person that Purchaser's personnel reasonably believe to be violating this policy from performing the Work and to exclude any such person from Purchaser's Premises. Purchaser may notify law enforcement authorities of any suspected criminal violation concerning possession and use of Banned Substances. Supplier shall require Supplier Personnel performing the Work to comply with the foregoing policy. Supplier Personnel shall not bring onto Purchaser's Premises any items that could be used for industrial or radiological sabotage, including without limitation any weapons, parts of weapons, ammunition, explosives, incendiary devices, or other such implements, not necessary to perform the Work. Purchaser may prohibit the possession of digital or other photographic equipment, including but not limited to mobile phones, in the Protected Area of Purchaser's Premises unless specifically authorized by Purchaser for the performance of the Work. The "Protected Area" of Purchaser's Premises is a specifically designated area encompassed by physical barriers and to which access is controlled. The Owner Controlled Area ("OCA") means all parts of Purchaser's Premises outside of a Protected Area.

(c) Duty to Assist. Supplier shall assist Purchaser in carrying out all security measures and in reporting all information or knowledge of matters adversely affecting security to a representative designated by Purchaser (“Purchaser’s Security Representative”).

(d) Searches. Purchaser may search any person and personal possessions brought onto Purchaser’s Premises at any time. Such searches may be scheduled or unannounced and may include but are not limited to, lockers, desks, lunchboxes, packages and motor vehicles (regardless of ownership) located on Purchaser’s Premises. The results of such searches of Supplier’s personnel may be reported to Supplier and to public authorities as Purchaser deems appropriate. Purchaser may deny access to Purchaser’s Premises to any person refusing such a search. Any items discovered, which in the opinion of Purchaser’s personnel appear to be prohibited, may be seized by Purchaser until Purchaser has determined to its satisfaction that the item in question is not prohibited. Supplier shall direct Supplier Personnel not to bring unnecessary personal property onto Purchaser’s Premises.

(e) Duty to Publicize. Supplier shall ensure that Supplier Personnel are informed of and comply with Purchaser’s security policies and instruct Supplier Personnel to cooperate in all applicable security measures including, without limitation, consent to searches.

3. Owner Controlled Area Access

(a) Identification. All persons requiring access to Purchaser’s Premises must produce an official, valid, and current government-issued photo identification upon arrival. Acceptable forms of identification include a driver’s license, passport, military, or any other municipal, state, or federal government-issued photo identification that reasonably establishes the applicable person’s identity. Foreign nationals must provide passports, work visas, resident alien cards, and other such documentation that positively establishes that person’s legal right to work in the United States. Failure to provide proper identification may result in denial of Supplier Personnel access to Purchaser’s Premises at Supplier’s expense. Purchaser may take into account any national security threat level conditions in authorizing or conditioning any person’s access to Purchaser’s Premises.

(b) Site Access. Site access shall be coordinated through Purchaser’s Security Representative using the established nuclear access form at least five business days prior to arrival. Supplier Personnel who require site access for 30 days or more will be subject to a background check. Purchaser reserves the right, in its sole discretion and without notice or cause, to deny access to or expel from Purchaser’s Premises any person with no expense or cost to be charged to Purchaser.

(c) Vehicle Access. Access to Purchaser’s Premises for vehicles, machinery, and equipment is limited to those required to perform the Work. Vehicles owned or operated by Supplier Personnel and Supplier-owned vehicles (“Supplier Vehicles”) not directly involved in the Work must be parked in the designated parking area. Access to Purchaser’s Premises will be as designated by Purchaser’s Security Representative. Purchaser vehicle passes are required for Supplier Vehicle access to any Purchaser’s Premises. The pass shall be prominently displayed at all times. Supplier Vehicles on Purchaser’s Premises must be secured in accordance with Purchaser security policy when not in use. All Supplier Vehicles must be in good repair (no leaks or defective equipment) and operators of all Supplier Vehicles must obey all posted speed limits on Purchaser’s Premises.

(d) Background Investigations - Release of Records. Purchaser, alone or in cooperation with law enforcement officials, may conduct background or other investigations of Supplier Personnel. Supplier shall cooperate in such investigations and shall require any such of Supplier Personnel to authorize appropriate agencies to release their criminal records to Purchaser as a condition for access to Purchaser’s Premises.

4. Identification Badges

Purchaser may issue identification badges to Supplier Personnel as deemed appropriate by Purchaser for access to Purchaser's Premises. At the completion of the Work, or upon termination of any Supplier Personnel in connection with the Work, Supplier shall follow Purchaser's check out procedures for such Supplier Personnel and return all badges issued by Purchaser to such Supplier Personnel to Purchaser's Security Representative.

5. Requirements for Obtaining Unescorted Access Authorization

(a) Overview. If Supplier Personnel are required to obtain unescorted access authorization ("UAA") to Purchaser's Premises, Supplier shall comply with all of Purchaser's nuclear access requirements, which may be modified and revised from time to time. A copy of such nuclear access requirements will be provided to Supplier upon request. The suitability of Supplier Personnel for UAA to Purchaser's Premises will be determined through screening, testing, and observation. Screening for UAA must meet the requirements of NEI 03-01 "Nuclear Power Plant Access Authorization Program" and Purchaser's nuclear access authorization program. The purpose of the UAA program is to ensure the trustworthiness, reliability, and mental fitness of Supplier Personnel seeking UAA to Purchaser's Premises.

(b) Supplier Screening Options. If Supplier will badge 20 or more Supplier Personnel for UAA, Purchaser may require that Supplier screen Supplier Personnel, as specified by Purchaser. If Supplier will badge fewer than 20 Supplier Personnel for UAA, Purchaser will perform all required background screening. Any screening by Supplier of Supplier Personnel is subject to Purchaser's review and acceptance of Supplier's screening program. If Supplier screens Supplier Personnel, all documentation required for granting Supplier Personnel UAA must be completed and delivered to Purchaser's Nuclear Access Services department ("Nuclear Access Services") prior to the screened Supplier Personnel arriving at Purchaser's Premises for unescorted access. If Purchaser screens Supplier Personnel, Supplier shall provide Nuclear Access Services all required documentation for completion of such screening for UAA. Unless otherwise specified by Purchaser, all required documentation, including work schedules as described in the Scheduling of Work Section, must be completed and delivered to Nuclear Access Services at least ten days prior to the scheduled in-processing date for such Supplier Personnel. In any case, if Supplier Personnel arrive at Purchaser's Premises prior to Purchaser's receipt of the required documentation, Purchaser will have no obligation to pay for any time or expenses relating to such Supplier Personnel prior to Purchaser's receipt of the required documentation.

Send documentation to:

For Surry, North Anna, and Kewaunee
Dominion Energy Services, Inc.
Nuclear Access Services
Innsbrook Technical Center
5000 Dominion Blvd.
Glen Allen, VA 23060
Attn: Nuclear Access Services
Fax Number (804) 273-3690

For Millstone

Dominion Energy Nuclear Connecticut, Inc.
Nuclear Access Services
Rope Ferry Road (Route 156)
Waterford, CT 06385
Attn: Access Programs and FFD
Fax Number (860) 444-4378

(c) Screening Requirements. Neither party may initiate any element of the UAA program, including fitness for duty (“FFD”) testing for Banned Substances, without the knowledge and written consent of the affected Supplier Personnel. The affected Supplier Personnel shall be informed of the types of records that may be produced and retained, where such records will be maintained, and the duration for which such records will be retained. The affected Supplier Personnel shall also be informed of their right to review the information to assure its accuracy and completeness. Any affected Supplier Personnel may withdraw their request for UAA at any time.

(d) Authorization Categories. The requirements for UAA are separated into the following authorization categories: Initial UAA, Updated UAA, and Reinstatement of UAA.

- (i) Initial Authorization. All Supplier Personnel applying for Initial UAA must: (A) undergo a background investigation covering the previous three years (or since the 18th birthday if the individual is younger than 21 years of age); (B) complete a personal history questionnaire and self-disclosure statement; (C) submit to a verification of his or her identity, previous and current employment with suitable inquiry (including education in lieu of employment and military service as employment), a credit check, a character and reputation check (including a psychological evaluation), a FBI criminal history check, and pre-access test for Banned Substances; and (D) complete Purchaser-required plant access training prior to being granted UAA.
- (ii) Updated Authorization. An Updated UAA is required prior to granting UAA for any Supplier Personnel who last held UAA that was terminated under favorable conditions more than 365 days, but less than three years, from the date of application for UAA. All elements required under Initial UAA must be met and updated to cover the time since the previous UAA investigation.
- (iii) Reinstatement Authorization (31 to 365 Days). A Reinstatement of UAA (31 to 365 Days) is required for individuals who last held UAA that was terminated under favorable conditions within the past 31 - 365 days. Reinstatement of UAA (31 to 365 Days) requirements include verification of identity, completion of a Personal History Questionnaire and self-disclosure statement, verification of employment with suitable inquiry (including education in lieu of employment and military service as employment) since the last UAA granted to that person, and successful completion of testing for Banned Substances.
- (iv) Reinstatement Authorization (30 Days or Less). A Reinstatement of UAA (30 Days or Less) is required for individuals who currently hold a valid UAA or had a valid UAA at a nuclear facility that was terminated under favorable conditions within the previous 30 days. Reinstatement of UAA (30 Days or Less) requirements include verification of identity, a self-disclosure statement, and random pre-access testing for Banned Substances.

(e) Verification of Identity. Identity will be verified by comparing official, valid, and current government issued photo identification with the physical characteristics of the applicable Supplier Personnel.

(f) Psychological Evaluation. The standardized psychological evaluation will include an assessment to determine whether the applicable Supplier Personnel has any mental health condition that may cause a significant defect in that person's trustworthiness, reliability, or judgment, including such defects that may result from the use of illegal drugs or other intoxicants, the abuse of prescription or non-prescription drugs, or the use of alcohol to excess.

(g) FBI Criminal History Check. The FBI Criminal History Check is a fingerprint and background check meeting the requirements in 10 CFR 73.57. Fingerprinting of Supplier Personnel will be completed by Purchaser or another NRC licensee. The fingerprints will be submitted to the FBI to obtain a criminal history record check. Supplier Personnel may review the contents of their criminal records check for the purpose of assuring correct and complete information prior to final action being taken by Purchaser based upon adverse information contained within the record.

(h) Behavior Observation Program ("BOP"). Supplier Personnel applying for UAA shall participate in an NRC licensee-approved BOP. If Supplier is an NRC licensee, then Supplier shall administer its NRC licensee-approved BOP program for Supplier Personnel.

(i) Self Reporting. Supplier shall instruct Supplier Personnel with UAA to report the following to Purchaser's Security Representative and to their own supervisor on the first working day following the applicable incident and any failure to do so may result in denial or revocation of UAA:

- (i) Any arrest for criminal or statutory offenses except for minor traffic violations, but including reckless driving;
- (ii) Any conviction for a felony or misdemeanor;
- (iii) The legitimate use of prescription or non-prescription drugs that may adversely affect ability to perform;
- (iv) Other factors, such as mental stress, fatigue, or illness which may affect fitness for duty, or impairment of any nature that may constitute a risk to public health or safety;
- (v) Any threats or actions that may be intended to cause harm to Purchaser or co-workers;
- (vi) Any unusual or suspicious behavior that may appear adverse to the safe operation and security of Purchaser's Premises;
- (vii) Driver controllable vehicle accidents;
- (viii) Accidents resulting in personal injury, property damage, a radiation exposure or release of radioactivity in excess of regulatory limits, or actual or potential substantial degradation of the level of safety of Purchaser's Premises if there is reasonable suspicion that the individual's behavior contributed to the event; and
- (ix) Any observed actual or potential degradation of safety whether or not an accident has occurred.

(j) Annual Supervisor Review. Supplier or its Subcontractor (if applicable) shall conduct a supervisory review on an annual basis for all Supplier Personnel with UAA. Purchaser's Security Representative shall evaluate Supplier or Subcontractor supervisory review to determine if additional action is required concerning Supplier Personnel trustworthiness, reliability, or mental fitness.

(k) Reinvestigations. Reinvestigations at intervals not exceeding five years (three years for Critical Group Personnel) shall be conducted on all Supplier Personnel holding UAA. The reinvestigation shall include a review of criminal and credit history records. Psychological evaluations shall be conducted every five years on Supplier Critical Group Personnel. Critical Group Personnel are those who:

- (i) have extensive knowledge of defensive strategies and design and/or implementation of the Purchaser's Premises defense strategies. The positions include, but are not limited to:
 - (A) Site security supervisors,
 - (B) Site security managers,
 - (C) Security training instructors,
 - (D) Corporate security managers;
- (ii) are in a position to grant an applicant unescorted access or unescorted access authorization, including site access authorization managers;
- (iii) are assigned a duty to search for contraband or other items that could be used to commit radiological sabotage (i.e., weapons, explosives, incendiary devices);
- (iv) have access, extensive knowledge, or administrative control over Purchaser's Premises digital computer and communication systems and networks as identified in 10 CFR 73.54, Purchaser's Premises network system administrators and IT personnel who are responsible for securing Purchaser's Premises networks; or
- (v) are qualified for and assigned duties such as : armed security officers, armed responders, alarm station operators, response team leaders, and armorers as defined in the Purchaser's Physical Security Plan; and reactor operators, senior reactor operators and non-licensed operators. Non-licensed operators include those individuals responsible for the operation of Purchaser's Premises systems and components, as directed by a reactor operator or senior reactor operator. A non-licensed operator also includes individuals who monitor Purchaser's Premises instrumentation and equipment and principally perform their duties outside of the control room.

(l) Evaluation Criteria for UAA. Purchaser may use any and all information collected pursuant to this Requirements for Obtaining Unescorted Access Authorization Section as a basis for determining initial or continued suitability of UAA. Willful omission or falsification of any information will be grounds for denial of UAA. Supplier Personnel denied UAA will be given the opportunity to appeal the decision. Purchaser shall provide Supplier with documentation detailing the appeals process.

(m) Records and Protection of Information. Supplier shall provide to Purchaser all records pertaining to UAA granted to Supplier Personnel and will have the right to retain all such records following any termination of UAA. Suppliers who collect personal information for the purpose of

processing UAA shall establish and maintain procedures to protect all Supplier Personnel personal information.

(n) Evaluations and Audits. Purchaser or its designated representative will have the right to conduct annual audits of Supplier's UAA programs to ensure compliance with applicable laws and regulations and with these Supplemental Terms and Conditions. Suppliers conducting UAA programs for Supplier Personnel shall perform an annual internal audit of such UAA programs to ensure compliance with applicable laws and regulations and with these Supplemental Terms and Conditions. Suppliers shall likewise audit all third parties providing investigative services in support of the access authorization requirements described herein.

(o) Supplier Responsibilities and Requirements. Supplier shall report to Purchaser all derogatory information reported by any Supplier Personnel undergoing a background check or discovered during the background investigation. Supplier shall notify Purchaser immediately if any Supplier Personnel authorized for UAA is terminated unfavorably or no longer requires UAA. Supplier shall ensure that Supplier Personnel who are denied access at any of Purchaser's Premises or any other NRC-licensee's facilities for violations of a UAA program Fitness for Duty ("FFD") policy will not be assigned to work for Purchaser without Purchaser's knowledge and written consent. Supplier shall confirm the identity and employment eligibility and complete and retain an NRC Form I-9 for all Supplier Personnel. Supplier shall confirm Supplier Personnel employment eligibility through the Department of Homeland Security Bureau of Citizenship and Immigration.

6. Fitness for Duty

Supplier shall comply with and require all Supplier Personnel to comply with Purchaser's FFD program as set forth in this Section 6 - Fitness for Duty Section. Supplier Personnel shall report to Purchaser's Premises fit to perform their duties in a reliable and trustworthy manner, with no detectable presence of Banned Substances, on their person or property, and free of any impairment from fatigue or any other cause that in any way might adversely affect their ability to safely and competently perform their duties. Purchaser may require Supplier Personnel at Purchaser's Premises to provide breath and/or urine samples for drug and alcohol testing. Supplier shall cooperate fully and cause all Supplier Personnel to cooperate fully in such testing, including having Supplier Personnel tested using Purchaser's FFD testing locations. Such testing shall occur if any of the following conditions occur or circumstances are present:

(a) Pre-access. Testing for Initial, Updated or Reinstatement of UAA.

(b) For-cause. After observed behavior or receipt of information that warrants, in Purchaser's sole discretion, such testing.

(c) Post-event. If an event occurs where human error may have caused or contributed to the event **AND** resulted in any of the following, **THEN SUPPLIER SHALL INITIATE** post-event testing as soon as possible:

- Death;
- Medical treatment beyond first aid, including loss of consciousness or significant injury or illness as diagnosed by a physician or other licensed health care provider
- Property damage;
- A radiation exposure or release of radioactivity in excess of Purchaser limits; or
- Actual or potential substantial degradation of the level of safety of the Purchaser's Premises, if there is reasonable suspicion that the worker's behavior contributed to the event.

(d) Random testing if the individual maintains UAA. Testing for drugs other than alcohol will be by urinalysis, conducted and confirmed using established standards. Initial testing may be performed at Purchaser's facilities. Laboratories used will be certified by the U. S. Department of Health and Human Services. Testing for alcohol will be by breath analysis. Any Supplier Personnel refusing to provide a breath or urine specimen for testing or refusing in any way to cooperate in the testing program will be denied access to Purchaser's Premises.

(e) For Cause Testing of Supplier Personnel Who Do Not Hold UAA. Notwithstanding any of the above, Supplier Personnel in Connecticut who do not hold UAA will not be subjected to drug or alcohol testing unless there is reasonable suspicion, which is established at the time the test is ordered, that the individual is under the influence of drugs or alcohol that could or does adversely affect their job performance. With respect to Supplier Personnel in Virginia and Wisconsin who do not hold UAA and are union members, Supplier shall confirm to Purchaser that applicable collective bargaining agreements allow testing for Banned Substances to be performed with respect to such Supplier Personnel.

7. Personnel Qualification and Training

Supplier shall provide Purchaser with resumes and qualification documentation of Supplier Personnel who will be performing safety-related work at Purchaser's Premises. The following regulatory requirements also apply with respect to such Supplier Personnel:

(a) Personnel qualification and training must meet the requirements specified in ANSI/ANS 3.1 (Draft 12/79) and Regulatory Guide 1.8 (Second Proposed Revision 2.9), as the same may be amended from time to time.

(b) Supplier shall maintain, at the applicable Purchaser's Premises and subject to audit by Purchaser, records documenting Supplier Personnel qualifications and training.

(c) Upon expiration or termination of the Agreement, the above-referenced records shall be provided to Purchaser for retention.

8. Nuclear Employee Training

All Supplier Personnel requiring access to the OCA or into a Protected Area for UAA must successfully complete the applicable Purchaser-nuclear employee training ("Nuclear Employee Training") prior to being given such access. For cost reimbursable Purchase Orders, Purchaser shall compensate Supplier for Nuclear Employee Training for the applicable Supplier Personnel at the hourly rates established in the Agreement. This compensation, however, is contingent upon Supplier Personnel passing the required examination on the first try. Purchaser will have no obligation to pay Supplier for any Supplier Personnel time spent in any re-training or re-testing if such Supplier Personnel fail the required examination. For fixed price Purchase Orders, costs for all Nuclear Employee Training will be deemed included in the fixed price. Nuclear Employee Training may be transferred to Purchaser using the NUMARC 91-03 transfer process for all Supplier Personnel who successfully completed Nuclear Employee Training from another NRC-licensee within the last 12 months.

9. Respiratory Protection Requirements

Supplier shall comply with all applicable federal, state, and local laws, rules, regulations, and ordinances ("Laws") relating to respiratory protection. Purchaser shall designate areas requiring respiratory protection and the type of respirator required. Either Purchaser or Supplier, as provided in the Agreement, may supply and maintain respiratory protection and testing equipment as necessary to support the Work.

If Supplier or its Subcontractors provide the respiratory protection equipment, then written approval from Purchaser's Site Safety and/or Radiological Protection department(s) is required prior to bringing the equipment onto Purchaser's Premises. Purchaser may, at its option, conduct periodic audits of Supplier's or its Subcontractors' respiratory protection programs. Supplier is responsible for obtaining any corrective lenses to be used with respiratory protection. If corrective lenses are required they shall be worn during fit testing and field use of the respirator. Prior to donning a respirator the applicable Supplier Personnel must be medically certified per the Medical Certification for Respirator Use Section below, be trained in the use of the respirator, and, for tight fitting respirators, successfully pass a fit test. Purchaser may accept a current fit test record provided by Supplier if it is for the same make, model, size, and composition of the respirator that will be used on Purchaser's Premises.

10. Medical Certification for Respirator Use

The following provisions apply to all Supplier Personnel performing the Work at Purchaser's Premises when respirator use is required:

(a) Medical Examination. A medical examination every 12 months by a physician, including a review of the individual's medical history. The medical history review must consider all of the individual's medical history relevant to respirator use, including without limitation any history of bronchitis, emphysema, fibrosis, tuberculosis, chest or heart surgery, heart attack, heart trouble, chronic cough, wheezing or other breathing difficulty, and the individual's smoking habits.

(b) Transfer of Medical Certification. If the individual has been medically certified within the past 12 months for another NRC licensee, that medical certification may be transferred for use at Purchaser's Premises if the certification has not expired and there are no limiting statements. If the medical certification can be transferred, and is acceptable to Purchaser, the medical examination requirement may be waived.

(c) Respiratory Clearance. The medical examination must include all items identified in the Purchaser non-employee respiratory clearance form and meet the minimum standards indicated therein. A copy of this form will be provided to Supplier upon request. This form, or another form acceptable to Purchaser, must be signed by a physician and presented to Purchaser's Medical Department by the individual when reporting to Purchaser's Premises. This form, along with the related medical reports, will be reviewed by Purchaser's Medical Department prior to final acceptance of the applicable Supplier Personnel for work requiring respiratory protection at Purchaser's Premises ("Medical Certification"). Any omission of examination findings that could result in a failure to meet the minimum standards described will result in the applicable Supplier Personnel being disqualified for respirator use at that time. The Medical Certification will be valid for 12 months.

11. Health Physics Requirements

(a) All Supplier Personnel scheduled to work in an area with the potential for the spread of radiological contamination (a "Radiologically Controlled Area," or "RCA") must receive health physics training conducted by Purchaser prior to commencement of the work or entry into the RCA. If such training has been conducted at another NRC licensee and proper documentation thereof is transferred to Purchaser pursuant to NUMARC 91-03 prior to commencement of the Work, then Purchaser may waive this training requirement.

(b) All Supplier Personnel entering an RCA may be required to wear protective clothing and respiratory protection devices. Supplier Personnel may be required to change from street clothing to

Purchaser-furnished protective clothing, in an area designated by Purchaser, prior to performing work in an RCA.

(c) Supplier Personnel who may be required to wear respiratory protection devices must be physically able to perform the Work while using a respirator.

(d) Supplier Personnel shall not remove any tools or equipment brought into an RCA from that RCA until the tools or equipment are released for removal by Purchaser's health physics personnel. In order to minimize the possibility of radioactive contamination of materials, tools, and equipment, Supplier shall limit these items in an RCA to the minimum required to perform the Work in the RCA.

(e) All Supplier Personnel who are issued thermoluminescent dosimeters ("TLDs") or equivalent primary dosimeters must wear the TLD or equivalent primary dosimeter when entering a protected area, any radioactive material area, Radiation Area, or RCA. TLDs or equivalent primary dosimeters must be handled in accordance with instructions issued by Purchaser's health physics personnel and must be returned immediately to Purchaser's exposure control facility upon termination of the applicable Supplier Personnel's assignment to Purchaser's Premises. Supplier will be responsible for replacement costs, including reimbursement to Purchaser for Purchaser's personnel time in connection therewith, for TLDs or equivalent primary dosimeters that are not returned upon the termination of Supplier Personnel's need for the same or at the end of a monitoring period.

12. Visitor Health Physics Requirements

"Visitors," for dosimetry purposes, are Supplier Personnel who are visiting Purchaser's Premises for a short period, normally not exceeding 24 hours per calendar year. Supplier shall ensure that Visitors are made aware of the limitations placed on their movement within any Protected Area. Supplier shall arrange for Visitors to be issued dosimetry devices by Purchaser's health physics personnel in accordance with Purchaser's procedures. No visits by persons who are younger than 18 are permitted without written authorization from the Purchaser's Premises Vice President or his or her designee.

13. Previous Occupational Radiation Exposure

The Work may be executed in whole, or in part, in a RCA. Supplier shall ensure that Supplier Personnel scheduled to work in an RCA meet the following criteria:

(a) Be 18 years of age or older;

(b) Provide available data on previous radiation exposure or a signed statement of estimated previous radiation exposure. Suppliers who are NRC licensees may submit for approval by the Purchaser's Premises Manager, Radiological Protection, prior to the start of the Work, a Supplier-generated NRC Form 4 equivalent. The form must include the site name, period of work assignment, period of radiation exposure, quantity of radiation exposure, and radiation exposure information for the current calendar year as required by 10 CFR 20. Purchaser may require an audit of Supplier's supporting documentation prior to acceptance of Supplier-generated NRC Form 4 equivalent and periodically thereafter; and

(c) Not be allowed to accumulate a radiation dose exceeding 5,000 millirem per calendar year Total Effective Dose Equivalent radiation exposure, or other limits as Purchaser may establish.

14. Eye Examination

When Supplier Personnel are required to perform Non-Destructive Examination, Quality Assurance/Quality Control, and/or Visual Testing at Purchaser's Premises, Supplier shall submit the results of a vision examination on Purchaser's non-employee eye examination form or on another form acceptable to Purchaser. Supplier shall properly complete, sign, and attach this form to the respiratory clearance form and direct the applicable Supplier Personnel to present both forms to the Purchaser's Premises in-processing center when reporting to Purchaser's Premises.

15. Safety

(a) Compliance with Law. During performance of the Work, Supplier shall comply, and require Supplier Personnel to comply, with all safety requirements of all applicable Laws, accepted industry safety practices, and Purchaser's safety requirements and rules. Purchaser's safety requirements and rules are available upon request. Purchaser's safety personnel shall have full access to Supplier's and its Subcontractors' facilities and Supplier's and its Subcontractors' operations at Purchaser's Premises to inspect and monitor safety conditions and practices. Such inspections will not constitute acceptance by Purchaser of Supplier's or its Subcontractors' safety policies, procedures, or practices nor relieve Supplier of its responsibility for the safety and health of Supplier Personnel and others. Supplier shall notify Purchaser immediately of any safety, environmental, or health hazards discovered by Supplier Personnel prior to or during progress of the Work.

(b) Unsatisfactory Conditions. Unsatisfactory Supplier or Subcontractor safety and health conditions discovered by Purchaser may result in suspension of Supplier's and its Subcontractors' performance of the Work until the conditions or practices are corrected by Supplier, and neither Supplier nor its Subcontractors will be entitled to any additional payment or extension of time for performance hereunder in connection with any such suspension. Supplier's failure to correct any unsatisfactory health and safety condition, practice, policy, or procedure may be cause for termination of the Agreement by Purchaser.

(c) Precautions. If Supplier Personnel will be exposed to potential site hazards, such as fumes, asbestos, chemicals, or overhead activities, Supplier shall provide Supplier Personnel all necessary safety protection. Safety equipment such as respiratory equipment, personnel nets, hardhats, coveralls, work tents, and work procedures and safety instructions, will be in accordance with all applicable laws, rules, regulations, and ordinances, accepted industry standards, and Purchaser's safety requirements and rules.

(d) Injuries. Supplier shall report all injuries, including minor injuries, to Purchaser's nuclear site safety and the operations shift manager. Supplier shall report monthly to Purchaser the number of Supplier Personnel working on Purchaser's Premises and the number of hours worked by each during the previous month.

16. Maintaining a Safety Conscious Work Environment

(a) Employee Concerns Program. Supplier and its Subcontractors must comply with all applicable laws and regulations (including without limitation Section 211 of the Energy Reorganization Act as amended, 42 U.S.C. 5851, 10 CFR 19, and 10 CFR 50.7) that prohibit discrimination or retaliation against any person for raising a nuclear safety concern or otherwise engaging in protected activity. Protected activity includes, without limitation, the raising of safety concerns with Purchaser, Supplier, or any state or federal agency. To assist in achieving full compliance with these laws and regulations, Purchaser maintains an Employee Concerns Program ("ECP"), which is available to all Supplier Personnel who work at or provide services to Purchaser's Premises. Supplier shall ensure that all Supplier

Personnel are aware of and have full access to the ECP and understand and fully comply with Purchaser's policies and procedures governing the protection of personnel who raise safety concerns or otherwise engage in protected activity. Supplier shall cooperate with and make Supplier Personnel available to support Purchaser's ECP, such that the Purchaser's ECP can fulfill its duties, including, but not limited to, investigating concerns and evaluating the work environment. If Supplier maintains its own ECP, or similar programs or processes, including but not limited to, a human resources hotline, ethics and compliance program, or ombudsman, Supplier shall permit Purchaser access to related records for the purpose of periodically assessing whether Supplier satisfies generally accepted regulatory and industry standards.

(b) Safety Conscious Work Environment. Supplier shall maintain a Safety Conscious Work Environment ("SCWE"), that is, a work environment in which Supplier Personnel are encouraged to raise safety concerns and feel free to do so without fear of retaliation. If Supplier maintains a program or process that is designed to ensure a SCWE, Supplier shall provide Purchaser with copies of Supplier's policy statements, training and other non-confidential program materials regarding Supplier's said program or process. If Supplier's said program or process includes training, Supplier shall identify to Purchaser Supplier Personnel who completed SCWE training and the date of completion of the training. Further, for those Suppliers who conduct SCWE training, Supplier shall verify to Purchaser that its supervisors and managers assigned to work at a Dominion Energy nuclear facility have received SCWE training.

(c) Right to Contact Government. Nothing herein is intended to be construed to inhibit or otherwise prevent any person from communicating directly with any federal or state agency, including without limitation the NRC and/or the U.S. Department of Labor, regarding a safety concern or any other matter, including a concern about discrimination or retaliation for engaging in protected activity.

(d) Notice of Concerns Received by Supplier. Supplier shall promptly advise Purchaser of any concern brought to its attention by Supplier Personnel or filed with a government entity in connection with the Work, Supplier, or Purchaser. Notification shall be made to Purchaser's Fleet Manager, ECP. Moreover, Supplier shall also promptly inform Purchaser of, and aggressively investigate, any and all allegations that include a charge that any Supplier Personnel have been discriminated or retaliated against by Supplier for engaging in protected activity, or a charge that suggests a reduction in the Purchaser's and/or Supplier's SCWE. Supplier shall provide Purchaser with interim reports during the course of the investigation and a debriefing at the conclusion of the investigation. Supplier shall also make available to Purchaser documentation collected during the investigation, including but not limited to, interview summaries and investigative reports. Supplier shall take prompt corrective actions to address issues found during the investigation. Nothing in this subsection precludes Purchaser from conducting its own investigation into allegations of retaliation or any other topic which may adversely affect the SCWE at any of Purchaser's Premises.

(e) Further Information. If Supplier requires additional information regarding any of the requirements contained in this Maintaining a Safety Conscious Work Environment Section or Purchaser's policies or programs, it is Supplier's responsibility to contact Purchaser's Fleet Manager, ECP, to obtain such information.

17. Chemicals and Hazardous Materials

(a) **PURCHASER'S PREMISES MAY CONTAIN HAZARDOUS CHEMICALS IN USE OR STORAGE WHICH ARE SUBJECT TO THE REQUIREMENTS OF 29 CFR §1910.1200 (the "Hazardous Chemicals Regulations").**

(b) If the Work is performed using materials furnished by Supplier or its Subcontractors, Supplier and its Subcontractors shall comply with all applicable hazardous substance regulations. Supplier shall ensure, at all times, that for all hazardous chemicals supplied, used, produced, or stored at Purchaser's Premises by Supplier or Supplier's Subcontractors, all appropriate Safety Data Sheet(s) (each a "SDS") are readily accessible to all employees during each work shift. Supplier shall also comply with the hazard warning label requirements set forth in the Hazardous Chemical Regulations.

(c) Prior to commencing work, Supplier shall provide training documentation certifying their employees have been trained in hazard communication. Supplier shall maintain written records demonstrating its and its Subcontractors' compliance with the Hazardous Chemical Regulations' hazard communication requirements. Such records shall include a list of all chemical products supplied, used, produced, or stored in connection with the Work, a written hazard communication program, the location of all applicable SDS(s), and records of Supplier Personnel hazardous chemical training. Such records shall be available for Purchaser's inspection.

18. Lead / Asbestos

(a) Lead.

- (i) Supplier shall, to the extent possible, evaluate the coating of all surfaces for the content of lead prior to removing or disturbing such surfaces. In the event lead is detected, Supplier shall notify Purchaser's Environmental Compliance Coordinator prior to proceeding with the Work.
- (ii) Supplier shall ensure (in writing when requested by Purchaser) that any surface coating placed on new or existing equipment or structures does not contain lead.

(b) Asbestos.

- (i) Supplier shall take reasonable steps to avoid the use of, and require its suppliers to avoid the use of, asbestos-containing material in any product or insulation. Purchaser shall be notified in writing of material or insulation products that contain asbestos and why non-asbestos containing material or insulation cannot be substituted. Purchaser reserves the right to review the findings of the substituted material or products.
- (ii) Supplier Personnel may be performing the Work in areas where asbestos is present and Supplier shall assume all insulation material contains asbestos unless otherwise labeled, confirmed by analytical testing or identified as non-asbestos by Purchaser. Supplier must inform Purchaser's Environmental Compliance Coordinator or designee prior to the commencement of any Work that will result in the removal of any insulation or other potential asbestos containing material at Purchaser's Premises. Supplier shall require all Supplier Personnel to comply with all applicable laws, regulations, ordinances, and standards, and with Purchaser policies and procedures, relating to asbestos.

(c) Demolition-Renovation Notifications. Notwithstanding any other provision of these Supplemental Terms and Conditions, Supplier shall bear the cost and submit all notices required by applicable Environmental Laws prior to the commencement of demolition-renovation work. Supplier will provide Purchaser's Environmental Compliance Coordinator or designee with copies of such notices, and will make amendments if necessary to fully comply with requirements.

19. Contaminated Tools/Equipment

Prior to Supplier and its Subcontractors removing tools or equipment from Purchaser's Premises, Supplier and its Subcontractors will meet with the health physics supervisor located at Purchaser's Premises to determine if any of the tools or equipment may have become radioactively contaminated. If so, then Supplier and its Subcontractors, as applicable, will obtain written verification from Purchaser's Premises health physics supervisor documenting the same. Supplier's and its Subcontractors' tools and equipment that become radioactively contaminated will not be decontaminated, stored, purchased, or replaced by Purchaser. Purchaser will, at Supplier's option and expense (unless otherwise provided for in the Agreement), and only if written documentation of radioactive contamination has been obtained from Purchaser's Premises health physics supervisor, dispose of the contaminated tools and equipment or transfer them to a facility licensed to receive radioactive material for decontamination, storage, or subsequent use.

20. Scheduling of Work

Supplier shall ensure that the work schedules of Supplier Personnel with UAA are in compliance with 10 CFR 26, Subpart I ("Managing Fatigue") and Purchaser procedures while performing the Work at Purchaser's Premises. Suppliers providing their own work schedules shall obtain prior written approval of those work schedules including shifts per day, hours per shift, and number of days per week. Supplier shall adhere to assigned work schedules and job scope. A Purchaser representative shall be on site while Supplier is performing work on Purchaser's Premises. No work to be performed out-of-shift, on holidays, or weekends is authorized unless otherwise approved in writing by Purchaser.

21. Work Hour Limitations; Minimum Days Off

(a) Personnel with UAA. Supplier shall ensure that no Supplier Personnel with UAA work more than 16 hours straight, more than 16 hours in any 24 hour period, more than 26 hours in any 48 hour period, or more than 72 hours in any seven day period.

(b) Personnel with UAA Covered by 10 CFR 26, Subpart I. In addition to the restrictions set forth in Section 21(a) – Personnel with UAA, Supplier shall ensure that Supplier Personnel with UAA who are covered by 10 CFR 26, Subpart I comply with the work hour limits contained therein, specifically the work hours controls contained in 10 CFR 26.206(d) while performing duties at Purchaser's Premises, including without limitation the requirement that such Supplier Personnel be given at least 34 hours off in any 9 day period. Purchaser will inform Supplier of specific departmental role assignments. Supplier shall ensure that Supplier Personnel are scheduled and granted the minimum time off required by 10 CFR 26, Subpart I corresponding to the applicable departmental role assignments or job function duties. Supplier shall:

- (i) Monitor the work hours of Supplier Personnel;
- (ii) Provide, on a daily basis, documented actual work hours per day, including start and stop times, as compared to scheduled work hours; as well as a breakdown as to hours worked on Purchaser's Premises and hours worked off of Purchaser's Premises; and
- (iii) Obtain prior written approval from Purchaser before any Supplier Personnel exceeds any limitations set forth in 10 CFR 26, Subpart I.

22. Nuclear Indemnity and Insurance

(a) Purchaser shall indemnify Supplier and its Subcontractors for any liability arising out of loss of or damage to property at Purchaser's Premises which arises out of a "nuclear incident" as defined in the Atomic Energy Act of 1954, as amended (the "Act"). In addition, Purchaser shall obtain for the benefit of Supplier and its Subcontractors, protection against liability arising out of, or resulting from nuclear-related damage to any property or equipment owned by parties other than Purchaser and located at Purchaser's Premises which is used or intended for use by Purchaser in connection with the operation any of Purchaser's nuclear power stations.

(b) Purchaser shall obtain and maintain financial protection to cover its "public liability" arising in connection with a "nuclear incident" (as those terms are defined in the Act) occurring at or arising out of the operation of any of Purchaser's nuclear power stations. Such financial protection shall be in such form and amount as required by the NRC pursuant to Section 170 of the Act. Purchaser shall execute the governmental indemnity agreement required by Section 170 of the Act. Purchaser shall ensure that Supplier and its Subcontractors shall be included among those protected under such financial protection and shall be included among those indemnified pursuant to the governmental indemnity agreement. In the event the nuclear liability protection requirements in effect on the date of the Agreement expire or are amended or repealed, Purchaser shall, without cost to Supplier, maintain public liability protection provided through governmental indemnity and liability insurance to the extent available on reasonable terms commensurate with industry standards for nuclear power stations of similar size and as required by law.

(c) In the event of a "nuclear incident" (as defined by the Act) occurring at or arising out of the operation of any of Purchaser's nuclear power stations, Purchaser waives and, to the extent permitted by its insurers, will require its insurers to waive all rights of recovery against Supplier and its Subcontractors for any Nuclear Damage, whether in contract, tort (including negligence and strict liability) or otherwise. "Nuclear Damage" means any loss, damage, or loss of use, which in whole or in part is caused by, arises out of, results from, or is in any way related, directly or indirectly, to the radioactive, toxic, explosive or other hazardous properties of source, special nuclear or byproduct material, as those materials are defined in the Act.

(d) Purchaser will maintain all-risk nuclear property insurance available from private sources with limits which at least meet the requirements of the NRC. Said insurance shall include a waiver of subrogation in favor of Supplier.

23. Fall Protection

Supplier must provide fall protection in compliance with the revised OSHA 29 CFR 1910 Subpart D standard for General Industry and Dominion Energy's Walking/Working Surfaces Policy.

(a) Fall protection is a requirement for any working surface 4 feet or higher (e.g. a passive system in the form of compliant handrails, mid-rails and kick plate, the use of a personal fall arrest system, which includes a compliant anchor point with a minimum 5,000 pound capacity, or a fall restraint system).

(b) Fixed ladders of any height as part of scaffolding or otherwise, must be equipped with self-closing gates or a properly designed offset at the top of ladder openings.

(c) On or after November 19, 2018, fixed ladders at heights 24 feet or higher as part of scaffolding or otherwise, must be equipped with a ladder safety system or personal fall arrest system that one can connect a carabiner or lanyard of their full body harness as they ascend and descend.

(d) Equip fixed ladders of any height with self-closing swing gates at the top openings.

PART THREE – ENVIRONMENTAL REQUIREMENTS

1. Scope and Regulatory Requirements

The environmental requirements set forth in these Supplemental Terms and Conditions are not all-inclusive, and are intended to supplement, not supplant, environmental requirements contained in (a) Environmental Laws, (b) Supplier's own environmental requirements, (c) the environmental requirements of any Subcontractor, or (d) any additional site specific environmental requirement provided to Supplier by Purchaser for Purchaser's Premises. Supplier has the general duty to comply with all applicable Environmental Laws. In the event of any conflict among the provisions of these Supplemental Terms and Conditions, Supplier shall abide by the most stringent provision.

2. Premises-Specific Requirements; Environmental Protection Plan

(a) Supplier must follow and adhere to any Purchaser Premises-specific environmental policies and procedures, including, but not limited to, environmental policies and procedures applicable to the Work provided to Supplier prior to the start of Work or from time to time during performance of the Work. Supplier shall inform Supplier Personnel promptly of such environmental policies and procedures and the obligation to comply during site-specific training or required safety briefings. Supplier is responsible to ensure all Supplier Personnel receive, understand, and comply with all such environmental policies and procedures.

(b) Supplier shall implement appropriate pollution prevention measures in conducting the Work on Purchaser's Premises. Pollution prevention measures shall comply with Environmental Laws and shall include best management practices to avoid, minimize and mitigate pollution and pollution impacts.

(c) At Purchaser's request, Supplier shall be responsible for developing, administering, implementing and monitoring a written Environmental Protection Plan ("Plan") or equivalent which shall address chemical products, petroleum products, Non-Hazardous Waste, Hazardous Waste, pollution prevention, employee training, spill response and clean-up, and any other requirements designated by Purchaser's Environmental Compliance Coordinator or designee. All Plans must receive Purchaser's approval prior to commencement of the Work.

3. Management and Disposal of Hazardous Waste

In the event that Supplier's performance of the Work generates Hazardous Waste, Supplier shall collect, handle and manage the Hazardous Waste in accordance with Environmental Laws and follow the requirements as set forth in this Management and Disposal of Hazardous Waste Section. Prior to Supplier's removal of any Hazardous Waste from Purchaser's Premises, Supplier shall confirm with Purchaser's Environmental Compliance Coordinator or designee that Supplier is following the proper procedure for such removal.

(a) Purchaser Responsible for Hazardous Waste Disposal. Unless otherwise expressly provided by a provision of the Agreement that takes precedence over these Supplemental Terms and Conditions, the following provisions shall apply with respect to any Hazardous Waste generated by the performance of the Work:

(i) Purchaser shall be responsible for the disposal of Hazardous Waste.

- (ii) Upon the generation of any Hazardous Waste, Supplier shall provide Purchaser's Environmental Compliance Coordinator or designee with a written description of the Hazardous Waste including, but not limited to, providing any Safety Data Sheet(s) (each a "SDS") and waste analysis.
- (iii) Purchaser shall be designated as the generator of record for any Hazardous Waste generated, released, or accumulated on Purchaser's Premises by Supplier.
- (iv) For all manifests, Hazardous Waste reports, and other relevant documents relating to Hazardous Waste, Purchaser's Premises EPA Identification Number shall be used. At the option of Purchaser, Supplier may be identified on manifests, hazardous waste reports, and other relevant documents as a co-generator of Hazardous Waste. In the event that Supplier's performance of the Work generates Hazardous Waste and results in a need for an EPA Identification Number for Purchaser's Premises, which previous to the Work did not require one, Supplier shall notify Purchaser's Environmental Compliance Coordinator or designee and Purchaser shall prepare and submit the application or direct Supplier to do so.
- (v) Unless otherwise directed by Purchaser, Purchaser shall sign all manifests and complete, sign, and submit Hazardous Waste reports or other relevant documents relating to Hazardous Waste. If Supplier is directed by Purchaser to sign manifests and complete, sign, and submit Hazardous Waste reports or other relevant documents relating to Hazardous Waste, a copy of all such documents must be submitted to Purchaser's Environmental Compliance Coordinator or designee.
- (vi) Purchaser may, at its discretion, provide Supplier with containers for Hazardous Waste. If Purchaser does not provide waste containers to Supplier then Supplier shall provide its own containers for any Hazardous Waste generated by the performance of the Work. Purchaser shall designate one or more waste storage areas at Purchaser's Premises where such containers are to be placed by Supplier. Supplier shall be responsible for proper labeling and marking of any such containers. Hazardous Waste shall not be placed into a dumpster or any unauthorized container.

(b) Supplier Responsible for Hazardous Waste Management and Disposal. The following provisions shall apply with respect to any Hazardous Waste generated by the performance of the Work where (1) Purchaser's Premises does not have an existing EPA Identification Number (and Purchaser has not informed Supplier that an EPA Identification Number will be obtained prior to Supplier's performance of the Work); or (2) Supplier has been designated as the responsible party for the disposal of Hazardous Waste by a provision of the Agreement that takes precedence over these Supplemental Terms and Conditions:

- (i) Upon the generation of any Hazardous Waste, Supplier shall provide Purchaser's Environmental Compliance Coordinator or designee with a written description of the Hazardous Waste which includes the following information:
 - (A) Hazardous Waste quantity including, as applicable, the number and size of drums, tanks, roll-off boxes or other containers associated with such waste;
 - (B) The date on which the Hazardous Waste was generated;
 - (C) A description of the process generating the Hazardous Waste;

- (D) Any SDS for any raw material; and
 - (E) Contact name and telephone number of the person providing the above information.
- (ii) Supplier shall provide adequate type and sized containers for any Hazardous Waste.
 - (iii) Supplier shall make a Hazardous Waste Determination in accordance with 40 CFR 262.11, which may include using generator knowledge or sampling and analysis of waste.
 - (iv) Supplier shall arrange for the off-site treatment or disposal of any Hazardous Waste at a facility approved by Purchaser.
 - (v) Supplier shall arrange for the transportation of any Hazardous Waste using a transporter approved by Purchaser.
 - (vi) Supplier shall, at Purchaser's request, provide Purchaser with any documentation related to the transportation, off-site treatment and/or disposal of any Hazardous Waste.
 - (vii) For all manifests, Hazardous Waste reports, and other relevant documents relating to Hazardous Waste, Purchaser's Premises EPA Identification Number shall be used except where Purchaser's Premises does not have an existing EPA Identification Number (and Purchaser has not informed Supplier that an EPA Identification Number will be obtained prior to Supplier's performance of the Work). At the option of Purchaser, Supplier may be identified on manifests, Hazardous Waste reports, and other relevant documents as a co-generator of such Hazardous Waste. Unless otherwise directed by Purchaser, Purchaser shall sign all manifests and complete, sign, and submit Hazardous Waste reports or other relevant documents relating to such Hazardous Waste. If Supplier is directed by Purchaser to sign manifests and complete, sign, and submit Hazardous Waste reports or other relevant documents relating to such Hazardous Waste, a copy of all such documents must be submitted to Purchaser's Environmental Compliance Coordinator or designee.
 - (viii) In the event that Supplier's performance of the Work results in a need for an EPA Identification Number for Purchaser's Premises, which previous to the Work did not require one, Supplier shall prepare and submit the application for the EPA Identification Number unless otherwise directed by Purchaser. If Supplier obtains the EPA Identification Number, Supplier shall sign manifests and complete, sign, and submit Hazardous Waste reports or other relevant documents relating to such Hazardous Waste, and provide a copy of all such documents to Purchaser's Environmental Compliance Coordinator or designee.
 - (ix) Supplier shall have primary responsibility for labeling any Hazardous Waste in accordance with all applicable Environmental Laws. Any and all Hazardous Waste labels shall be provided by Supplier provided that Purchaser may, at Purchaser's option, provide such labels.
 - (x) Supplier shall ensure that all liquid-containing containers provided by Supplier to contain Hazardous Waste have adequate secondary containment. Secondary containment shall be sized to hold 110% of the capacity of the largest container,

constructed of non-earthen material which is compatible with the material being stored, and be of sufficient impermeability to contain the spill for at least 72 hours. Supplier shall obtain prior approval from Purchaser's Environmental Compliance Coordinator or designee for tanks placed on the Premises that contain Hazardous Waste. Supplier shall comply with applicable Environmental Laws for such tanks.

4. Management and Disposal of Non-Hazardous Waste

Unless otherwise expressly provided by a provision of this Agreement that takes precedence over these Supplemental Terms and Conditions the following provisions shall apply with respect to any Non-Hazardous Waste generated by the performance of the Work:

(a) Waste Determination. Supplier shall make a Waste Determination in accordance with 40 CFR 262.11, which may include using generator knowledge or sampling and analysis of waste.

(b) Daily. Supplier shall perform daily project site clean-up and Non-Hazardous Waste disposal and otherwise keep the project site including lay down areas reasonably free from accumulation of waste materials, rubbish, crates, packing material, and other debris resulting from performance of the Work. Supplier shall provide and maintain dumpsters for general construction debris and trash barrels for paper. Supplier shall on a daily basis provide for clean-up of its work areas and dispose of all waste, trash and debris into Supplier-furnished Non-Hazardous Waste dumpsters, barrels, and other containers.

(c) Non-Hazardous Waste Container Requirements. Supplier shall label those Non-Hazardous Waste dumpsters, barrels, and other containers set forth in Section 3(b) above, with the contents of the containers. Supplier shall ensure that all liquid-containing Non-Hazardous Waste containers provided by Supplier have adequate secondary containment. Such secondary containment shall hold one hundred and ten percent (110%) of the capacity of the first container, shall be constructed of non-earthen material which is compatible with the material being stored, and be of sufficient impermeability to contain any spill for at least seventy two (72) hours.

(d) Off-Site Non-Hazardous Waste Disposal. Supplier shall dispose of Non-Hazardous Waste off-project site and such Non-Hazardous Waste containers shall be emptied periodically to avoid overtopping or blowing debris. Supplier shall maintain such Non-Hazardous Waste containers in a manner to prevent the Non-Hazardous Waste from blowing or falling from the containers. Supplier shall dispose of waste at a facility approved by Purchaser's Environmental Compliance Coordinator or designee and using transportation approved by Purchaser's Environmental Compliance Coordinator or designee. Supplier shall, at Purchaser's request, provide Purchaser with all documentation related to such disposal and transportation. If Supplier fails to manage waste disposal in accordance with the provisions of this Agreement, or fails to manage such waste in accordance with any applicable laws, then Purchaser, at its option, may manage such waste including the classification, containerization, storage, transportation and disposal of such waste, and invoice Supplier for all costs incurred in connection therewith including a percentage of the actual costs incurred in an amount equivalent to Supplier's rate sheet mark-up; and Supplier shall promptly reimburse Purchaser for such amounts.

(e) Use of Manpower and Construction Aids for Daily Clean-Up. Supplier shall provide whatever manpower and construction aids are necessary to adequately clean and remove from its work areas all trash, dirt, and debris that results from the operations of Supplier (including offices of Supplier and Purchaser, fabrication and shop areas, lay down areas and warehouses and similar locations). Supplier shall maintain its materials and equipment, construction aids and lay down areas both inside and outside building areas in a neat and orderly fashion. Supplier shall designate lay down areas on the project site within the allowable areas identified and approved by Purchaser. Supplier shall maintain all roads (both

external and internal to the project site) reasonably free from any mud, dirt, stones, construction debris, and trash resulting from the Work on a daily basis. Upon notice from Purchaser of any deficiency in the cleanliness of the project site, Supplier shall promptly remedy the deficiencies as directed by Purchaser at Supplier's expense. Should Supplier fail to promptly remedy the deficiencies to Purchaser's satisfaction, Purchaser may perform the required clean-up. Clean-up costs incurred by Purchaser as a result of Supplier's non-performance shall be promptly reimbursed by Supplier.

5. Additional Waste Requirements

The following requirements shall apply to this Agreement regardless of which party is responsible for the disposal of Non-Hazardous Waste and/or Hazardous Waste:

(a) Supplier shall not store, deposit or dispose on Purchaser's Premises any Non-Hazardous Waste and/or Hazardous Waste generated off-site.

(b) Supplier shall not transport or bring onto Purchaser's Premises any Non-Hazardous Waste and/or Hazardous Waste unless such waste is contained within equipment/containers designed for containing and transporting such waste and Supplier is transporting such waste in connection with its performance of the Work.

(c) Supplier shall obtain the prior approval of Purchaser's Environmental Compliance Coordinator or designee prior to the placement and use of any parts washers on Purchaser's Premises.

(d) If Supplier fails to manage Non-Hazardous Waste and/or Hazardous Waste in accordance with the provisions of this Agreement, or fails to manage such waste in accordance with any applicable laws, rules, regulations or ordinances, then Purchaser, at its option, may manage such waste including the classification, containerization, storage, transportation and disposal of such waste, and invoice Supplier for all cost incurred in connection therewith including a percentage of the actual cost incurred in an amount equivalent to Supplier's rate sheet mark-up.

(e) If any of the materials furnished pursuant to the Agreement are designated by Environmental Laws as hazardous or toxic, either in the form to be furnished or as waste upon disposal, Purchaser may direct Supplier to propose a nonhazardous or nontoxic alternative if such an alternative exists.

(f) All unused products and materials furnished by Supplier must be removed from Purchaser's Premises by Supplier when the Work is complete.

(g) Supplier shall not transfer, sell, or otherwise convey contaminated materials to employees or other non-Purchaser personnel including, but not limited to, used chemical drums and carboys, surplus pesticides and herbicides, or other materials that have been in contact with chemicals.

(h) Supplier shall secure hoses and power cords with non-conductive materials so they are not in the walking working surface of walkways, scaffolding platforms, or stairways.

(i) Supplier shall not place tools or equipment where they obstruct walkways, stairwells, exits or entranceways to equipment, or fixed ladders.

(j) Supplier shall maintain all work areas in a generally clean condition. Floors, walkways, and working surfaces shall be maintained free of excess dirt and other materials.

(k) All food and drink trash is to be placed in appropriate waste receptacles.

- (l) Cigarette butts are to be placed in approved waste receptacles.
- (m) Receptacles are to be used to collect spent welding/cutting rods, wire cuttings, tie wrap ends and insulation, etc. as work progresses during the shift.
- (n) All demolished material is to be removed from the work site as soon as practical and placed in the appropriate containers.
- (o) Scrap metal containers are not to be used for general trash.
- (p) Parts removed from equipment and parts to be installed on equipment are to be stored in an organized and neat fashion on the job site, even as work progresses.
- (q) All new or removed insulation and lagging are to be stored in an organized and neat fashion on the job site, even as work progresses.
- (r) Purchaser will have no obligation with respect to Acceptance or final payment until Supplier has removed all wastes and rubbish relating to the Work, together with all of Supplier's and Subcontractors' tools, scaffolding, equipment, and materials. Supplier shall leave the premises in a clean, neat, and workmanlike condition reasonably satisfactory to Purchaser.
- (s) Supplier shall cover grating work areas in order to prevent debris and materials from falling to lower levels.

6. SARA Title III Notifications/Reports

- (a) For the purpose of this SARA Title III Notifications/Reports Section, "Hazardous Materials" are defined as any material requiring a SDS under OSHA regulations.
- (b) Prior to bringing any Hazardous Materials onto Purchaser's Premises, Supplier shall provide Purchaser's Environmental Compliance Coordinator or designee a SDS and inventory quantity estimate for each Hazardous Material.
- (c) Except as provided below in Section 5(d), Purchaser shall make all required SARA Title III Notifications/Reports and pay associated fees in connection with all Hazardous Materials brought onto Purchaser's Premises by Supplier.
- (d) If directed to do so by Purchaser's Environmental Compliance Coordinator, Supplier shall, for any Hazardous Materials brought onto Purchaser's Premises which are necessary for the Work (including fuel, lubricants, and job related consumables), be responsible for filing any required SARA Title III Notifications/Reports and paying associated fees, including the following:
 - (i) Emergency Planning Notifications (SARA Section 302);
 - (ii) Facility Coordinator Notification (SARA Section 303);
 - (iii) Emergency Release Reporting (SARA Section 304);
 - (iv) SDS/list submission (SARA Section 311); and
 - (v) Tier II Inventory Reporting (SARA Section 312).

7. Environmental Permits, Fines, Penalties, Costs, Etc.

(a) Unless otherwise specifically provided by a provision of this Agreement that takes precedence over these Supplemental Terms and Conditions or otherwise directed by Purchaser's authorized representative, Purchaser shall obtain and pay for all Environmental Permits. Supplier may be designated as a co-permittee with Purchaser, when applicable or otherwise required by Purchaser. With the exception of the Environmental Permits or other permits that Purchaser has expressly agreed in writing to obtain, Supplier shall be responsible for obtaining at its sole cost and expense all other permits, licenses and approvals necessary to perform the Work including, but not limited to, any temporary permits associated with the operation of Supplier's equipment where the equipment must be operated in relation to Supplier's performance of the Work.

(b) Supplier shall make itself familiar with and strictly comply with the terms and conditions of any Environmental Permits, whether obtained by Purchaser or Supplier, applicable to the Work.

(c) To the extent arising from Supplier's noncompliance with any Environmental Laws or Environmental Permits pertaining to the Work, Supplier shall be solely responsible for and shall pay directly, or reimburse Purchaser for (i) any and all fines, penalties, damages or corrective actions assessed, directed or agreed to by any court, regulatory agency or other appropriate entity, incurred by Supplier or Purchaser; (ii) any and all costs, fees and expenses incurred by Supplier or Purchaser associated with responding to any action brought or threatened against Supplier or Purchaser by any regulatory agency, entity or person; and (iii) any and all delays or stop work orders imposed by a government agency or court.

8. Environmental Credits

(a) All Attributes, Efficiency Credits and/or Emission Reduction Credits as defined below in this Environmental Credits Section, that either party is or may become entitled to claim, own, or benefit from, in connection with, or as a result of, the Work and/or Materials shall be held, controlled, and owned 100% by Purchaser, and Supplier hereby agrees to assign any and all rights, title, and interest in and to any and all Attributes, Efficiency Credits, and/or Emission Reduction Credits to Purchaser to the extent necessary to accomplish the foregoing result. To the extent Supplier is prohibited for any reason from assigning its rights, title, and interest in and to any such Attributes, Efficiency Credits, and/or Emission Reduction Credits to Purchaser, Supplier shall pay to Purchaser an amount equal to the value of such non-transferable Attributes, Efficiency Credits, and/or Emission Reduction Credits (based on the value of the benefit Supplier receives there-from) as promptly as practicable following receipt of such benefit.

(b) For purposes of this Environmental Credits Section, the following terms have the following definitions.

- (i) "Attributes" shall mean all Emission Reduction Credits, Efficiency Credits and any other credit, right, benefit, attribute, offset, reduction, allowance, or indicia arising out of or relating to the provision of the Services and/or Materials.
- (ii) "Efficiency Credit" shall mean any instrument, certificate, "white tag", program (including without limitation under any renewable portfolio, energy efficiency, natural gas efficiency or similar program), credit, benefit, attribute, offset, reduction, right (including registration, trading and recording rights), allowances, or indicia, however entitled, now existing or hereafter arising, for or relating to or arising out of a reduction in energy, natural gas, or fuel consumption, a shifting of energy or natural gas consumption from higher consumption periods to periods of lower consumption, or an

increase in output or performance for any given level of energy, natural gas, or fuel usage, including without limitation any of the following: (A) the provision of demand-side technologies, hardware, software, controls, or services designed to conserve or curtail electricity or natural gas, or to manage electricity load or reduce the need for additional or existing generation, production, transmission, or distribution capacity, which includes demand-side management solutions, peak-shaving or peak-shifting measures, and conservation and load management technologies and measures of whatsoever nature; (B) offering time-of-use rates that include mandatory peak, shoulder, and off-peak time-of-use rates; (C) offering interruptible or load response rates; (D) implementing programs focused on load curtailment, peak reduction, demand response systems and retrofit conservation, (E) the measures described in the Work, and (F) installation or operation of customer-side generation resources, customer-side renewable energy generation, combined heat and power, or other efficient generation resources.

- (iii) “Emission Reduction Credits” shall mean any and all credits, attributes, benefits, offsets, reductions, rights (including registration, trading and recording rights), allowances, or indicia, however entitled, for or relating to the reduction, mitigation or control of greenhouse gas.

9. Nuclear Devices

(a) Purchaser’s Premises may have nuclear devices (“Devices”), including but not limited to density meters, present. Supplier shall not enter any radioactive posted area without the prior coordination of Purchaser’s Environmental Compliance Coordinator or designee. Supplier shall not perform work on any Devices unless licensed to do so and authorized by Purchaser’s Environmental Compliance Coordinator or designee. Supplier shall follow Purchaser’s guidance when required to dispose of tritium-containing signage.

(b) Before bringing any Devices onto Purchaser’s Premises, Supplier shall notify Purchaser and provide Purchaser with the name of Supplier’s personnel responsible for the safety of the Devices. Supplier shall store and use such Devices in accordance with applicable law.

10. Protection of Water Resources

Supplier shall perform the Work in a manner to prevent the unauthorized release of pollutants to surface water and groundwater. In the event that Supplier generates any wastewater in the performance of the Work or performs maintenance or cleaning of any equipment or vehicles while on Purchaser’s Premises the following provisions shall apply.

(a) All Supplier wastewaters must go to an approved permitted location or approved collection unit and shall not be directed into storm drains, storm water systems, surface waters, or waste water treatment systems unless approved by Purchaser’s Environmental Compliance Coordinator or designee. Wastewaters include, but are not limited to, cement and/or concrete washes.

(b) At Purchaser’s direction and oversight, Supplier shall be responsible for performing any required groundwater monitoring and/or characterization associated with the Work.

(c) Supplier shall wash all trucks and other equipment only in Purchaser’s Premises authorized areas and shall not allow uncontrolled runoff of wash water to enter receiving streams or the accumulation of mud and sediment on roadways and other paved areas.

11. Stormwater Management/Erosion and Sediment Control

(a) Compliance Program. Where required in connection with the Work by law or in Purchaser's sole discretion, Supplier shall develop and implement a stormwater management and erosion and sediment control program that complies with all applicable Environmental Laws, Environmental Permits, and associated plans, and conforms with any additional Purchaser site-specific requirements. At Purchaser's request, Supplier shall provide Purchaser documentation demonstrating how its stormwater management and erosion and sediment control program will achieve compliance with the requirements of this Stormwater Management/Erosion and Sediment Control Section.

(b) Compliance Assurance. Supplier's stormwater management and erosion and sediment control program shall include process-based elements for assuring compliance with all applicable Environmental Laws, Environmental Permits, and associated plans. Such process elements shall include mechanisms for tracking Supplier's compliance tasks and periodic auditing of Supplier's compliance.

(c) Certification. Supplier Personnel responsible for implementing Supplier's stormwater management and erosion and sediment control program shall be certified/licensed to perform their respective stormwater compliance tasks in the state(s) where the Work is performed. If a state(s) does not have a certification program, Supplier Personnel shall be otherwise qualified to perform such tasks. All stormwater certifications and qualifications shall be maintained throughout the duration of the Work. Prior to commencement of the work, Supplier shall provide Purchaser's Environmental Compliance Coordinator or designee (as identified in the Purchase Order) with evidence of all Supplier Personnel certifications and qualifications.

(d) Coordination with Purchaser. Supplier shall provide Purchaser's Environmental Compliance Coordinator or designee with all stormwater management and erosion and sediment control compliance records on a frequency determined by Purchaser (as identified in the Purchase Order) or at Purchaser's request. Supplier shall coordinate with Purchaser as requested to address deficiencies identified in Supplier's stormwater management and erosion and sediment control program.

(e) Template forms. Unless agreed to in writing by Purchaser, Supplier shall use Purchaser-provided standard template forms for developing stormwater pollution prevention plans ("SWPPP") and conducting stormwater inspections.

12. Potable Water Use

Supplier shall not install any potable water system utilizing a groundwater well or surface water as a source for potable water or ice without Purchaser's express prior written consent. If Supplier installs or uses such a potable water source or system, Supplier shall be solely responsible for complying with all applicable Environmental Laws, Environmental Permits, other federal, state, and local requirements, and applicable industry standard protocols, including, but not limited to, periodic sampling (including preliminary samples), treatment, reporting, and recordkeeping. Supplier shall promptly provide Purchaser with copies of all reports, sampling results, and other records related to installation and use of any such potable water system upon completion or otherwise upon request.

13. Temporary Oil Storage on Purchaser's Premises

(a) If Supplier will have present on Purchaser's Premises any aboveground oil storage tanks required temporarily for the Work, Supplier shall register such tanks with all appropriate state and local agencies and pay any associated fees. Unless otherwise provided in these Supplemental Terms and Conditions or directed by Purchaser's authorized representative, any aboveground or underground storage

tanks to be installed by Supplier for Purchaser's use shall be registered by Purchaser and associated fees shall be paid by Purchaser.

(b) If Supplier anticipates placing or having present on Purchaser's Premises greater than 1,320 gallons of petroleum product stored in tanks or containers equal to or greater than 55 gallons, Supplier must prepare, implement, and maintain a Spill Prevention Control and Countermeasure ("SPCC") plan(s) specific to the Work that complies with federal SPCC regulations. This SPCC plan(s) shall be provided to Purchaser's Environmental Compliance Coordinator or designee for review and written approval prior to commencing the Work. Where required by state law, SPCC Professional Engineer ("PE") certification must be completed by a PE of the state where the facility is located.

(c) Purchaser shall develop and maintain any other federal or state specific plans and permits required in connection with any oil storage, including but not limited to Facility Response Plans, Virginia Oil Discharge Contingency Plans, West Virginia Groundwater Protection Plans, Maryland Oil Operations Permit and Pennsylvania Preparedness Prevention and Contingency Plans.

(d) All non-double walled oil storage tanks and containers subject to SPCC must be provided with secondary containment having adequate volume for 100% of the largest single container plus, where secondary containment is subject to rainfall, the volume of the 25 year, 24 hour storm event. Initial size for new or reconstructed earthen secondary containment dikes must also be designed for additional capacity to allow for eventual settling and erosion of the earthen materials. All secondary containment dikes shall be constructed with a means of removing accumulated rainwater, such as a lockable valved dike drain or a collection sump for pumping water out.

(e) All SPCC oil storage and handling areas shall be secured and have controlled access. Security fencing for SPCC purposes must be chain link fence, at least 6 feet tall.

(f) All Supplier SPCC Plans must include a statement verifying that containment areas subject to rainfall provide capacity for the entire contents of the tank plus sufficient freeboard to allow for precipitation from a significant rain event (25 year, 24 hour storm). Field measurements and volume calculations must be included in all Supplier SPCC Plans.

14. Spills and Spill Prevention

(a) The storage of all Non-Hazardous Waste, Hazardous Waste, petroleum or chemicals must be done in a manner to prevent leaking or surface run-off onto all surfaces and sub-surface natural water resources. Unless otherwise directed by Purchaser, secondary containment measures or equipment shall be provided for all containers 55 gallons or larger.

(b) Supplier shall furnish and maintain on Purchaser's Premises an adequate supply of spill containment and clean-up absorbent materials, as well as personal protective equipment ("PPE") and other spill response equipment.

(c) Any Non-Hazardous Waste, Hazardous Waste, chemical or petroleum spill on Purchaser's Premises or to a waterway by Supplier of any amount shall be reported immediately to Purchaser's Environmental Compliance Coordinator or designee. Supplier shall be responsible for cleanup of the spill area to pre-spill conditions as approved by Purchaser's Environmental Compliance Coordinator or designee.

(d) Supplier vehicles and mobile and portable equipment that are leaking Non-Hazardous Waste, Hazardous Waste, or chemical or petroleum products shall not be permitted on Purchaser's Premises.

Leaks from such vehicles or equipment while on Purchaser's Premises shall be cleaned up in accordance with this Spills and Spill Prevention Section. Supplier must provide the means of collecting leakage from vehicles, mobile and portable equipment such as drip pans, tubs, or pails (each a "Collection Container"). Absorbents (i.e., clay, pads or spill booms) shall only be used when the use of a Collection Container is impractical.

(e) Supplier shall be responsible for all Non-Hazardous Waste and Hazardous Waste disposal costs that result directly from any clean-up activities associated with a spill or release of a Non-Hazardous Waste, Hazardous Waste, or chemical or petroleum product for which Supplier has been identified as the responsible party for the spill.

(f) Supplier shall comply with Purchaser's spill response procedures in the event Supplier observes or causes a spill or release of any quantity of Non-Hazardous Waste, Hazardous Waste, or chemical or petroleum product while on Purchaser's Premises. At the request of Purchaser, Supplier shall use the services of Purchaser's retained spill response contractor whenever the scope of the clean-up, at Purchaser's sole determination, (i) exceeds the on-site capabilities of Supplier or (ii) the clean-up activities will cause a significant impact on the Work's schedule or Purchaser's Premises operations.

15. Protection of Plants and Wildlife

(a) Supplier shall perform the Work in accordance with industry best practices and standards pertaining to the protection of plants and wildlife and their natural habitats. Supplier shall consult with Purchaser's Environmental Compliance Coordinator or designee if the Work has the potential to impact any threatened or endangered species, whether plants or wildlife, in order to determine the environmentally responsible approach for proceeding with the performance of the Work. Supplier shall promptly report any injury or death of wildlife, damage to wildlife habitat, or damage to threatened or endangered plants caused by the performance of the Work to Purchaser's Environmental Compliance Coordinator or designee.

(b) Supplier shall adhere to all habitat area restrictions, permits and authorizations.

16. Air, Noise, Vehicle Idling

(a) Supplier shall take measures to minimize fugitive dust emissions and other conditions of air pollution associated with the operation of Supplier's equipment. Purchaser reserves the right to curtail the Work in the event fugitive dust emissions and other conditions are causing a condition of air pollution.

(b) Supplier shall take measures to prevent excessive or nuisance noise conditions or air pollution associated with the operation of Supplier's equipment. Purchaser reserves the right to curtail the Work in the event Supplier causes excessive or nuisance noise conditions or air pollution.

(c) Supplier shall adhere to state, local, and Purchaser Premises restrictions for vehicle idling.

17. Pesticide and Herbicide Use

Where applicable, Purchaser may request verification of Supplier's applicator's license or similar document as required by state or local requirements prior to Supplier application of pesticides or herbicides on Purchaser's Premises.

18. Training

Supplier's personnel on Purchaser's Premises shall have completed all applicable training requirements as specified in applicable Environmental Laws and Environmental Permits. Supplier shall maintain training records as required by any applicable Environmental Laws and Environmental Permits, and shall provide copies of them to Purchaser if requested.

19. Wetlands

For Work performed in or near wetlands or streams, Supplier will comply with applicable Environmental Laws and Environmental Permits. Prior to Supplier performing the Work in or near wetlands or streams that were not previously identified; Supplier shall notify and acquire written approval from Purchaser's Environmental Compliance Coordinator or designee prior to any wetland or stream related activity and clearances.

20. Fill Material, Excess Gravel, Excess Clean Fill

If Supplier's Work under this Agreement involves the provision and/or use of any fill material, including but not limited to structural or flowable fill, Supplier shall obtain Purchaser's prior written consent on the contents of the fill. The use of ash in fill, concrete, construction materials or construction activities is prohibited unless specifically approved by Purchaser's Environmental Compliance Coordinator or designee. Except as otherwise directed by Purchaser, Supplier shall only place excess gravel or excess clean fill in an area or container unit designated by Purchaser.

21. Excavation, Digging

Prior to the commencement of any Supplier excavation activities including, but not limited to, drilling, boring, trenching, digging, grading or groundwater well installation, Supplier shall (a) utilize the applicable "Call Before You Dig System" or similar program intended to identify underground utilities and (b) obtain prior written approval from Purchaser's Environmental Compliance Coordinator or designee. If any contamination, human remains or cultural artifacts are discovered during any Supplier excavation, Supplier shall immediately cease excavation and notify Purchaser's Environmental Compliance Coordinator or designee, construction project supervisor, or designee.

22. Wood, Wood Chips, Mulch, Leaves

- (a) Supplier shall comply with any hardwood restrictions or quarantines.
- (b) Wood chip or mulch piles created in the course of the Work shall only be moved or dispersed to a location approved by Purchaser's Environmental Compliance Coordinator or designee.
- (c) Under no circumstances shall Supplier openly burn wood, wood chips, mulch, or leaves created in the course of the Work without the express written consent of Purchaser's Environmental Compliance Coordinator or designee, and Supplier must obtain any applicable Environmental Permits or other permits associated therewith.

23. Sustainability, Green Design

- (a) Supplier shall incorporate environmentally sustainable practices into the design, construction, and operation of the Work wherever practicable. If requested by Purchaser, Supplier shall submit to Purchaser a list of options, recommendations, approaches, and costs addressing the following criteria:

sustainable project site development; water use; pollution control; material selection, material reuse and recycling; energy efficiency; non-hazardous waste and/or hazardous waste avoidance and minimization; indoor air quality; and other innovative applications of low impact development practices.

(b) Where Purchaser desires to evaluate the utilization of a “green building” certification program, Supplier shall consider programs such as the U.S. Green Building Council’s Leadership in Energy and Environmental Design (“LEED”), GreenGlobes, and application of EPA’s Energy Star or other comparable program.

Exhibit 7

Insurance Requirements

(a) **Coverage**. During the term of this Agreement, Design-Builder shall at its sole expense obtain and maintain the policies of insurance set forth in this Exhibit 7 with responsible insurance carriers having a Best's Insurance Reports rate of "A-" or better and a financial size category of "IX" or higher. Payment of all insurance costs, deductible amounts, and/or self-insured retentions shall be Design-Builder's sole responsibility.

(b) **Subcontractors**. Design-Builder shall also require each Subcontractor to obtain and maintain insurance consistent with and covering the risks and perils for which provision is made in this Agreement. Design-Builder assumes liability for loss as a result of any its subcontractors' uninsured and/or underinsured exposures.

(c) **Waiver**. Design-Builder waives and shall cause its insurers to waive all rights against Dominion and its affiliates, and their directors, officers, and employees, whether in contract or tort (including negligence and strict liability) for recovery of losses or damages to the extent these losses or damages are covered by the insurance required by this Agreement. The insurance required by this Agreement will be amended to waive any rights by the insurer to subrogate against Dominion, its affiliates, and their directors, officers, and employees.

(d) **Additional Insureds**. Design-Builder shall cause its insurers providing the coverage required by this Agreement, and shall require each of its subcontractors to cause each of its insurers providing the coverage required by this Agreement, except for the insurers providing the Worker's Compensation and if applicable, Professional Liability insurance, to include Dominion, Dominion's affiliates and each of their officers, directors, employees, contractors, and agents, as additional insureds to the coverages required in this Exhibit 7 as their interests attach providing additional insured status for both ongoing and completed operations with respect to liability arising out of the Work or Design-Builder's performance of its obligations pursuant to this Agreement. The CGL, Automobile Liability, and, if applicable, the Umbrella, Professional, Cyber, Pollution, and Aircraft Liability coverage required by this Agreement will provide for claims by one insured against another such that, except for the limits of insurance, the insurance will apply separately to each insured against whom or which a claim is made or suit is brought.

(e) **Primary Coverage**. Design-Builder and each of its subcontractors shall ensure that the coverage required by this Agreement is primary and non-contributory with respect to any other similar insurance or self-insurance maintained by Dominion.

(f) **Cancellation of Coverage**. The coverage required by this Agreement may not be canceled, nonrenewed, or materially changed whereby the coverage is no longer compliant with the requirements of this Agreement without Design-Builder or Design-Builder's insurance carrier giving thirty (30) days prior written notice to Dominion.

(g) **Certificates of Insurance**. No later than thirty (30) days prior to site mobilization, Design-Builder shall provide certificates of insurance to Dominion from Design-Builder's and each of its subcontractors' insurers, certifying that Design-Builder's and such subcontractors' insurance coverage is in the form and amount required by this Agreement. Failure of Dominion to demand certificate(s) of

insurance or other evidence of full compliance with these insurance requirements or failure of Dominion to identify a deficiency from evidence that is provided will not be construed as a waiver of Design-Builder's obligation to maintain such insurance and will in no way relieve or limit Design-Builder's obligations and liabilities under this or any other provisions of this Agreement.

(h) Substitute Coverage. If during the term of this Agreement Design-Builder's or any Subcontractor's insurance coverage is materially changed or if it terminates, then Dominion may procure, on Design-Builder's or its subcontractors' behalf, insurance that meets the requirements of this Agreement. Any premiums or other costs or fees (including without limitation fees paid to any insurance broker or agent) incurred as a result of procuring substitute coverage may be charged to Design-Builder.

(i) Insurance No Limit to Liability. Unless otherwise expressly stated, the Parties agree that any requirement for insurance imposed upon Design-Builder or its subcontractors by this Agreement is not intended nor shall it be construed as any limit of liability of Design-Builder under this Agreement.

(j) Insurer Insolvency. The insolvency, liquidation, bankruptcy, or failure in any way of an insurer providing insurance required by this Agreement, or the failure of any such insurer to defend or cover in full the obligations under this Agreement, shall not be considered a waiver of, nor shall it excuse Design-Builder from complying with, any of the provisions of this Agreement.

IMPORTANT NOTE: Design-Builder may satisfy the minimum limits and coverages below, at Design-Builder's option, through primary insurance or a combination of lower limit primary underlying insurance together with a separate excess or Umbrella Liability policy. Umbrella or excess policies must follow form of the primary liability. Any deductibles or retentions on any of the policies required herein shall be the sole responsibility of Design-Builder and its subcontractors.

1. **Worker's Compensation** insurance in the state or states where the Improvements are to be installed (or any associated materials and equipment created) or in any other state where the employees installing the Improvements (or creating, assembling, delivering, or otherwise working on any associated materials and equipment) are normally employed.

2. **Employer's Liability** insurance with a total limit of at least **two million dollars (\$2,000,000) per accident for bodily injury by accident and two million dollars (\$2,000,000) per employee for bodily injury by disease**.

3. **Commercial General Liability ("CGL")** insurance with a total limit of at least **two million dollars (\$2,000,000) per occurrence** (occurrence form policy) for bodily injury, property damage and personal injury. CGL insurance required by this Agreement shall include, but not be limited to, specific coverage for contractual liability; premises/operations liability; and products/completed operations liability. In addition, CGL insurance required by this Agreement shall contain no exclusions for fire, explosion, collapse, or underground hazards. Design-Builder shall maintain the completed operations liability insurance for at least five (5) years or the statute of repose, whichever is greater, following completion of the installation of the Improvements.

4. **Automobile Liability** insurance covering bodily injury and property damage with a total limit of at least **two million dollars (\$2,000,000) per accident**, which will cover liability arising out of any auto (including owned, hired, and non-owned autos).

5. **Excess or Umbrella Liability** insurance on an occurrence basis covering claims in excess of the underlying insurance described in (2) to (4). above, with a limit of **fifteen million dollars (\$15,000,000) per occurrence**. Such insurance shall include completed operations coverage with the same limits for at least five (5) years or the statute of repose, whichever is greater, following the completion of the installation of the Improvements.

6. On or before the start of construction, Design-Builder shall provide a **Builder's Risk** insurance policy on an "all risk" basis. Such insurance shall provide at all times no less than the full reinstatement value of the Improvements and provide coverage for:

- (a) the buildings, structures, machinery, materials and equipment, permanent and temporary facilities, fixtures, supplies, and all other properties constituting a part of the Improvements;
- (b) off-site storage with applicable sub-limits of any property or materials and equipment not stored on the project site;
- (c) design defect coverage of LEG 2 to the extent commercially available;
- (d) inland transit to cover cargo exposure; and
- (e) contain a 50/50 clause.

Deductibles in the Builder's Risk policy shall in no event exceed two hundred fifty thousand dollars (\$250,000) for each and every loss, except one million dollars (\$1,000,000) for each and every loss during hot testing, if applicable. Dominion shall be named as insured on the Builder's Risk policy with a waiver, where allowed by law, of insurer's right of subrogation. Design-Builder shall be responsible for payment of all deductibles. Coverage shall remain in place until the end of construction, including testing and commissioning and continuing until operational handover.

7. *If applicable to the Agreement or the Improvements*, **Professional Liability / Errors & Omissions ("Professional Liability Insurance")** insurance with a combined single limit of liability of not less than **five million dollars (\$5,000,000) per claim**.

8. *If applicable to the Agreement or the Improvements and if Design-Builder will have access to Confidential Information or computer networks (both enterprise and operational technology) of Dominion or Dominion Affiliates in connection with performance of the Work*, **Information and Network Security / Cyber Liability ("Cyber Liability")** insurance with a limit of liability of not less than **five million dollars (\$5,000,000) per claim**, covering Design-Builder, its employees, Subcontractors, agents, and assigns for claims and demands resulting from negligent or wrongful acts of Design-Builder or Design-Builder Personnel in the performance of or failure to perform any Work or support for Work, including but not limited to claims, demands, or other payments Dominion may become legally or contractually obligated to pay for (a) infringement of intellectual property (except patent infringement), (b) failures in electronic and non-electronic security, (c) breach of confidentiality, including but not limited to breach of personal

information, or (d) invasion of or breach of privacy. Design-Builder shall maintain such Cyber Liability insurance for at least two (2) years following completion of the Work. Design-Builder may satisfy this requirement by including Cyber Liability coverage under its Professional Liability insurance (if applicable) provided such coverage meets the above requirements.

9. *If applicable to the Agreement or the Improvements, **Pollution Liability** insurance with limits not less than **five million dollars (\$5,000,000) each occurrence** and **five million dollars (\$5,000,000)** in annual aggregate, covering sudden/accidental and gradual pollution losses arising from the Work as detailed in subsections (a), (b), and (c) below.*

- (a) For pollution arising during the installation of the Improvements and after completion of the Improvements, coverage shall apply to the discharge, dispersal, release, or escape of dust, smoke, vapors, soot, fumes, acids, alkalis, toxic chemicals, liquids or gases, waste materials, or other irritants, contaminants, or pollutants into or upon land, the atmosphere, or any watercourse or body of water, which result in any bodily injury, sickness, disease, mental anguish, or shock sustained by any person, including death; and/or property damage, including physical injury to or destruction of tangible property including the resulting loss of use thereof, clean-up costs, and the loss of use of tangible property that has not been physically injured or destroyed (any such incident referred to herein as a “**Pollution Incident**”). Coverage shall apply to the cost of defending any claims arising from a Pollution Incident including costs, charges, and expenses incurred in the investigation, adjustment, or defense of such claims.
- (b) *If applicable to the Agreement or the Improvements, coverage shall apply to pollution liability arising out of the use of vehicles to transport pollutants or contaminants; such coverage to be included in the pollution liability policy or by endorsing the Commercial Auto Liability policy with the Pollution Liability – Broadened Coverage For Covered Autos – Business Auto, Motor Carrier And Truckers Coverage Form (form CA 99 48) or a similar form; and where required by law, the Commercial Auto Liability policy shall include the MCS-90 endorsement.*
- (c) *If applicable to the Agreement or the Improvements, coverage shall apply to pollution liability arising out of owned and non-owned disposal sites.*

10. *If applicable to the Agreement or the Improvements, **Aircraft Liability** insurance covering all owned and non-owned unmanned aircraft systems (“**UAS**”) or unmanned aerial vehicles (“**UAV**”) used in the installation of the Improvements, subject to a combined single limit of liability of not less than **three million dollars (\$3,000,000)**.*

HRSD Commission Meeting Minutes
November 22, 2022
Attachment #9

10. Boat Harbor Pump Station Land Acquisition
Acquisition of Real Property for a Public Purpose
1201 Terminal Avenue, Newport News
Agreement Amendment

THIRD AMENDMENT TO PURCHASE, SALE, AND COST SHARING OPTION AGREEMENT

THIS THIRD AMENDMENT TO PURCHASE, SALE, AND COST SHARING OPTION AGREEMENT (this "Amendment") made this 22 day of November, 2022, by and between **RIVER PORT, LLC**, a Virginia limited liability company, hereinafter referred to as "Seller," and **HAMPTON ROADS SANITATION DISTRICT**, a political subdivision of the Commonwealth of Virginia ("HRSD"), as purchaser (collectively, the "Parties").

RECITALS

- A. The Parties entered into a certain Purchase, Sale, and Cost Sharing Option Agreement dated as of December 30, 2021 (as amended the "Agreement") setting forth the terms and conditions on which HRSD has agreed to purchase, and Seller has agreed to sell, approximately 4.7 acres of land designated and defined as the "Property" in the Agreement. The parties have executed two amendments to the Agreement, one dated January 25, 2022, and the other dated April (undated) 2022.
- B. Seller has agreed to grant to HRSD a temporary construction easement over a portion of the Retained Property (as defined in the Agreement) and HRSD has agreed to improve a portion of the Retained Property for use as a laydown area.
- C. Seller has agreed to grant to HRSD a temporary drilling easement for purposes of connecting the pipe described in Section 3(e) of the Agreement to HRSD's pipe(s) lying under the James River and extending to HRSD's facilities in Suffolk, Virginia.

NOW, THEREFORE, the Parties hereby agree as follows:

1. **DEFINED TERMS.** Except as otherwise defined herein, all capitalized terms used in this Amendment shall have the same meanings given to such terms in the Agreement. All references in the Agreement or this Amendment to the "Agreement" shall mean the Agreement, as amended by this Amendment.
2. **AMENDMENT.** The Agreement is hereby amended as follows:
 - (a) The following language is added at the end of Recital A on page 1 of 18:

The Retained Property consists of two (2) parcels, one located to the south of the Property (the "South Retained Property:") and the other located on the north of the Property (the "North Retained Property").
 - (b) The sixth sentence of Subsection 3(a), beginning with the words "If (i) the City requires revisions ...," is hereby deleted in its entirety and replaced with the following:

Seller has caused VHB to design on its behalf, HRSD has approved, and Seller has submitted to the City of Newport News for its approval, the Stormwater Plan set forth in the drawing entitled, "River Port Stormwater Masterplan," that is referenced in Subsection 3(q) hereof

and attached as Schedule 3(h)-1 to the Agreement. The Parties acknowledge and agree that the Stormwater Plan may or may not be modified in order to obtain the approval of the City of Newport News. Such Stormwater Plan, as finally approved by the City of Newport News, will be considered the "Final Approved Stormwater Plan". The cost to design the Stormwater Management System as will be finally shown in the Final Approved Stormwater Plan (the "Stormwater Design Work") shall be the amounts billed to Seller for all such Stormwater Design Work by VHB or Seller's other design consultants. The cost to construct the Stormwater Management System (the "Stormwater Construction Work" and collectively with the Stormwater Design Work, the "Stormwater System Work") shall be the amounts payable in accordance with a fixed price contract or guaranteed maximum price contract entered into by Seller and its contractor for the performance of the Stormwater Construction Work, including (a) any change orders or modifications thereto based on unforeseen site conditions and/or (b) any other change orders or modifications approved by HRSD. Seller agrees to solicit competitive bids for the Stormwater Construction Work from not less than three qualified contractors and to select the winning bid after consultation with HRSD. Seller shall pay the total aggregate cost of the Stormwater System Work up to \$1,008,018 (the "Cap Amount"). HRSD agrees to pay the total aggregate cost of the Stormwater System Work in excess of the Cap Amount. If Seller's total aggregate cost to complete the Stormwater System Work exceeds the Cap Amount (the "Excess System Work Costs"), Seller shall send HRSD an invoice or invoices for all Excess System Work Costs and shall document all of the Excess System Work Costs incurred by Seller for the Stormwater System Work. HRSD shall pay the amount of each invoice submitted by Seller for Excess System Work Costs within thirty (30) days after its receipt of any such invoice. If Seller decides to expand the Stormwater Management System beyond the scope of Stormwater Construction Work shown in the Final Approved Stormwater Plan in any material respect for any reason other than to comply with the requirements of a governmental authority, the additional cost caused by such expanded scope of Stormwater Construction Work shall be borne by Seller.

(c) The following is added to the end of Subsection 3(d):

Prior to the commencement of construction of any entrance onto the Property from Harbor Road or Terminal Avenue or otherwise taking any action that would affect or interfere with the access to the South Retained Property from any public street or from the North Retained Property, HRSD shall, at its cost, construct a road (the "South Retained Property Access Road") twenty four (24) feet in width providing access to the South Retained Property from Harbor Road

in the location shown as "HRSD TO PROVIDE NEW ENTRANCE PRIOR TO CLOSURE OF SOUTH ACCESS DRIVE" and "POST CONSTRUCTION PERMANENT ACCESS" on Schedule 3(h)-1. HRSD shall obtain all permits for construction of the Retained Property Access Road and shall cause it to be constructed lien free, in compliance with all applicable laws, and in a good and workmanlike manner.

- (d) The first sentence of Subsection 3(e), beginning with the words "Seller shall grant HRSD an easement..." is hereby deleted in its entirety and replaced with the following:

Seller shall grant HRSD a permanent easement under the South Retained Property for the construction, maintenance, repair, and replacement of an underground pipe to convey wastewater from HRSD's facilities on the Property to HRSD's pipe to be constructed under the James River to convey wastewater to HRSD's plant in Suffolk (the "**Permanent Force Main Easement**"). The Permanent Force Main Easement is either thirty (30) feet wide or forty (40) feet wide, depending on its location as shown on Exhibit 3 and labeled as "30' Permanent Easement" and "40' Permanent Easement", respectively. Along those portions of the Permanent Force Main Easement that are thirty (30) feet wide, there is a temporary construction easement, fifteen (15) feet wide to be used for construction of the force main (the "**Temporary Force Main Easement**"). The term of the Temporary Force Main Easement shall commence on the date of the Closing (the "Closing Date") and end on April 30, 2026.

- (e) The first sentence of Subsection 3(g), beginning with the words "Seller shall reserve for the benefit of itself ...," is hereby deleted in its entirety and replaced with the following:

Seller shall reserve for the benefit of itself as the owner of the North Retained Property and South Retained Property, and its successors, a perpetual, non-exclusive vehicular and pedestrian easement across the Property, not less than twenty-four (24) feet in width, to provide access between the North Retained Property and the South Retained Property, as shown on Exhibit 3(h)-1 (the "**East Access Easement**"). The East Access Easement will be available when HRSD's construction work for the pump station is complete.

- (f) A new Subsection 3(h) is added to the Agreement as follows:

(h) Seller shall reserve for the benefit of itself as the owner of the North Retained Property and South Retained Property, and its successors, a perpetual, non-exclusive pedestrian and vehicular

easement across the Property, not less than seventeen (17) feet in width, to provide access for pedestrians and vehicles (vehicle use for maintenance, security, or emergency only) between the South Retained Property and North Retained Property, as shown on Exhibit 3(h)-1 (the "**West Access Easement**"). The West Access Easement will be available when HRSD's construction work for the pump station is complete. Seller, or its successors, shall have the right to pave the area encumbered by the West Access Easement.

(g) A new Subsection 3(i) is added to the Agreement as follows:

(i) Seller shall reserve for the benefit of itself as the owner of the North Retained Property and the South Retained Property, and its successors, a temporary, non-exclusive vehicular easement across the property, not less than seventeen (17) feet in width, to provide one-way vehicular access from the South Retained Property to the North Retained Property for emergency use only (the "**North-Bound Temporary Access Easement**"). The location of the North-Bound Temporary Access Easement shall be agreed upon by the Parties prior to Closing. The North-Bound Temporary Access Easement will be available for the period of construction when neither the East Access Easement nor the West Access Easement is in place. HRSD shall have the right to relocate the North-Bound Temporary Access Easement from time to time so long as any such relocation does not make it material more difficult or time consuming, or make it less safe, to cross the Property from the South Retained Property to the North Retained Property.

(h) A new Subsection 3(j) is added to the Agreement as follows:

(j) Seller shall grant to HRSD an exclusive temporary construction easement (the "**2026 Temporary Construction Easement**") on the portion of the North Retained Property shown as the "2026 TEMPORARY LAYDOWN AREA FOR THE BENEFIT OF HRSD" on the drawing attached hereto as Schedule 3(h)-1 (the "**Temporary Construction Easement Area**"). The term of the 2026 Temporary Construction Easement shall commence on the date of the Closing (the "Closing Date") and end on April 30, 2026. HRSD may not begin use of the 2026 Temporary Construction Easement unless and until it has completed the "Laydown Area Work" (defined below) as provided below. Prior to the end of the term of the 2026 Temporary Construction Easement, HRSD shall cause all material and equipment to be removed from the 2026 Temporary Construction Easement Area and shall cause the 2026 Temporary Construction Easement Area to be restored to its condition as it existed on the Closing Date upon the completion of the "Laydown Area Work" or, in Seller's discretion, to leave all or any portion of the

2026 Temporary Construction Easement Area in its then current condition.

(i) A new Subsection 3(k) is added to the Agreement as follows:

(k) Seller shall grant to HRSD an exclusive temporary construction easement (the **"2024 Temporary Construction Easement"**) on the portion of the North Retained Property shown as the "2024 TEMPORARY LAYDOWN AREA FOR THE BENEFIT OF HRSD" on the drawing attached hereto as Schedule 3(h)-1 (the **"Temporary Construction Easement Area"**). The term of the 2024 Temporary Construction Easement shall commence on the date of the Closing (the "Closing Date") and end on January 31, 2024. HRSD may not begin use of the 2024 Temporary Construction Easement unless and until it has completed the "Laydown Area Work" (defined below) as provided below. Prior to the end of the term of the 2024 Temporary Construction Easement, HRSD shall cause all material and equipment to be removed from the 2024 Temporary Construction Easement Area and shall cause the 2024 Temporary Construction Easement Area to be restored to its condition as it existed on the Closing Date upon the completion of the "Laydown Area Work" or, in Seller's discretion, to leave all or any portion of the 2024 Temporary Construction Easement Area in its then current condition.

(j) A new Subsection 3(l) is added to the Agreement as follows:

(l) Prior to May 2023, HRSD shall, at its own cost and expense, cause to be constructed gravel laydown areas in accordance with the Specifications attached hereto as Schedule 3(h)-2 on the portions of the North Retained Property labeled as "2024 TEMPORARY LAYDOWN AREA FOR THE BENEFIT OF HRSD", "2026 TEMPORARY LAYDOWN AREA FOR THE BENEFIT OF HRSD" and "GRAVEL LAYDOWN AREA FOR THE BENEFIT OF RIVERPORT" on Schedule 3(h)-1 (the **"Laydown Area Work"**),

(k) A new Subsection 3(m) is added to the Agreement as follows:

(m) Seller shall grant to HRSD an exclusive temporary easement for use of a drilling station to support HRSD's installation of an underground pipe under the James River connecting to the underground pipe installed in the easement area under the Retained Property pursuant to Section 3(f) above (the **"Drilling Easement"**). Such Drilling Easement shall be located on the portion of the Retained Property shown as the "Temporary Work Area" on the drawing attached hereto as Exhibit 3 (the "Drilling Easement Area"). The term of the Drilling Easement shall commence on the Closing

Date and end on October 30, 2024. HRSD's use of the Drilling Easement shall not interfere with Seller's use, or adversely affect the condition of, any portion of the Retained Property outside the Drilling Easement Area, and HRSD shall indemnify and hold Seller harmless from and against any and all liability, loss, damages, claims, cost or expenses incurred by Seller (including without limitation, reasonable attorneys' fees) arising out of or relating to HRSD's use of the Drilling Easement. Prior to the end of the term of the Drilling Easement, HRSD shall cause all material and equipment to be removed from the Drilling Easement Area and shall cause the Drilling Easement Area to be restored to its condition as it existed on the Closing Date or, in Seller's discretion, to leave all or any portion of the Drilling Easement Area in its then current condition. Throughout the term of the Drilling Easement, HRSD shall maintain and cause its contractor to maintain the insurance described in Subsection 3(p) below as a condition of HRSD's use of the Drilling Easement.

(l) A new Subsection 3(n) is added to the Agreement as follow:

(n) Seller shall grant to HRSD a temporary construction easement to build a temporary gravel road near the Drilling Easement for use by HRSD and Seller while the Drilling Easement is in use by HRSD (the "**Drilling Road Temporary Construction Easement**"). Such Drilling Road Temporary Construction Easement shall be located on the portion of the South Retained Property shown as the "24 FT. WIDE TEMPORARY ACCESS ROAD" on the drawing attached hereto as Exhibit 3 (the "Drilling Easement Area"). The term of the Drilling Road Temporary Construction Easement shall commence on the Closing Date and end on October 30, 2024. Prior to the end of the term of the Drilling Road Temporary Construction Easement, HRSD shall cause all material and equipment to be removed from the Drilling Road Temporary Construction Easement Area and shall cause the Drilling Road Temporary Construction Easement Area to be restored to its condition as it existed on the Closing Date or, in Seller's discretion, to leave all or any portion of the Drilling Road Temporary Construction Easement Area in its then current condition.

(m) A new Subsection 3(o) is added to the Agreement as follows:

(o) Seller shall grant to HRSD a perpetual, non-exclusive, easement for access to the Property by vehicles for HRSD and HRSD's agents from Terminal Avenue to the Property twenty four (24) feet in width over the portions of the North Retained Property designated as "24' WIDE PERMANENT ACCESS FOR HRSD" and "HRSD TO MAINTAIN 24' WIDE ACCESS FOR RIVER PORT" on Schedule 3(h)-1 (the "**North Access Easement**"). HRSD shall be

responsible for the maintenance of the driveway to be located within the area of the North Access Easement.

(n) A new Subsection 3(p) is added to the Agreement as follows:

(p) HRSD shall be obligated to obtain all necessary permits associated with the Laydown Area Work and access work and shall cause the Laydown Area Work and access work to be performed in a good and workmanlike manner. HRSD and its contractor shall be granted a right of access to the Laydown Area and access areas for the performance of the Laydown Area Work and access work. The Declaration shall provide that HRSD's use of the temporary construction easements shall not interrupt or impede access to the North Retained Property from Terminal Avenue or the South Retained Property from Harbor Road. HRSD shall indemnify and hold Seller harmless from and against any and all liability, loss, damages, claims, cost or expenses incurred by Seller (including without limitation, reasonable attorneys' fees) arising out of or relating to HRSD's use of the temporary construction easements. Until the term of the temporary construction easements expire, and as a condition for the use of the temporary construction easements, HRSD shall maintain a policy of commercial liability insurance for its activities within the Temporary Construction Easement Areas and Laydown Area and shall cause its contractor to maintain a policy of commercial liability insurance with respect to the performance of the Laydown Area Work and use of the temporary construction easements, and both such policies shall have a combined single limit of coverage in the amount of \$2,000,000 per occurrence and \$5,000,000 in the aggregate and shall name Seller as an additional insured. Such coverage may not be reduced, canceled or permitted to expire without at least 30 days' advanced written notice to Seller. HRSD shall provide certificates of insurance to Seller evidencing such coverage.

(o) A new Subsection 3(q) is added to the Agreement as follows:

(q). The drawing entitled "River Port Stormwater Masterplan" attached to this Amendment as Schedule 3(h)-1 is hereby incorporated into the Agreement as Schedule 3(h)-1. The specifications attached to this Amendment as Schedule 3(h)-2 are hereby incorporated into the Agreement as Schedule 3(h)-2.

3. **CONTINUING VALIDITY.** Subject to the modifications set forth herein, the Agreement remains in full force and effect.
4. **GOVERNING LAW.** This Amendment shall be governed by, and construed in accordance with, the internal laws of the Commonwealth of Virginia.



SELLER:

RIVER PORT, LLC,
a Virginia limited liability company

By: [Signature]
Jorge L. Rivera, CEO/Chairman

COMMONWEALTH OF VIRGINIA

AT LARGE, to-wit:

The foregoing instrument was acknowledged before me in the City of Norfolk, Virginia, this 6 day of December 2022, by Jorge L. Rivera, CEO/Chairman of River Port, LLC. He is personally known to me or has produced US passport 567471392 as identification.

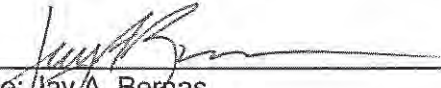
[Signature]
Notary Public

My commission expires: 3/31/2023

Notary registration number: 7643141

HRSD:

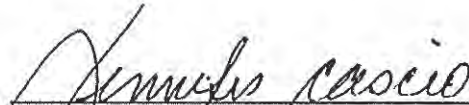
HAMPTON ROADS SANITATION DISTRICT

By: 
Name: Jay A. Bernas
Title: General Manager

COMMONWEALTH OF VIRGINIA

AT LARGE, to-wit:

The foregoing instrument was acknowledged before me in the City of Virginia Beach, Virginia this 22nd day of November, 2022, by Jay A. Bernas, General Manager of Hampton Roads Sanitation District. He personally known to me.


Notary Public

My commission expires: _____

Notary registration number: _____

JENNIFER LYNN CASCIO
NOTARY PUBLIC- Reg. #381710
COMMONWEALTH OF VIRGINIA
MY COMMISSION EXPIRES AUGUST 31, 2026

Exhibit 3

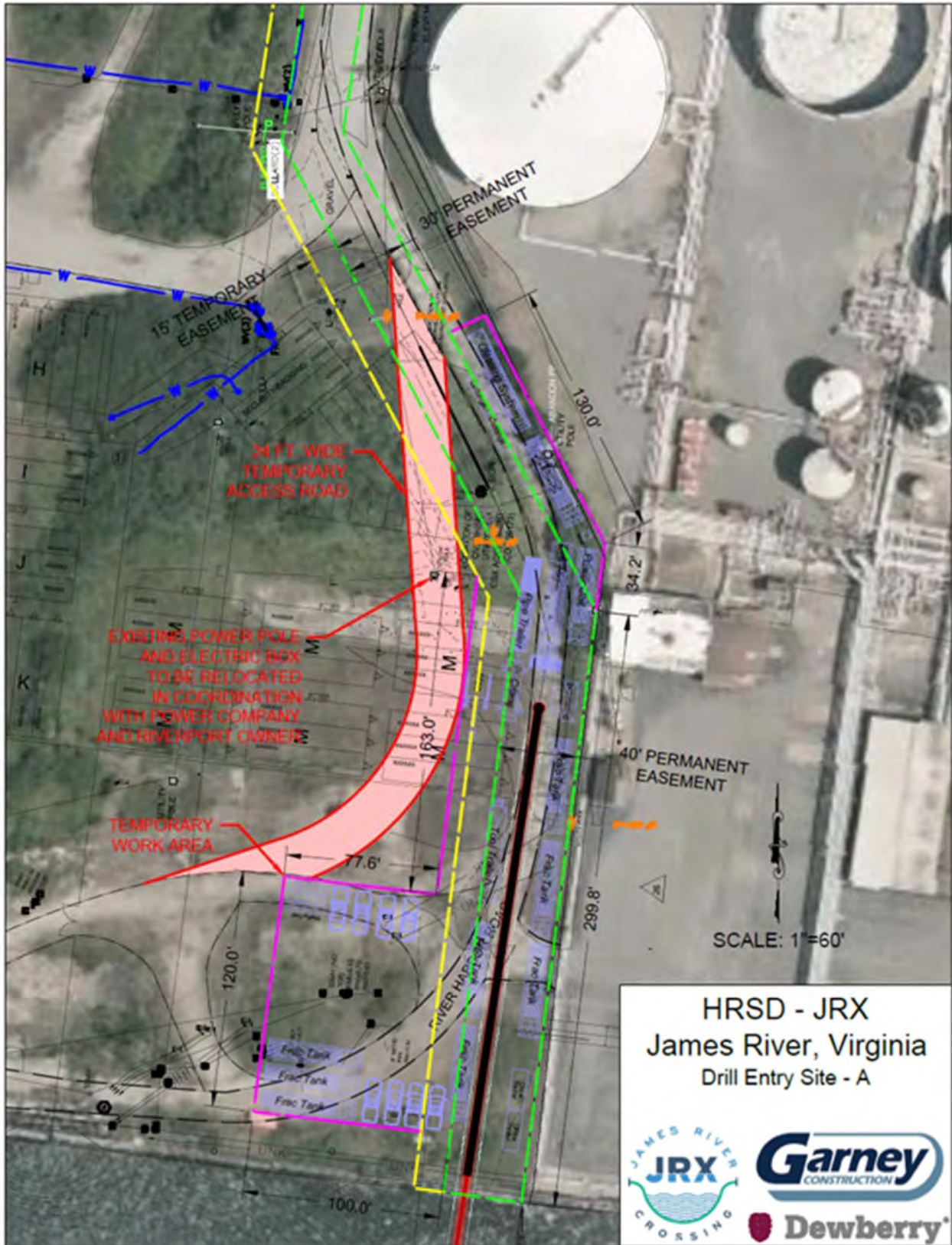
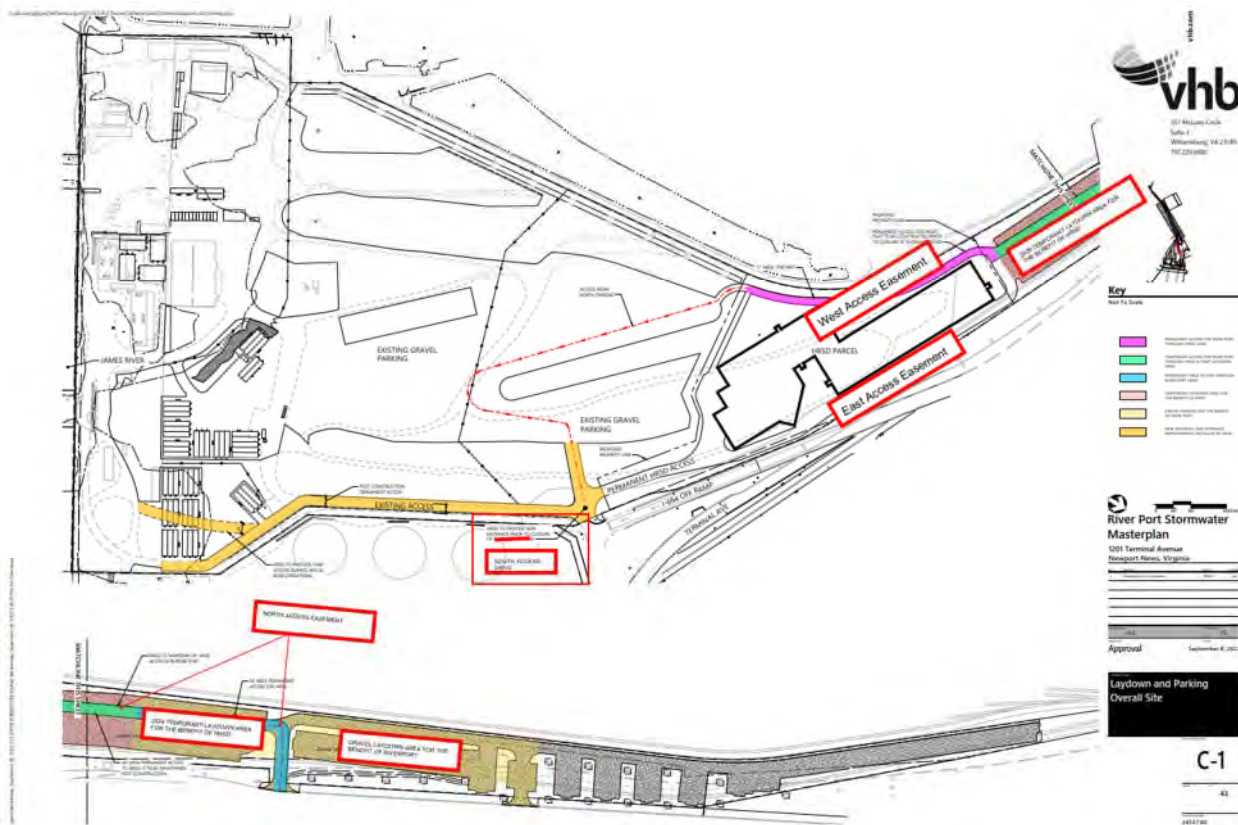


Exhibit 3(h)- 1



Schedule 3(h) – 2

Exhibit 2

SECTION 321100 TEMPORARY GRAVEL PAVEMENT

I. GENERAL

1.1 DESCRIPTION OF WORK

The Contractor shall furnish all labor, supervision, material (except as herein provided), tools, equipment, supplies, and services; and, shall perform all Work necessary for the furnishing and placement of aggregate base course material. The Work shall consist of furnishing and placing one or more courses of aggregates and additives, if required, on a prepared surface in accordance with the requirements of these specifications and in conformity with the lines, grades, typical sections, and cross sections shown in the Contract Documents or as established by the Owner.

1.2 MATERIALS

Aggregate shall conform to the latest version of Virginia Department of Transportation's Road and Bridge Specification, Section 208 as well as all other sections referenced therein.

1.3 SUBMITTALS

Submittals shall be made by the Contractor in accordance with the procedures set forth in Section 105 of the Hampton Roads Regional Construction Standards and Section 208 of the latest version of Virginia Department of Transportation's Road and Bridge Specification.

II. EXECUTION

2.1 PROCEDURES

- A. Equipment used for the construction of aggregate base course shall be approved by the Owner prior to performance of such work. Any machine, combination of machines, or equipment that will handle the material without undue segregation and produce the completed base in accordance with the requirements of these specifications for spreading, moistening, mixing, and compacting will be acceptable to the Owner.
- B. The Contractor shall execute the Work in accordance with the latest edition of the VDOT Road and Bridge Specifications, Section 305.03, Procedures. Any references to "Engineer" or VDOT personnel shall mean the "Owner".
- C. The material 8-inch section of aggregate shall be spread and compacted in two layers of approximately equal thickness. The compacted thickness of any one layer shall be not more than 6-inches.
- D. After mixing and shaping, each layer of base course shall be compacted at optimum moisture, within +2 percent of optimum moisture content. The density of each layer of base aggregate material, when compared to the theoretical maximum density as determined in accordance with the requirements of the Virginia Test Methods Manual VTM-1, shall conform to the following:

<u>% Material Retained on No. 4 Sieve</u>	<u>Min. % Density</u>
0 - 50	100
51 - 60	95
61 - 70	90

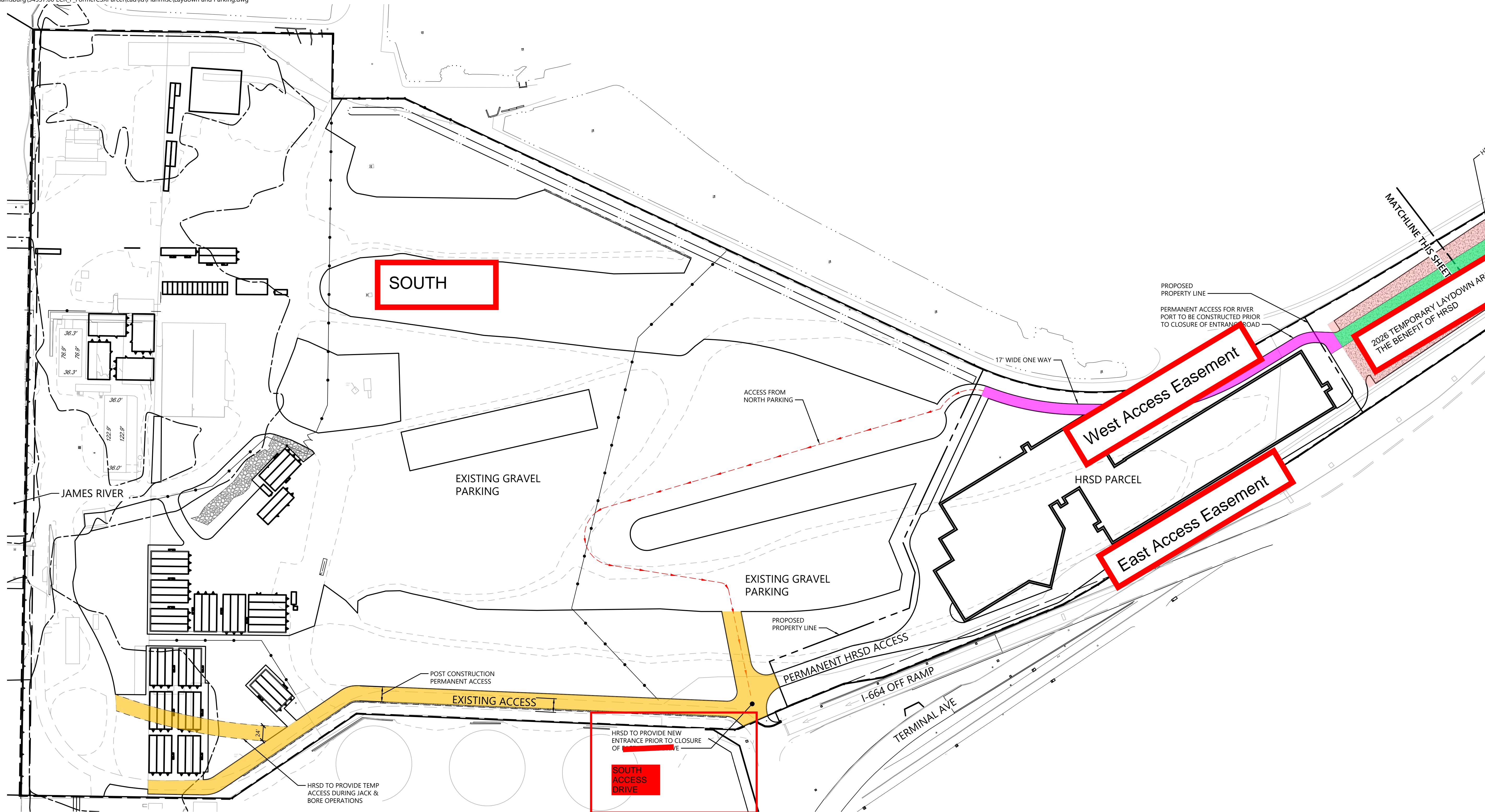
Percentages will be reported to the nearest whole number.

- E. Not more than one sample in every five shall have a density less than that specified, and the density of such a sample shall be not more than 2 percent below that specified. The surface of each layer shall be maintained during the compaction operations in a manner such that a uniform texture is produced and the aggregates are firmly keyed. Water shall be uniformly applied over the base materials during compaction in the amount necessary to obtain proper density.
- F. Irregularities in the surface shall be corrected by scarifying, remixing, reshaping, and recompact until a smooth surface is secured. The surface shall thereafter be protected against the loss of fine materials by the addition of moisture, when necessary, and shall be maintained in a satisfactory and smooth condition until accepted by the Owner.
- G. The base course shall be tested in place by the Contractor for depth and density. Field density determinations will be performed with a nuclear field density device in accordance with the Virginia Test Methods Manual VTM-10 or in accordance with the requirements of AASHTO T191. The method of density determination will be as directed by the Owner.

2.2 TOLERANCES

- A. The thickness of the base course will be determined by the depth measurement of holes dug in the base in accordance with the requirements of the Virginia Test Methods Manual VTM-38B.
- B. Acceptance of the base course for the physical property of depth will be based on the mean result of tests performed on samples taken from each lot of material placed. A lot of material is defined as the quantity being tested for acceptance except that the maximum lot size will be 6 acres of pavement application width.
- C. A lot will be considered acceptable for depth if the mean result of the tests is within the following tolerance of the Drawing depth for the number of tests taken except that each individual test shall be within + 1.00-inch of the Drawing depth: mean of two tests, + 0.75-inch; mean of three tests, + 0.60-inch; and mean of four tests, + 0.50-inch.
- D. Areas that are deficient in depth by more than 2 inches, material added or removed, reshaped, and recompact to the specified density so as to conform to the depth tolerance and provide a uniform surface.

END OF SECTION 321100



Key
Not To Scale

- PERMANENT ACCESS FOR RIVER PORT THROUGH HRSD LAND
- TEMPORARY ACCESS FOR RIVER PORT THROUGH HRSD & TEMP LAYDOWN AREA
- PERMANENT HRSD ACCESS THROUGH RIVER PORT LAND
- TEMPORARY LAYDOWN AREA FOR THE BENEFIT OF HRSD
- GRAVEL PARKING FOR THE BENEFIT OF RIVER PORT
- NEW DRIVEWAY AND ENTRANCE IMPROVEMENTS INSTALLED BY HRSD



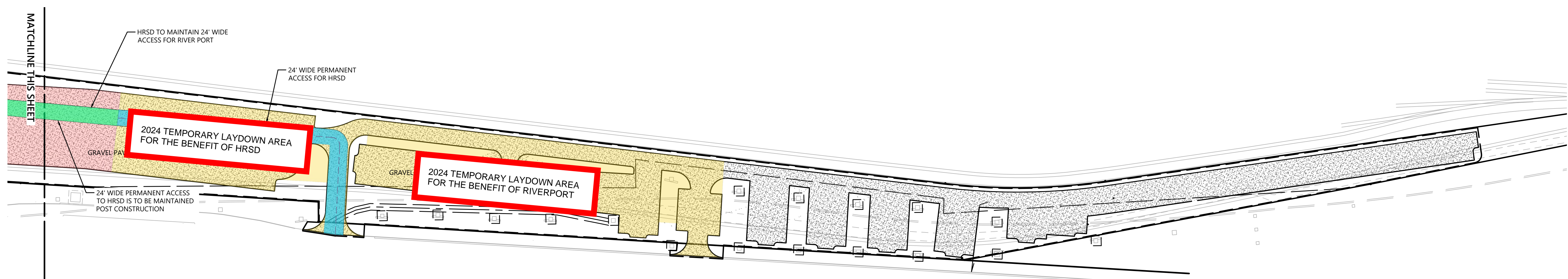
River Port Stormwater Masterplan

1201 Terminal Avenue
Newport News, Virginia

No.	Revision	Date	Appvd.
1	Revised per City comments	9/8/22	AJL

Designed by: **AJL** Checked by: **PS**
 Issued for: _____ Date: _____
Approval September 8, 2022

Laydown and Parking Overall Site



HRSD Commission Meeting Minutes
November 22, 2022
Attachment #10

11. Lafayette Norview-Estabrook Pump Station Replacements – City Park Pump Station
Acquisition of Real Property
3500 Granby Street, Norfolk

TRANSFER OF PROPERTY AGREEMENT

THIS TRANSFER AGREEMENT (this "Agreement") made this ____ day of _____, 2022, by and between **CITY OF NORFOLK**, Virginia, (City), a municipal corporation of the Commonwealth of Virginia, and **HAMPTON ROADS SANITATION DISTRICT**, ("HRSD"), a political subdivision of the Commonwealth of Virginia, their successors and /or assigns.

RECITALS

- A. City is the owner in fee simple absolute of a certain parcel of property consisting of approximately 8,357 square feet [0.192 acre] in area, located at 3500 Granby Street in the City of Norfolk, such property being more particularly described in Exhibit A and shown on Exhibit B, both of which are attached to and made a part of this Agreement ("New Parcel").
- B. HRSD desires to obtain New Parcel from the Seller for the purpose of constructing a new sewer pump station as part of the HRSD Lafayette Norview-Estabrook Pump Station Replacements (VP015400) project.
- C. City is willing to convey New Parcel to HRSD subject to the terms and conditions set forth in this Agreement.
- D. After HRSD has completed construction of the new pump station, HRSD shall demolish their existing pump station located on a certain parcel of property identified as "Parcel 1347", consisting of 1,347 square feet (0.0318 acre), as shown on plat attached hereto as Exhibit C entitled "Plat showing property to be vacated and conveyed by Hampton Roads Sanitation District to City of Norfolk, project; HRSD VP015400 City Park PS #106" dated _____, _____ prepared by Precision Measurements, Inc.
- E. HRSD is willing to convey "Parcel 1347" to the City subject to the terms and conditions set forth in this Agreement.
- F. These recitals are incorporated by this reference into this Agreement.

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

1. TRANSFER.

- a. The City, the Conveying Party, agrees to convey to HRSD, the Receiving Party, "New Parcel", together with all rights and appurtenances thereto.,

- b. HRSD, the Conveying Party, agrees to convey to the City, the Receiving Party, "Parcel 1347", together with all rights and appurtenances thereto.

2. CONVEYANCE.

- a. City and HRSD hereby acknowledge that the transfers contemplated in this Agreement will require two separate closings. At the First Closing, City shall convey title to New Parcel to HRSD. Said First Closing shall occur on or before 120 days from the Effective Date.
- b. At the Second Closing HRSD shall convey title to Parcel 1347 to the City. Said Second Closing shall occur after HRSD has completed construction of the New Pump Station on New Parcel, after HRSD has completed the demolition of their existing pump station located on Parcel 1347 and upon completion of HRSDs restoration of Parcel 1347 to its natural state as depicted in Exhibit D, attached hereto.
- c. At the First Closing and Second Closing the respective Conveying Party shall convey title to the respective Receiving Party by Special Warranty Deed. Both conveyances shall be free and clear of any and all liens, mortgages, deeds of trust, security interests, leases, covenants, conditions, restrictions, easements, rights-of-way, licenses, encroachments, judgments or encumbrances of any kind, except for the following permitted exceptions: (a) the lien of real estate taxes not yet due and payable; (b) zoning and building restrictions and other laws, ordinances, and regulations of governmental bodies having jurisdiction over the Property; and (c) matters of record affecting title to the property and any new additional covenants noted in this agreement, to be included in the conveyance deed, as reviewed and approved (or deemed approved) by the Receiving Party in accordance with this Agreement. Except as expressly stated in this Agreement, both parcels shall be conveyed in "AS IS" condition.

Title to both parcels shall be good and marketable. Both parties may obtain title insurance, insurable by a nationally recognized ALTA title insurance company of HRSD's choice at or below normal rates. In the event that a title examination discloses defects of title or other matters unsatisfactory to the Receiving Party, at the Receiving Party's sole determination, the Receiving Party shall notify the Conveying Party in writing (an "Objection Notice"), within ninety (90) days of the Effective Date, of such title defects or other matters to which the Receiving Party objects. The Conveying Party covenants that it shall cure all monetary encumbrances and all title objections which may be cured by execution of a document

requiring the signature of no party other than the Conveying Party (including any affidavits which may reasonably be required by the title insurer – noting that the City and HRSD shall not be required to, and will not, obligate itself to indemnify any entity). The Conveying Party may notify the Receiving Party in writing (an "Objection Response"), within ten (10) business days after receiving an Objection Notice if it believes that the Objection Notice makes reference to any title defect or other matter that Conveying Party cannot or elects not to cure. Upon receipt of an Objection Response from the Conveying Party, the Receiving Party shall have the option either to (i) terminate this Agreement by giving written notice to the conveying party within ten (10) business days of the Objection Response or (ii) accept the defects, exceptions or other matters referenced in such Objection Response and proceed to Closing hereunder without any change to the terms of this Agreement. The Conveying Party shall have the period until the Closing date within which to correct all defects, exceptions or other matters that it is required or elects to cure. The Conveying Party shall provide such documents (including evidence of authority), affidavits, and other instruments that may be reasonably required for the issuance of a title insurance policy to the Receiving Party.

- d. Possession of New Parcel shall be given to HRSD at the First Closing except that HRSD will have the right of entry to New Parcel for the purpose specified herein. Possession of Parcel 1347 shall be given to City at Second Closing.
- e. The City and HRSD agree that the attorney selected by HRSD shall act as the Settlement Agent at HRSD's expense. The Settlement Agent shall prepare the settlement statements, update and record the deeds, collect and disburse settlement funds in accordance with this Agreement and the settlement statements, and file any required state and federal tax forms or other certifications.
- f. After the construction of the new pump station on "New Parcel", HRSD shall demolish the existing pump station located on "Parcel 1347", to a depth of at least three feet (3') below finished grade, and shall restore "Parcel 1347" to ground level with grade and seed. Said work is part of the HRSD Norview Estabrook Pump Station Replacements (VPO15400) project and said "Parcel 1347" will be restored as shown on Exhibit D and in accordance with the City's standard site plan review process". Said restoration shall include improvements for a vehicle backup area abutting the street as shown on Exhibit D.

4. RIGHT OF ENTRY. HRSD and HRSD's authorized representatives may at any reasonable time and after giving reasonable notice to the City, enter upon "New Parcel" for the purpose of making inspections, appraisals, surveys, including but not limited to the cutting of survey lines and putting up markers and driving stubs and stakes, site analysis, engineering studies, core sampling for engineering reports, and locating existing rights of way, easements, and utilities. HRSD will exercise this right of entry in such a way so as to not cause unreasonable damage to the property. HRSD agrees to indemnify and save harmless the City from all claims of liability for any personal injury or property damage or otherwise to any person or property caused by any action or omission of HRSD or its agents on the property before or after Closing.

5. CONDITIONS AND CONTINGENCIES.
 - a. The Receiving Party's obligations are expressly conditioned upon the waiver or satisfaction of each of the following conditions in the sole determination of the Receiving Party. If any one of the following conditions cannot be met within 90 days after the Effective Date (the Effective Date being defined as the last date the contract is signed by either party), the Receiving Party may unilaterally terminate this Agreement:
 - i. Receipt of a satisfactory title commitment with all unacceptable title exceptions, encumbrances, and conditions as deemed by the Receiving Party removed or cured at the Conveying Party's cost; however, if the Conveying Party chooses not to remove or cure any such title exception, the Receiving Party's sole remedy shall be to terminate this Agreement.
 - ii. Receipt of a Phase I Environmental Assessment and Report (Phase I Report) on "New Parcel" conducted and prepared by an environmental engineering and inspection company selected by HRSD at HRSD's expense and such other testing and reports as may be reasonably required by HRSD or recommended in the Phase I Report.
 - iii. Both parties' compliance of all its obligations under this Agreement.
 - b. This Agreement is expressly conditioned upon the completion of all title and environmental "due diligence" by the Receiving Party and notification to the Conveying Party in writing of any conditions that are unsatisfactory to the Receiving Party within the ninety (90) day period. In the event the Receiving Party fails to notify the

Conveying Party in writing within such 90 day period, any objection to such conditions shall be deemed waived by the Receiving Party and the parties shall proceed to closing; provided, however, in no event shall any mortgage, deed of trust, security agreement or monetary lien against either parcel be deemed a waived objection and the Conveying Party agrees that the same shall be removed and released as liens on each parcel on or before Closing.

- c. This Agreement is contingent upon its review and approval by the Hampton Roads Sanitation District Commission and upon the Commission granting authorization to the General Manager to sign this Agreement and proceed under its terms.
- d. This Agreement is contingent upon its review and approval by the City Council of the City of Norfolk, Virginia and upon the City Council granting authorization to the City Manager to sign this Agreement and proceed under its terms.

6. ENVIRONMENTAL AND RELATED MATTERS.

- a. As a condition precedent to each of the above referenced conveyances, each party, at their respective sole expense, may have a Phase I Environmental Assessment of "New Parcel" and "Parcel 1347" performed by a qualified environmental consultant (the Consultant) selected by each respective Receiving Party and reasonably acceptable to the Conveying Party, conducted in accordance with standard commercial practice at the time of the assessment. A copy of the Phase I Environmental Assessment will be made available to the Conveying Party, together with copies of any supplemental reports or assessments.
- b. If the Consultant recommends soil, water, or structural remediation or further assessment activity after or as a result of performing a Phase I Environmental Assessment of either parcel or if either Receiving Party otherwise determines, in its reasonable judgment, that further assessment activity (including, but not limited to, a Phase II Environmental Assessment) is desirable, either Receiving Party may at its option:
 - (i) Terminate this Agreement; or
 - (ii) Extend the time for closing for an additional period of sixty (60) days in order to perform any such additional assessment at the respective Receiving Party's expense; or
 - (iii) Waive the environmental defect and proceed to Closing.

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

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

7. REPRESENTATIONS AND WARRANTIES BY CONVEYING PARTY.

Conveying Party represents and warrants as of the date of this Agreement and as of the date of Closing that: Conveying Party has the right, title, and authority to enter into this Agreement and to perform its obligations hereunder.

Conveying Party further represents and warrants and shall deliver to the Receiving Party at or prior to the date of First Closing and date of Second Closing, an Affidavit evidencing the following facts:

- (i) Other than this Agreement, there are no other contracts for sale or options involving either parcel now in effect.
- (ii) To the best of Conveying Party's knowledge, no other party has any right, title or interest in the property.
- (iii) There are no unrecorded leases, options, licenses or easements existing in connection with the property to which the Conveying Party has knowledge.
- (iv) There are no adverse government notifications or proceedings and there is no pending or threatened litigation or any other potentially adverse claims affecting the property to which the Conveying Party has knowledge.
- (v) From and after the date of this Agreement, the Conveying Party shall not transfer any interest in, or grant any easements or enter into any contractual agreement or understanding, written or oral, with respect to the property or any portion thereof or make any changes at all that require recordation and therefore modifications to title, without the prior written consent of the Receiving Party.
- (vi) The Conveying Party warrants that to the best of his knowledge there are no wetlands or hazardous wastes, which would prevent the Receiving Party's intended use of the land. To the best of the Conveying Party's knowledge:
 - (i) none of the property has been excavated (except for site

restoration and standard grading related to site development); (ii) no hazardous materials, toxic chemicals, or similar substances, as defined by 42 U.S.C. §1251, et seq. or 42 U.S.C. §6901, et seq. or 42 U.S.C. §9601, et seq., or 33 U.S.C. §1317(1), or 15 U.S.C. §2606(f), or 49 U.S.C. §1801, et seq., or regulations adopted pursuant thereto, or any similar provision of any applicable state, Federal, or local law (collectively "Hazardous Materials"), are or were stored or used on or under or otherwise were or are in existence or were in any way dealt with on or under the property; and (iii) no owner or occupant of the property has received any notice from any governmental agency with regard to such Hazardous Materials.

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

HRSD: Jay A. Bernas, P.E.
General Manager
P.O. Box 5911
Virginia Beach, Virginia 23471-0911

Copy to: Conway H. Sheild, III
Jones, Blechman, Woltz & Kelly, P.C.
701 Town Center Drive, suite 800
P. O. Box 12888
Newport News, VA 23612

City: Douglas J. Beaver, Director
Norfolk Department of Utilities
P. O. Box 1080
Norfolk, VA 23510

Copy to: Office of the Norfolk City Attorney
810 Union Street, Suite 900
Norfolk, VA 23510

9. CLOSING. Unless this Agreement is terminated pursuant to its terms or by mutual agreement of the parties, the First Closing will be made at the offices of the Settlement Agent within 120 days of the Effective Date, unless extended by an amendment of this agreement. The Second

Closing will be made at the offices of the Settlement Agent after HRSD's completion of a new pump station on New Parcel, the demolition of their existing pump station located on Parcel 1347 and restoration of said parcel to its natural state as depicted on Exhibit D, unless extended by amendment of this Agreement.

10. SURVIVAL. The provisions contained in this Agreement will be true as of the date of this Agreement and as of the date of First/Second Closing
11. PRORATIONS. All rents, interest, taxes, insurance premiums, utility bills, and fuel oil, if any, will be prorated as of the date of First/Second Closing.
12. RISK OF LOSS. All risk of loss or damage to the property by fire, windstorm, casualty, or other cause is assumed by the Conveying Party until First/Second Closing. In the event of substantial loss or damage to the property before First/Second Closing, the Receiving Party will have the option of either:
 - a. Terminating this Agreement, or
 - b. Affirming this Agreement and proceeding to Closing.
13. COVENANT FOR FUTURE CONVEYANCE BY HRSD TO CITY. The parties agree that, as to the conveyance by City to HRSD of "New Parcel", the conveyance deed shall include a covenant that, in the future event that HRSD shall determine that it longer needs all or a portion of "New Parcel" for the purpose for which HRSD's use of said parcel is intended and no longer of use to HRSD and all infrastructure has been abandoned, HRSD shall donate and convey the property to the City at no cost to the City.
14. BROKERS. The City and HRSD both represent and warrant to the other that it has not hired, engaged, or consulted with any broker or agent in regard to this transaction. Each party agrees to indemnify and hold harmless the other from any and all costs, expenses, or damages resulting from any claim for brokerage fees or other similar forms of compensation made by any real estate broker or other person or entity with whom a party has dealt, and who is not expressly named herein.
15. CONDEMNATION. The Conveying Party covenants and warrants that The Conveying Party has not heretofore received any notice of any condemnation proceeding or other proceeding in the nature of eminent domain in connection with the Property. If prior to Settlement any such proceeding is commenced or any change is made, or proposed to be made, to the current means of ingress and egress to the Property or to the roads or driveways adjoining the Property, or to change such ingress or egress or to change the grade thereof, the

Conveying Party agrees immediately to notify the Receiving Party thereof. The Receiving Party then shall have the right, at the Receiving Party's option, to terminate this Agreement by giving written notice to the Conveying Party within thirty (30) days after receipt of such notice.

16. DEFAULT AND REMEDIES.

- a. If the transfer and conveyance contemplated by this Agreement are not consummated because of either party's default, the non-defaulting party may elect to:
 - i Terminate this Agreement.
 - ii Seek and obtain specific performance of this Agreement; or
 - iii Pursue all other rights or remedies available at law or in equity, including an action for damages.
- b. If either party defaults under this Agreement, the defaulting party will be liable for any expenses incurred by the non-defaulting party in connection with the enforcement of its rights under this Agreement.
- c. These remedies are cumulative and non-exclusive and may be pursued at the option of the non-defaulting party without a requirement of election of remedies.

17. ENTIRE AGREEMENT. This Agreement contains the entire agreement of the parties and will supersede the terms and conditions of all prior written and oral agreements, if any, concerning the matters it covers. The parties acknowledge there are no oral agreements, understandings, representations, or warranties that supplement or explain the terms and conditions contained in this Agreement. This Agreement may not be modified except by an agreement in writing signed by the parties.

18. WAIVER. Failure to insist upon strict compliance with any of the terms, covenants, or conditions hereof will not be deemed a waiver of the term, covenant, or condition, nor will any waiver or relinquishment of any right or power at any one time or more times be deemed a waiver or relinquishment of the right or power at any other time or times.

19. SEVERABILITY. This Agreement will be construed in its entirety and will not be divisible, except that the invalidity or unenforceability of any provision hereof will in no way affect the validity or enforceability of any other provision.

20. CAPTIONS. Captions are used in this Agreement for convenience only and will not be used to interpret this Agreement or any part of it.
21. GOVERNING LAW. This Agreement is to be construed in accordance with the laws of the Commonwealth of Virginia.
22. CHOICE OF FORUM/JURISDICTION. The parties hereby consent to the jurisdiction and venue of the courts of the Commonwealth of Virginia, specifically to the courts of the City of Norfolk, Virginia, and to the jurisdiction and venue of the United States District Court for the Eastern District of Virginia in connection with any action, suit, or proceeding arising out of or relating to this Agreement and further waive and agree not to assert in any action, suit, or proceeding brought in the City of Norfolk, Virginia, or the Eastern District of Virginia that the parties are not personally subject to the jurisdiction of these courts, that the action, suit, or proceeding is brought in an inconvenient forum or that venue is improper.
23. WAIVER OF TRIAL BY JURY. THE PARTIES WAIVE TRIAL BY JURY IN ANY ACTION, PROCEEDING, OR COUNTERCLAIM BROUGHT BY EITHER PARTY AGAINST THE OTHER ON ANY MATTER WHATSOEVER ARISING OUT OF OR IN ANY WAY CONNECTED WITH THIS AGREEMENT OR ANY RELATED AGREEMENTS OR INSTRUMENTS AND THE ENFORCEMENT THEREOF, INCLUDING ANY CLAIM OF INJURY OR DAMAGE TO ANY PARTY OR THE PROPERTY OF ANY PARTY.
24. SUCCESSOR/ASSIGNMENT. This Agreement will be binding upon and the obligations and benefits hereof will accrue to the parties hereto, their heirs, personal representatives, successors, and assigns. This Agreement is assignable by HRSD only upon written consent of the City, which consent will not be unreasonably withheld. If this Agreement is assigned by HRSD with the City's consent, HRSD will nevertheless remain fully liable for its performance.
25. COUNTERPARTS. This Agreement may be executed in any number of counterparts, each will be considered an original, and together they will constitute one Agreement.
26. FACSIMILE SIGNATURES. Facsimile signatures will be considered original signatures for the purpose of execution and enforcement of the rights delineated in this Agreement.
27. ETHICS IN PUBLIC CONTRACTING. By executing this Agreement, the undersigned parties and their representatives, certify that the terms agreed to in this Agreement were arrived at without collusion or fraud and

that they have not offered or received any payment, kickbacks or other inducement from any other party to this Agreement or its agent or employee in connection with this Agreement, and that they have not conferred on any public employee having responsibility for this procurement transaction any payment, loan, subscription, advance, deposit of money, services (or anything of more than nominal value, present or promised) unless disclosed in this Agreement.

(Remainder of page intentionally left blank – Signature Pages follow)

INSERT CITY OF NORFOLK's PREFERRED SIGNATURE PAGE

IN WITNESS WHEREOF, the Hampton Roads Sanitation District Commission has caused this Agreement to be signed on its behalf by its General Manager in accordance with authorization granted at its regular meeting held on _____, 2022. This Agreement is expressly subject to approval by the HRSD Commission

HAMPTON ROADS SANITATION DISTRICT

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

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

The foregoing Purchase and Sale Agreement was acknowledged before me this _____ day of _____, 2022, by Jay A. Bernas, P.E., General Manager, Hampton Roads Sanitation District.

Notary Public

My Commission Expires: _____

Registration No.: _____

EXHIBIT "A"
LEGAL DESCRIPTION

ALL THAT certain piece or parcel of land, situate, lying and being in the City of Norfolk, Virginia located within the Virginia Zoological Park, formerly known as Lafayette Zoological Park being designated and described as "New Parcel, 8357 square feet, (0.192) acres" as shown on that certain Plat entitled "Plat showing property to be conveyed to Hampton Road Sanitation District from City of Norfolk Project; HRSD VP 015400 City Park PS # 106" dated May 26, 2001 prepared by Precision Measurement Inc.

It being part of the property conveyed to the City of Norfolk from E. A. Outten, et ux, et al by deed dated June 30, 1892 and recorded November 21, 1892 in the Clerk's Office of the City of Chesapeake, Virginia in Deed Book 177 at page 20.

Annexation to the City of Norfolk dated October 3, 1910 and recorded in Deed Book 362 at page 84.

EXHIBIT "B"
 PLAT of PARCEL TO BE CONVEYED

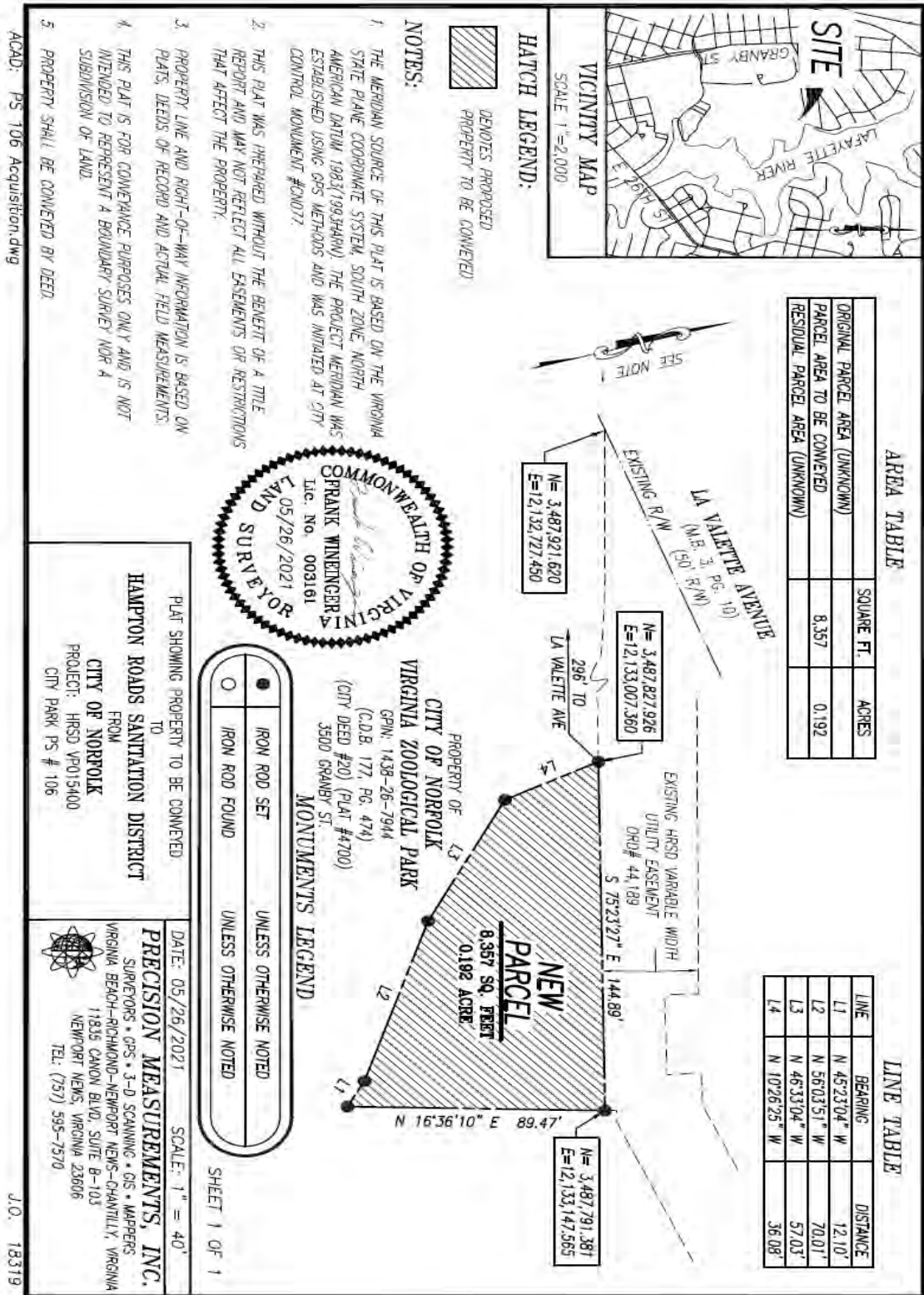


EXHIBIT "C"
 PLAT of PARCEL TO BE VACATED and CONVEYED

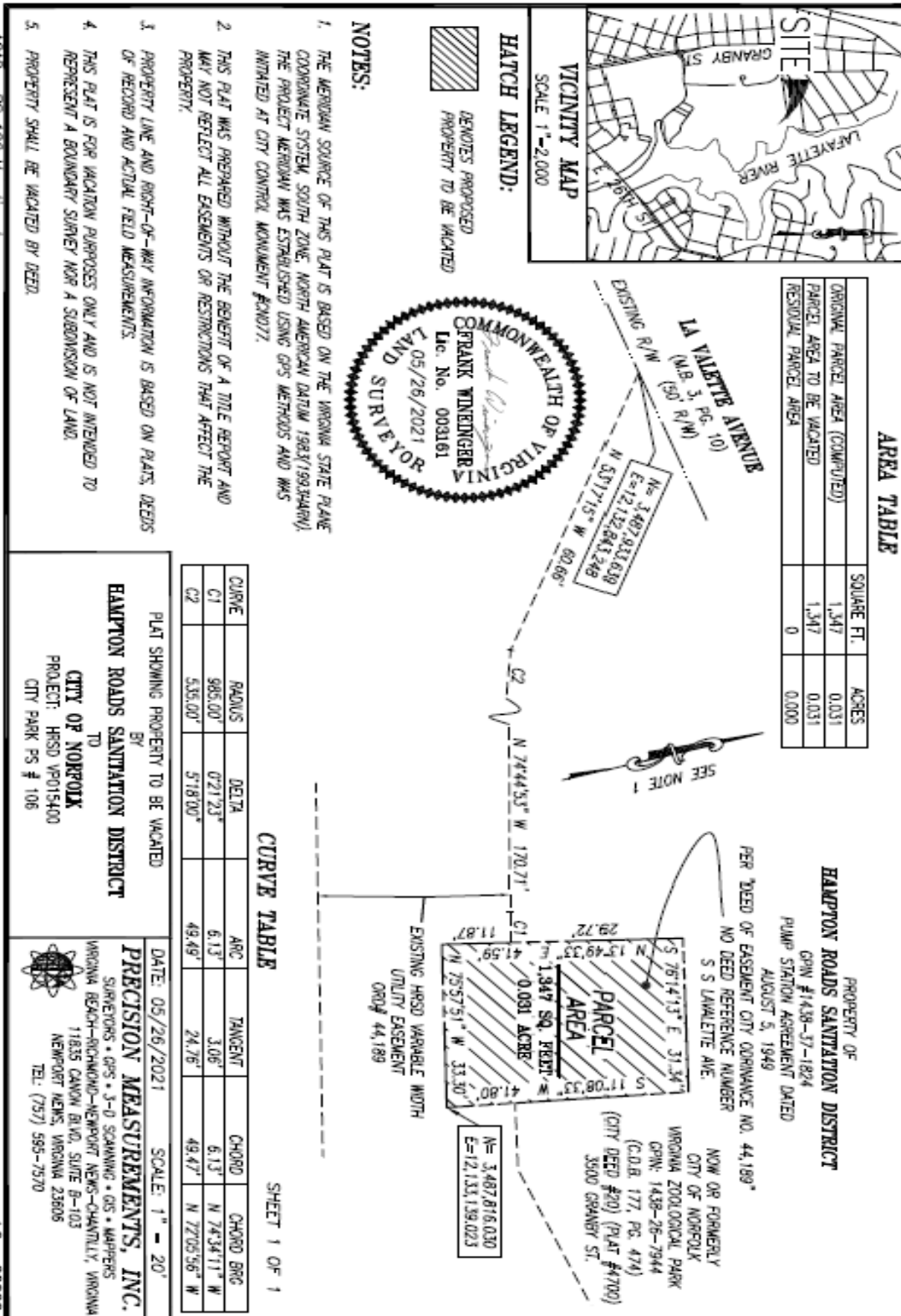


EXHIBIT "D"
Before and After Restoration of "Parcel Area"

Before






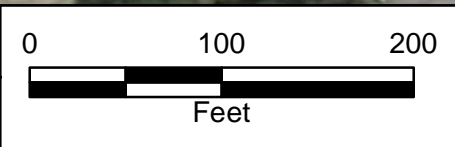
After





Legend

-  Vacated Property Boundary
-  Limits of Property Acquisition
-  Existing Property Boundary



**City Park PS 106
Property Boundaries**



HRSD Commission Meeting Minutes
November 22, 2022
Attachment #11

12. Lafayette Norview-Estabrook Pump Station Replacements – Luxembourg
Acquisition of Real Property
City of Norfolk, GPIN: 1438561584

PURCHASE AND SALE AGREEMENT

THIS PURCHASE AND SALE AGREEMENT (this "Agreement") made this ____ day of _____, 2022, by and between **CITY OF NORFOLK**, a municipal corporation of the Commonwealth of Virginia, ("City") hereinafter referred to as Seller, and **HAMPTON ROADS SANITATION DISTRICT**, a political subdivision of the Commonwealth of Virginia ("HRSD"), their successors and /or assigns, Purchaser.

RECITALS

- A. Seller is the owner in fee simple absolute of a certain parcel of property approximately 15,922 square feet, 0.366 acres in area, located in the City of Norfolk, GPIN: 1438561584, Account #84456506, such property being more particularly described in Exhibit A and shown on Exhibit B, both of which are attached to and made a part of this Agreement (the "Property").
- B. HRSD desires to purchase the Property from the Seller for the purpose of constructing new pumping station, as part of the HRSD Lafayette Norview-Estabrook Pump Station Replacements project, CIP (VP015400).
- C. Seller is willing to sell the Property to HRSD subject to the terms and conditions set forth in this Agreement.
- D. These recitals are incorporated by this reference into this Agreement.

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

- 1. **SALE.** Seller agrees to sell and HRSD agrees to purchase the Property, together with all rights and appurtenances thereto belonging.
- 2. **PURCHASE PRICE.** The purchase price (the Purchase Price) for the Property is **EIGHTEEN THOUSAND AND DOLLARS (\$ 18,000.00)**, and the Purchase Price shall be paid to the Seller by certified check or wired funds at closing.
- 3. **CONVEYANCE.**
 - a. At the Closing, Seller shall convey title to the Property in fee simple, by special warranty deed, free and clear of any and all liens, mortgages, deeds of trust, security interests, leases, covenants, conditions, restrictions, easements, rights-of-way, licenses, encroachments, judgments or encumbrances of any kind, except for the following permitted exceptions: (a) the lien of real estate

taxes not yet due and payable; (b) zoning and building restrictions and other laws, ordinances, and regulations of governmental bodies having jurisdiction over the Property; and (c) matters of record affecting title to the property, as reviewed and approved (or deemed approved) by HRSD in accordance with this Agreement. Except as expressly stated in this Agreement, the Property shall be conveyed in "AS IS" condition.

- b. Title to the Property shall be good and marketable and, if HRSD chooses to obtain title insurance, insurable by a nationally recognized ALTA title insurance company of HRSD's choice at or below normal rates. In the event that a title examination discloses defects of title or other matters unsatisfactory to HRSD at HRSD's sole determination, HRSD shall notify Seller in writing (an "Objection Notice"), within 90 days of the Effective Date, of such title defects or other matters to which HRSD objects. Seller covenants that it shall cure all monetary encumbrances and all title objections which may be cured by execution of a document requiring the signature of no party other than Seller (including any affidavits which may reasonably be required by the title insurer). Seller may notify HRSD in writing (an "Objection Response"), within twenty (20) business days after receiving an Objection Notice if it believes that the Objection Notice makes reference to any title defect or other matter that Seller cannot or elects not to cure. Upon receipt of an Objection Response from Seller, HRSD shall have the option either to (i) terminate this Agreement by notice to Seller given within ten (10) business days of the Objection Response or (ii) accept the defects, exceptions or other matters referenced in such Objection Response and proceed to Closing hereunder with no reduction of the Purchase Price. Seller shall have the period until the Closing date within which to correct all defects, exceptions or other matters that it is required or elects to cure. Seller shall provide such documents (including evidence of authority), affidavits, and other instruments that may be reasonably required for the issuance of a title insurance policy to HRSD.
- c. Possession of the Property will be given to HRSD at Closing, except that HRSD will have access to the Property for the purposes specified herein.
- d. Seller agrees to pay proration of real estate taxes and storm water fees and agrees to deliver possession of the Property to HRSD at settlement. HRSD will pay all other fees charged in connection with preparation and recordation of the deed, including grantor's tax.

- e. Seller and HRSD agree that the attorney selected by HRSD shall act as the Settlement Agent at HRSD's expense. The Settlement Agent shall prepare the settlement statement, update and record the deed, collect and disburse settlement funds in accordance with this Agreement and the settlement statement, and file any required state and federal tax forms or other certifications.
 - f. HRSD agrees to cut the grass on the adjacent strip of City property (approx. 24 x 180 sq. ft.) located on and adjacent to the north side of the Property and HRSD's parcel, as shown in Exhibit C, until such time as either party fences the parcel or either party deems it no longer necessary.
 - g. City hereby reserves unto themselves, their successors and assigns a non-exclusive perpetual 25' Utility Easement and 15' Drainage Easement, including the right of ingress and egress to the same as more particularly identified on HRSD Luxembourg PS#113 Approved Site Plan, Sheet C102 and attached as Exhibit "D". Said reservation of Easements is hereby acknowledged by HRSD.
4. RIGHT OF ENTRY. HRSD and HRSD's authorized representatives may at any reasonable time and after giving reasonable notice to Seller, enter upon the Property for the purpose of making inspections, appraisals, surveys, including but not limited to the cutting of survey lines and putting up markers and driving stubs and stakes, site analysis, engineering studies, core sampling for engineering reports, and locating existing rights of way, easements, and utilities. HRSD will exercise this right of entry in such a way so as to not cause unreasonable damage to the Property. Without waiver of sovereign immunity and to the extent permitted by law, HRSD agrees to indemnify and save harmless the Seller from all claims of liability for any personal injury or property damage to any person or property caused by any action or omission of HRSD or its agents on the Property before Closing.
5. CONDITIONS AND CONTINGENCIES.
- a. HRSD's obligations are expressly conditioned upon the waiver or satisfaction of each of the following conditions in the sole determination of HRSD. If any one of the following conditions cannot be met within 90 days after the Effective Date (the Effective Date being defined as the date the contract is endorsed by both HRSD and Seller), HRSD may unilaterally terminate this Agreement:
 - i. Receipt of a satisfactory title commitment with all unacceptable title exceptions, encumbrances, and conditions

as deemed by HRSD removed or cured at Seller's cost; however, if Seller chooses not to remove or cure any such title exception, HRSD's remedy shall be to waive the removal or cure of the exception or to terminate this Agreement;

- ii. Receipt of a Phase I Environmental Assessment and Report (Phase I Report) conducted and prepared by an environmental engineering and inspection company selected by HRSD at HRSD's expense and such other testing and reports as may be reasonably required by HRSD or recommended in the Phase I Report;
 - iii. Seller's compliance of all of its obligations under this Agreement.
- b. This Agreement is expressly conditioned upon the completion of all title and environmental "due diligence" by HRSD and notification to the Seller in writing of any conditions that are unsatisfactory to HRSD within the 90 day period. In the event HRSD fails to notify the Seller in writing within such 90 day period, any objection to such conditions shall be deemed waived by HRSD and the parties shall proceed to closing;
 - c. This Agreement is contingent on the review and approval of the purchase by the Hampton Roads Sanitation District Commission and upon such Commission granting authorization to the General Manager to proceed under the terms of this Agreement.
 - d. This Agreement is contingent upon its review and approval by the City Council of the City of Norfolk, Virginia and upon the City Council granting authorization to the City Manager to sign this Agreement and proceed under its terms.

6. ENVIRONMENTAL AND RELATED MATTERS.

- a. As a condition precedent to HRSD's obligation to purchase, HRSD, at HRSD's expense, may have a Phase I Environmental Assessment of the Property performed by a qualified environmental consultant (the Consultant) selected by HRSD and reasonably acceptable to Seller, conducted in accordance with standard commercial practice at the time of the assessment. A copy of the Phase I Environmental Assessment will be made available to Seller, together with copies of any supplemental reports or assessments.

- b. If the Consultant recommends soil, water, or structural remediation or further assessment activity after or as a result of performing a Phase I Environmental Assessment or if HRSD otherwise determines, in its reasonable judgment, that further assessment activity (including, but not limited to, a Phase II Environmental Assessment) is desirable, HRSD may at its option:
- (i) Terminate this Agreement; or
 - (ii) Extend the time for closing for an additional period of sixty (60) days in order to perform any such additional assessment at HRSD's expense; or
 - (iii) Waive the environmental defect and proceed to Closing.

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

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

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

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

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

(ii) To the best of Seller's knowledge, no other party has any right, title or interest in the Property;

(iii) There are no unrecorded leases, options, licenses or easements existing in connection with the property to which the Seller has knowledge;

(iv) There are no adverse government notifications or proceedings and there is no pending or threatened litigation or any other potentially adverse claims affecting the property to which the Seller has knowledge.

(v) Foreign Status. Seller is not a foreign corporation, person or entity and is a "United States Corporations, Person or Entity" as such terms is defined in Section 1445 and in Section 7701 (a)(30) of the Internal Revenue Code of 1986, as amended (the "Code") and shall deliver to HRSD at or prior to the Settlement an Affidavit prepared by HRSD evidencing such fact and such other documents as may be required under the Code.

(vi) From and after the date of this Agreement, Seller shall not transfer any interest in, or grant any easements or enter into any contractual agreement or understanding, written or oral, with respect to the Property or any portion thereof or make any changes at all that require recordation and therefore modifications to title, other than that which is agreed to and anticipated herein, without the prior written consent of HRSD.

(vii) The Seller warrants that to the best of his knowledge there are no wetlands or hazardous wastes, which would prevent HRSD's intended use of the land. To the best of the Seller's knowledge: (i) none of the Property has been excavated (except for standard grading related to site development); (ii) no hazardous materials, toxic chemicals, or similar substances, as defined by 42 U.S.C. §1251, et seq. or 42 U.S.C. §6901, et seq. or 42 U.S.C. §9601, et seq., or 33 U.S.C. §1317(1), or 15 U.S.C. §2606(f), or 49 U.S.C. §1801, et seq., or regulations adopted pursuant thereto, or any similar provision of any applicable state, Federal, or local law (collectively "Hazardous Materials"), are or were stored or used on or under or otherwise were or are in existence or were in any way dealt with on or under the Property; and (iii) no owner or occupant of the Property has received any notice from any governmental agency with regard to such Hazardous Materials.

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

HRSD: Jay A. Bernas, P.E., M.B.A.
General Manager
P.O. Box 5911
Virginia Beach, Virginia 23471-0911

Copy to: D. Rossen S. Greene, Esq.
Pender & Coward, P.C.
117 Market Street
Suffolk, VA 23434

CITY: Douglas J. Beaver, Director
City of Norfolk Department of Utilities
401 Monticello Avenue
Norfolk, VA. 23510

Copy to: Office of the Norfolk City Attorney
9th Floor – City Hall
810 Union Street, Suite 900
Norfolk, VA 23510

9. CLOSING. Unless this Agreement is terminated pursuant to its terms or by mutual agreement of the parties, Closing will be made at the offices of the Settlement Agent within 120 days of the Effective Date, unless extended by terms of these agreements or by mutual agreement of the parties.
10. SURVIVAL. The provisions contained in this Agreement will be true as of the date of this Agreement and as of the date of Closing.
11. PRORATIONS. All rents, interest, taxes, insurance premiums, utility bills, and fuel oil, if any, will be prorated as of the date of Closing.
12. RISK OF LOSS. All risk of loss or damage to the Property by fire, windstorm, casualty, or other cause is assumed by Seller until Closing. In the event of substantial loss or damage to the Property before Closing, HRSD will have the option of either:
 - a. Terminating this Agreement, or
 - b. Affirming this Agreement and proceeding to Closing.
13. FUTURE SALE BY HRSD. In the event that HRSD shall determine to sell all or a portion of the property for private development within two (2) years of the Settlement Date, it agrees to notify Seller and give Seller first opportunity to purchase the property on such terms as the parties shall mutually agree. Such notice shall be in writing addressed in accordance

with the provisions of Section 8 herein or such other address provided to HRSD by the Seller and shall provide Seller with at least thirty (30) calendar days to present HRSD with an offer to purchase the property.

14. BROKERS. Seller and HRSD both represent and warrant to the other that it has not hired, engaged, or consulted with any broker or agent in regard to this transaction.
15. CONDEMNATION. Seller covenants and warrants that Seller has not heretofore received any notice of any condemnation proceeding or other proceeding in the nature of eminent domain in connection with the Property. If prior to Settlement any such proceeding is commenced or any change is made, or proposed to be made, to the current means of ingress and egress to the Property or to the roads or driveways adjoining the Property, or to change such ingress or egress or to change the grade thereof, Seller agrees immediately to notify HRSD thereof. HRSD then shall have the right, at HRSD's option, to terminate this Agreement by giving written notice to Seller within thirty (30) days after receipt of such notice.
16. DEFAULT AND REMEDIES.
 - a. If the sale and purchase contemplated by this Agreement is not consummated because of Seller's or HRSD's default, the non-defaulting party may elect to:
 - i Terminate this Agreement;
 - ii Seek and obtain specific performance of this Agreement; or
 - iii Pursue all other rights or remedies available at law or in equity, including an action for damages.
 - b. If either Seller or HRSD defaults under this Agreement, the defaulting party will be liable for any expenses incurred by the non-defaulting party in connection with the enforcement of its rights under this Agreement.
 - c. These remedies are cumulative and non-exclusive and may be pursued at the option of the non-defaulting party without a requirement of election of remedies.
17. ENTIRE AGREEMENT. This Agreement contains the entire agreement of the parties and will supersede the terms and conditions of all prior written and oral agreements, if any, concerning the matters it covers. The parties acknowledge there are no oral agreements, understandings, representations, or warranties that supplement or explain the terms and

conditions contained in this Agreement. This Agreement may not be modified except by an agreement in writing signed by the parties.

18. WAIVER. Failure to insist upon strict compliance with any of the terms, covenants, or conditions hereof will not be deemed a waiver of the term, covenant, or condition, nor will any waiver or relinquishment of any right or power at any one time or more times be deemed a waiver or relinquishment of the right or power at any other time or times.
19. SEVERABILITY. This Agreement will be construed in its entirety and will not be divisible, except that the invalidity or unenforceability of any provision hereof will in no way affect the validity or enforceability of any other provision.
20. CAPTIONS. Captions are used in this Agreement for convenience only and will not be used to interpret this Agreement or any part of it.
21. GOVERNING LAW. This Agreement is to be construed in accordance with the laws of the Commonwealth of Virginia.
22. CHOICE OF FORUM/JURISDICTION. The parties hereby consent to the jurisdiction and venue of the courts of the Commonwealth of Virginia, specifically to the courts of the City of Norfolk, Virginia, and to the jurisdiction and venue of the United States District Court for the Eastern District of Virginia in connection with any action, suit, or proceeding arising out of or relating to this Agreement and further waive and agree not to assert in any action, suit, or proceeding brought in the City of Norfolk, Virginia, or the Eastern District of Virginia that the parties are not personally subject to the jurisdiction of these courts, that the action, suit, or proceeding is brought in an inconvenient forum or that venue is improper.
23. WAIVER OF TRIAL BY JURY. THE PARTIES WAIVE TRIAL BY JURY IN ANY ACTION, PROCEEDING, OR COUNTERCLAIM BROUGHT BY EITHER PARTY AGAINST THE OTHER ON ANY MATTER WHATSOEVER ARISING OUT OF OR IN ANY WAY CONNECTED WITH THIS AGREEMENT OR ANY RELATED AGREEMENTS OR INSTRUMENTS AND THE ENFORCEMENT THEREOF, INCLUDING ANY CLAIM OF INJURY OR DAMAGE TO ANY PARTY OR THE PROPERTY OF ANY PARTY.
24. SUCCESSOR/ASSIGNMENT. This Agreement will be binding upon and the obligations and benefits hereof will accrue to the parties hereto, their heirs, personal representatives, successors, and assigns. This Agreement is assignable by HRSD only upon written consent of the Seller, which consent will not be unreasonably withheld. If this Agreement is

assigned by HRSD with Seller's consent, HRSD will nevertheless remain fully liable for its performance.

25. COUNTERPARTS. This Agreement may be executed in any number of counterparts, each will be considered an original, and together they will constitute one Agreement.
26. FACSIMILE SIGNATURES. Facsimile signatures will be considered original signatures for the purpose of execution and enforcement of the rights delineated in this Agreement.
27. ETHICS IN PUBLIC CONTRACTING. By executing this Agreement, the undersigned Seller or its representative, and the representative of HRSD, certify that the prices agreed to in this Agreement were arrived at without collusion or fraud and that they have not offered or received any payment, kickbacks or other inducement from any other party to this Agreement or its agent or employee in connection with this Agreement, and that they have not conferred on any public employee having responsibility for this procurement transaction any payment, loan, subscription, advance, deposit of money, services (or anything of more than nominal value, present or promised) unless disclosed in this Agreement.

(Remainder of page intentionally left blank – Signature Pages follow)

IN WITNESS WHEREOF, the City of Norfolk has caused this Agreement to be signed by the City Manager on its behalf pursuant to Resolution adopted by the City Council on _____, 2022,

CITY OF NORFOLK

By: _____
Name: _____
Title: _____

ATTEST:

City Clerk

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

The foregoing Agreement was acknowledged before me this _____ day of _____, 2022, by _____ [Name], _____ [Title], City of NORFOLK, Virginia.

Notary Public

My commission expires: _____

Registration No.: _____

Approved as to Form and Correctness:

Approved as to Content:

Deputy City Attorney

Director of Utilities

IN WITNESS WHEREOF, the Hampton Roads Sanitation District Commission has caused this Agreement to be signed on its behalf by its General Manager in accordance with authorization granted at its regular meeting held on November 22, 2022. This Agreement is expressly subject to approval by the HRSD Commission

HAMPTON ROADS SANITATION DISTRICT

By: _____
Jay Bernas
General Manager

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

The foregoing Purchase and Sale Agreement was acknowledged before me this _____ day of _____, 2022, by Jay Bernas, P.E., M.B.A. General Manager, Hampton Roads Sanitation District.

Notary Public

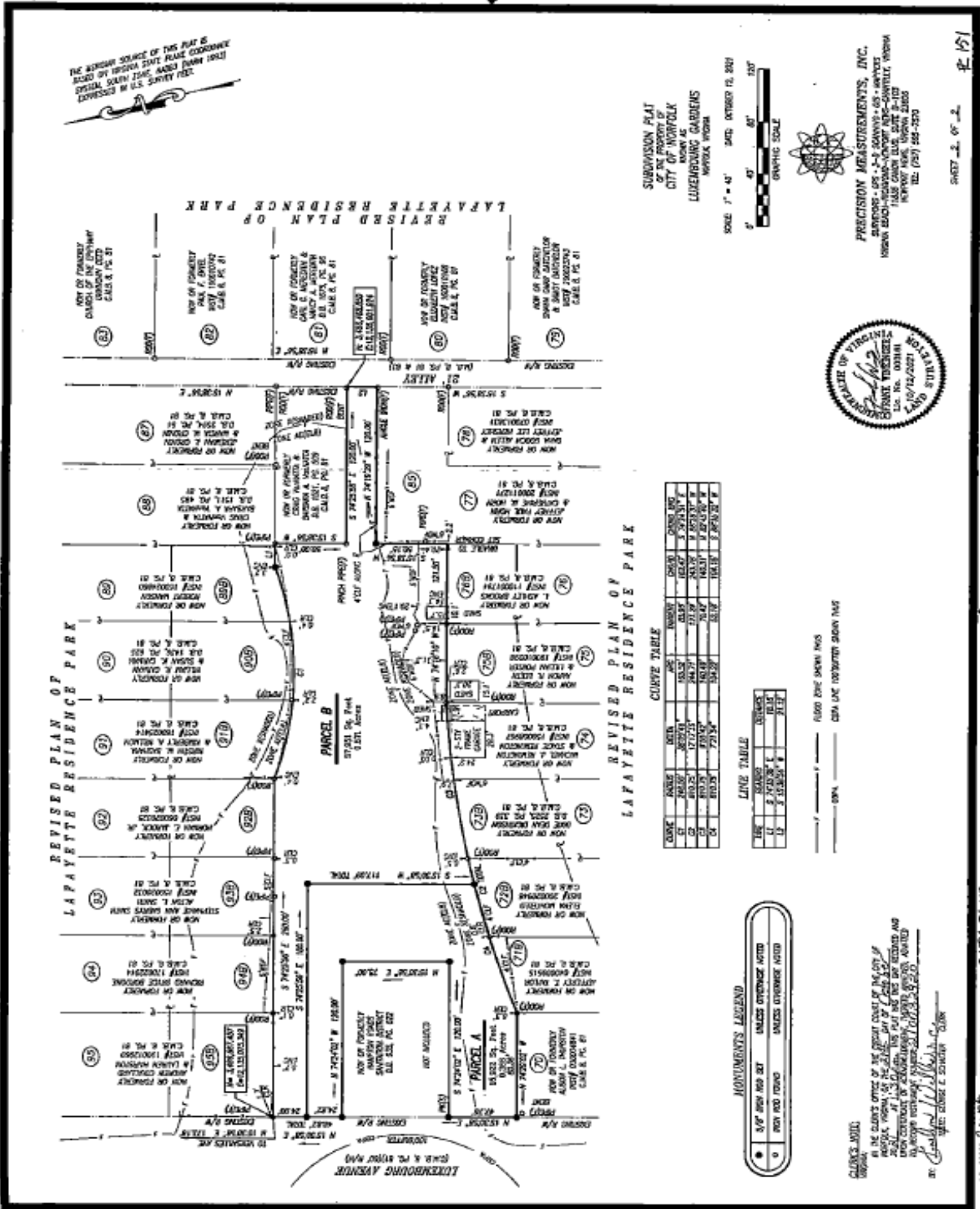
My Commission Expires: _____

Registration No.: _____

EXHIBIT "A"
LEGAL DESCRIPTION

ALL THAT CERTAIN Lot, Piece, or Parcel of land with the building and improvements thereon, situate, laying and being in the City of Norfolk, Virginia and known and designated as Parcel A containing 15,922 SF/0.366 acres: as shown on that certain Plat entitled "SUBDIVISION PLAT OF THE PROPERTY OF THE CITY OF NORFOLK KNOWN AS LUXEMBOURG GARDENS NORFOLK, VIRGINIA" dated October 12, 2021 prepared by Precision Measurements, Inc. and recorded in the Clerk's Office of the Circuit Court of the City of Norfolk as instrument No. 210032920.

EXHIBIT "B"
 SUBDIVISION PLAT (Pg. 2)



THE BEGINNING SOURCE OF THIS PLAT IS BASED ON THE VIRGINIA STATE PLANE COORDINATE SYSTEM SOUTH ZONE, NAD 83, BURNING POINT DATUM, SURVEY FEET, EXPRESSED IN U.S. SURVEY FEET.

SUBDIVISION PLAT
 OF THE PROPERTY OF
 CITY OF NORFOLK
 KNOWN AS
 LAFAYETTE RESIDENCE PARK
 NORFOLK, VIRGINIA

SCALE: 1" = 40' DATE: OCTOBER 12, 2021



PRECISION MEASUREMENTS, INC.
 2400 W. 10th St., Suite 100 - Norfolk, VA 23502
 757-644-1111
 1438561584 - LAFAYETTE RESIDENCE PARK
 PREPARED FOR: CITY OF NORFOLK
 TEL: (757) 565-3320

SHEET 2 OF 2



CURVE TABLE

CURVE	BEARING	CHORD	CHORD BEARING	ARC LENGTH	AREA	PERCENTAGE
1	S 89° 59' 54" W	100.00	S 89° 59' 54" W	100.00	1570.80	100.00%
2	S 89° 59' 54" W	100.00	S 89° 59' 54" W	100.00	1570.80	100.00%
3	S 89° 59' 54" W	100.00	S 89° 59' 54" W	100.00	1570.80	100.00%
4	S 89° 59' 54" W	100.00	S 89° 59' 54" W	100.00	1570.80	100.00%
5	S 89° 59' 54" W	100.00	S 89° 59' 54" W	100.00	1570.80	100.00%

LINE TABLE

LINE	BEARING	DISTANCE	AREA
1	S 89° 59' 54" W	100.00	1570.80
2	S 89° 59' 54" W	100.00	1570.80
3	S 89° 59' 54" W	100.00	1570.80
4	S 89° 59' 54" W	100.00	1570.80
5	S 89° 59' 54" W	100.00	1570.80

MONUMENTS LEGEND

- 3/4" IRON ROD SET
- 1/2" IRON ROD SET
- 1" IRON ROD SET
- 2" IRON ROD SET
- 3" IRON ROD SET
- 4" IRON ROD SET
- 6" IRON ROD SET
- 8" IRON ROD SET
- 10" IRON ROD SET
- 12" IRON ROD SET
- 14" IRON ROD SET
- 16" IRON ROD SET
- 18" IRON ROD SET
- 20" IRON ROD SET
- 24" IRON ROD SET
- 30" IRON ROD SET
- 36" IRON ROD SET
- 42" IRON ROD SET
- 48" IRON ROD SET
- 54" IRON ROD SET
- 60" IRON ROD SET
- 72" IRON ROD SET
- 84" IRON ROD SET
- 96" IRON ROD SET
- 108" IRON ROD SET
- 120" IRON ROD SET
- 144" IRON ROD SET
- 168" IRON ROD SET
- 192" IRON ROD SET
- 216" IRON ROD SET
- 240" IRON ROD SET
- 288" IRON ROD SET
- 336" IRON ROD SET
- 384" IRON ROD SET
- 432" IRON ROD SET
- 480" IRON ROD SET
- 528" IRON ROD SET
- 576" IRON ROD SET
- 624" IRON ROD SET
- 672" IRON ROD SET
- 720" IRON ROD SET
- 768" IRON ROD SET
- 816" IRON ROD SET
- 864" IRON ROD SET
- 912" IRON ROD SET
- 960" IRON ROD SET
- 1008" IRON ROD SET
- 1056" IRON ROD SET
- 1104" IRON ROD SET
- 1152" IRON ROD SET
- 1200" IRON ROD SET
- 1248" IRON ROD SET
- 1296" IRON ROD SET
- 1344" IRON ROD SET
- 1392" IRON ROD SET
- 1440" IRON ROD SET
- 1488" IRON ROD SET
- 1536" IRON ROD SET
- 1584" IRON ROD SET
- 1632" IRON ROD SET
- 1680" IRON ROD SET
- 1728" IRON ROD SET
- 1776" IRON ROD SET
- 1824" IRON ROD SET
- 1872" IRON ROD SET
- 1920" IRON ROD SET
- 1968" IRON ROD SET
- 2016" IRON ROD SET
- 2064" IRON ROD SET
- 2112" IRON ROD SET
- 2160" IRON ROD SET
- 2208" IRON ROD SET
- 2256" IRON ROD SET
- 2304" IRON ROD SET
- 2352" IRON ROD SET
- 2400" IRON ROD SET
- 2448" IRON ROD SET
- 2496" IRON ROD SET
- 2544" IRON ROD SET
- 2592" IRON ROD SET
- 2640" IRON ROD SET
- 2688" IRON ROD SET
- 2736" IRON ROD SET
- 2784" IRON ROD SET
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- 2976" IRON ROD SET
- 3024" IRON ROD SET
- 3072" IRON ROD SET
- 3120" IRON ROD SET
- 3168" IRON ROD SET
- 3216" IRON ROD SET
- 3264" IRON ROD SET
- 3312" IRON ROD SET
- 3360" IRON ROD SET
- 3408" IRON ROD SET
- 3456" IRON ROD SET
- 3504" IRON ROD SET
- 3552" IRON ROD SET
- 3600" IRON ROD SET
- 3648" IRON ROD SET
- 3696" IRON ROD SET
- 3744" IRON ROD SET
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- 3840" IRON ROD SET
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- 4032" IRON ROD SET
- 4080" IRON ROD SET
- 4128" IRON ROD SET
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- 4224" IRON ROD SET
- 4272" IRON ROD SET
- 4320" IRON ROD SET
- 4368" IRON ROD SET
- 4416" IRON ROD SET
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- 4512" IRON ROD SET
- 4560" IRON ROD SET
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- 5040" IRON ROD SET
- 5088" IRON ROD SET
- 5136" IRON ROD SET
- 5184" IRON ROD SET
- 5232" IRON ROD SET
- 5280" IRON ROD SET
- 5328" IRON ROD SET
- 5376" IRON ROD SET
- 5424" IRON ROD SET
- 5472" IRON ROD SET
- 5520" IRON ROD SET
- 5568" IRON ROD SET
- 5616" IRON ROD SET
- 5664" IRON ROD SET
- 5712" IRON ROD SET
- 5760" IRON ROD SET
- 5808" IRON ROD SET
- 5856" IRON ROD SET
- 5904" IRON ROD SET
- 5952" IRON ROD SET
- 6000" IRON ROD SET
- 6048" IRON ROD SET
- 6096" IRON ROD SET
- 6144" IRON ROD SET
- 6192" IRON ROD SET
- 6240" IRON ROD SET
- 6288" IRON ROD SET
- 6336" IRON ROD SET
- 6384" IRON ROD SET
- 6432" IRON ROD SET
- 6480" IRON ROD SET
- 6528" IRON ROD SET
- 6576" IRON ROD SET
- 6624" IRON ROD SET
- 6672" IRON ROD SET
- 6720" IRON ROD SET
- 6768" IRON ROD SET
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- 6912" IRON ROD SET
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- 7008" IRON ROD SET
- 7056" IRON ROD SET
- 7104" IRON ROD SET
- 7152" IRON ROD SET
- 7200" IRON ROD SET
- 7248" IRON ROD SET
- 7296" IRON ROD SET
- 7344" IRON ROD SET
- 7392" IRON ROD SET
- 7440" IRON ROD SET
- 7488" IRON ROD SET
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- 7872" IRON ROD SET
- 7920" IRON ROD SET
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- 8016" IRON ROD SET
- 8064" IRON ROD SET
- 8112" IRON ROD SET
- 8160" IRON ROD SET
- 8208" IRON ROD SET
- 8256" IRON ROD SET
- 8304" IRON ROD SET
- 8352" IRON ROD SET
- 8400" IRON ROD SET
- 8448" IRON ROD SET
- 8496" IRON ROD SET
- 8544" IRON ROD SET
- 8592" IRON ROD SET
- 8640" IRON ROD SET
- 8688" IRON ROD SET
- 8736" IRON ROD SET
- 8784" IRON ROD SET
- 8832" IRON ROD SET
- 8880" IRON ROD SET
- 8928" IRON ROD SET
- 8976" IRON ROD SET
- 9024" IRON ROD SET
- 9072" IRON ROD SET
- 9120" IRON ROD SET
- 9168" IRON ROD SET
- 9216" IRON ROD SET
- 9264" IRON ROD SET
- 9312" IRON ROD SET
- 9360" IRON ROD SET
- 9408" IRON ROD SET
- 9456" IRON ROD SET
- 9504" IRON ROD SET
- 9552" IRON ROD SET
- 9600" IRON ROD SET
- 9648" IRON ROD SET
- 9696" IRON ROD SET
- 9744" IRON ROD SET
- 9792" IRON ROD SET
- 9840" IRON ROD SET
- 9888" IRON ROD SET
- 9936" IRON ROD SET
- 9984" IRON ROD SET
- 10032" IRON ROD SET
- 10080" IRON ROD SET
- 10128" IRON ROD SET
- 10176" IRON ROD SET
- 10224" IRON ROD SET
- 10272" IRON ROD SET
- 10320" IRON ROD SET
- 10368" IRON ROD SET
- 10416" IRON ROD SET
- 10464" IRON ROD SET
- 10512" IRON ROD SET
- 10560" IRON ROD SET
- 10608" IRON ROD SET
- 10656" IRON ROD SET
- 10704" IRON ROD SET
- 10752" IRON ROD SET
- 10800" IRON ROD SET
- 10848" IRON ROD SET
- 10896" IRON ROD SET
- 10944" IRON ROD SET
- 10992" IRON ROD SET
- 11040" IRON ROD SET

ALL THE LOTS OF THIS PLAT ARE THE PROPERTY OF THE CITY OF NORFOLK, VIRGINIA. THE CITY OF NORFOLK, VIRGINIA, IS THE OWNER OF ALL THE LOTS OF THIS PLAT AND HAS THE RIGHT TO REDEVELOP AND REUSE THE LOTS AT ANY TIME. THE CITY OF NORFOLK, VIRGINIA, IS NOT RESPONSIBLE FOR ANY DAMAGE TO THE LOTS OR TO THE SURVEY INSTRUMENTS OR TO THE SURVEY DATA. THE CITY OF NORFOLK, VIRGINIA, IS NOT RESPONSIBLE FOR ANY DAMAGE TO THE LOTS OR TO THE SURVEY INSTRUMENTS OR TO THE SURVEY DATA. THE CITY OF NORFOLK, VIRGINIA, IS NOT RESPONSIBLE FOR ANY DAMAGE TO THE LOTS OR TO THE SURVEY INSTRUMENTS OR TO THE SURVEY DATA.

EXHIBIT "C"
GRASS CUTTING CORRIDOR

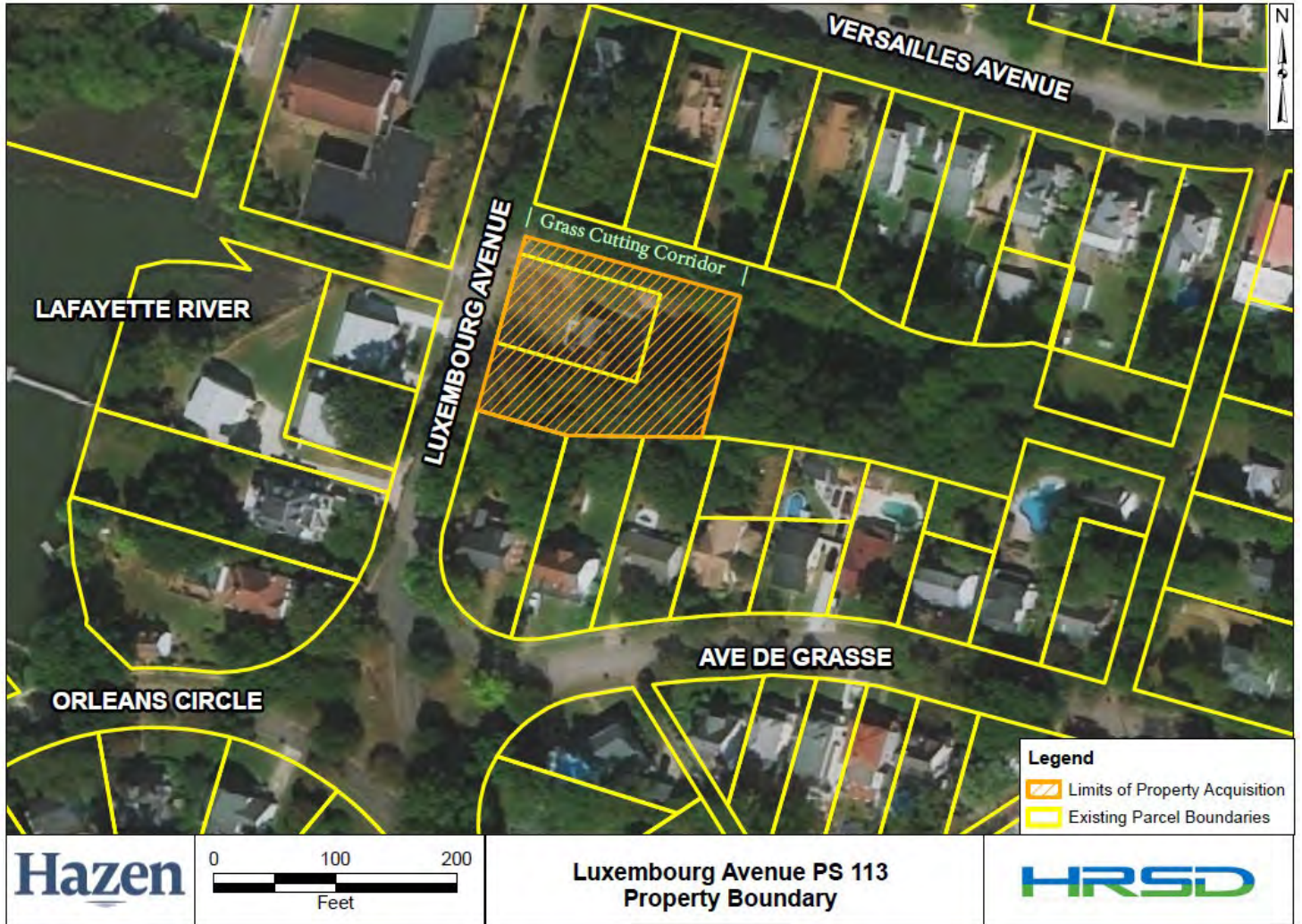
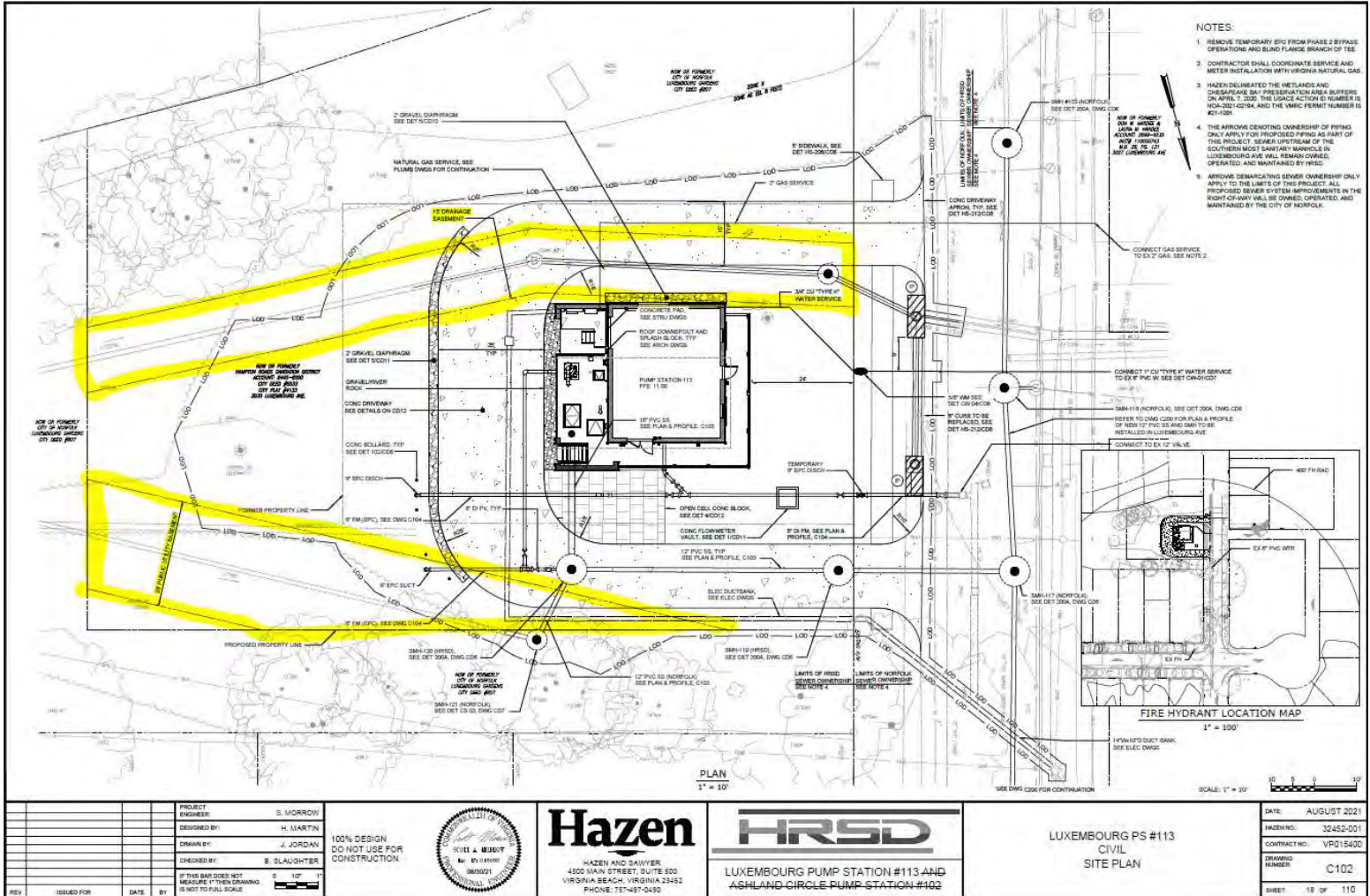
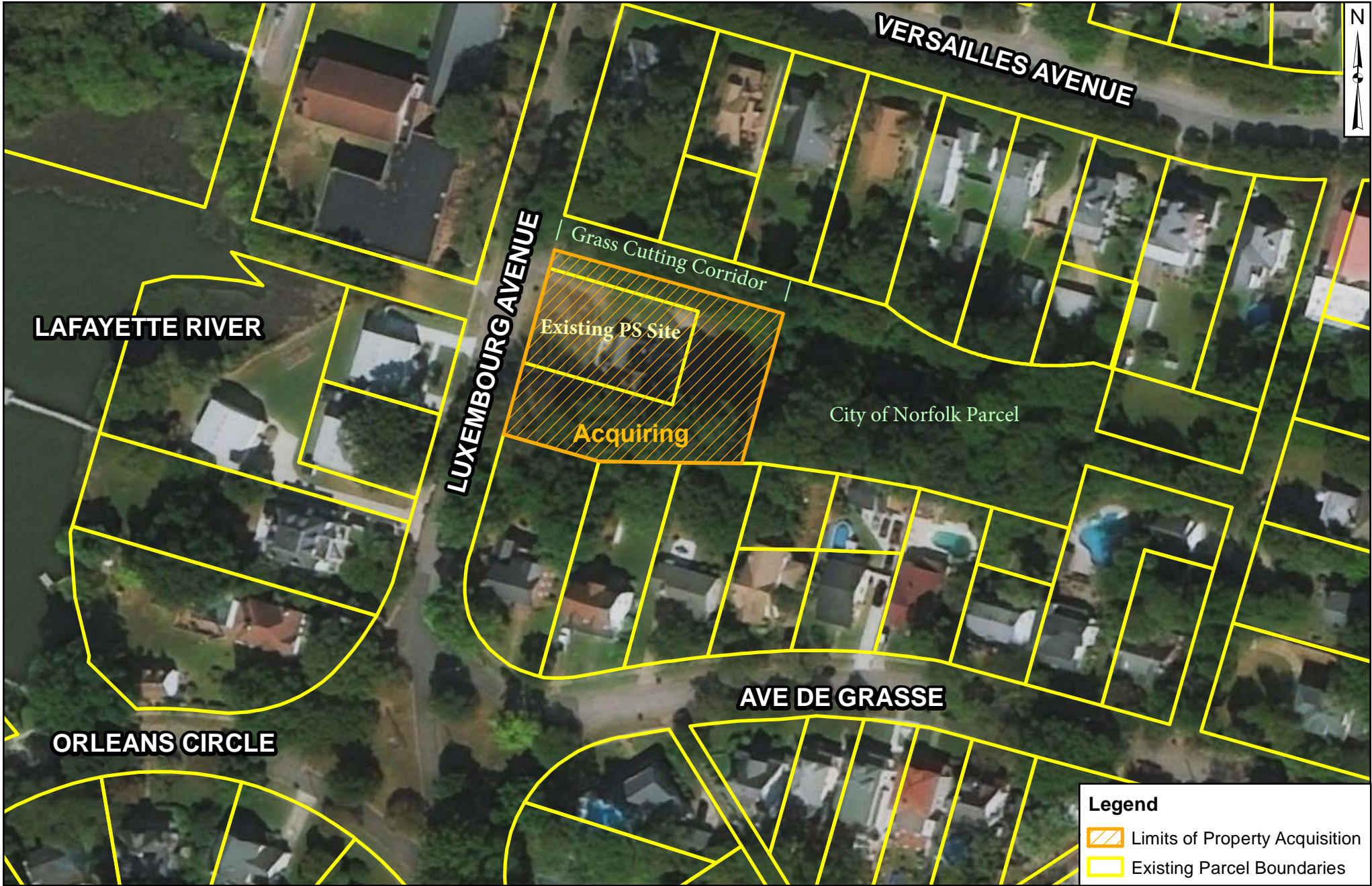





EXHIBIT "D"
 EASEMENT(S) RESERVATION by THE CITY OF NORFOLK





Legend

-  Limits of Property Acquisition
-  Existing Parcel Boundaries



0 100 200
Feet

**Luxembourg Avenue PS 113
Property Boundary**



HRSD Commission Meeting Minutes
November 22, 2022
Attachment #12

17. Informational Items

a. Management Reports

- (1) [General Manager](#)
- (2) [Communications](#)
- (3) [Engineering](#)
- (4) [Finance](#)
- (5) [Information Technology](#)
- (6) [Operations](#)
- (7) [Talent Management](#)
- (8) [Water Quality](#)
- (9) [Wastewater Surveillance Data](#)
- (10) [Report of Internal Audit Activities](#)

b. [Strategic Planning Metrics Summary](#)



November 14, 2022

Re: General Manager's Report

Dear Commissioners:

Staff met with the Director of the Department of Environmental Quality (DEQ) on October 25 to brief him and his staff on HRSD's two main regulatory drivers: Nutrients and Integrated Plan, our Nutrient Compliance Strategy, and our near-term Enhanced Nutrient Removal Certainty Program (ENRCP) projects, which are listed in HB 2129 from the 2021 session and estimated to cost \$1.7 billion. The most important discussion revolved around SWIFT and Water Quality Improvement Funds (WQIF), as recharge is not contemplated with WQIF grants but provides a significant nutrient reduction. With the four near-term ENRCP projects, Total Nitrogen reduction is estimated at over 70% and Total Phosphorus reduction is estimated over 50% for the Lower James River. The Director fully supports SWIFT and its multiple benefits and asked his staff to work with us on our application. The four projects could be eligible for more than \$900 million in WQIF grants.

Staff and Commissioners attended the Virginia Forever Bridge Builder event on October 27. We learned that the Governor is interested in touring SWIFT (we suspect the New York Times front page article caught his attention). In addition, we met the new Virginia Marine Resources Commission (VMRC) Commissioner Jamie Green. We must request permission from the Governor to use the sub-aqueous bottom for the Boat Harbor transmission force main, which will require VMRC review. We scheduled a SWIFT Research Center tour and lunch for the VMRC Commissioner and his staff on November 29 to brief them on the big picture and then discuss our transmission force main.

Staff completed our Fiserv implementation that allows our bills to be paid at authorized locations such as Walmart, Kroger, Piggly Wiggly and Harris Teeter. This provides our customers with additional options and flexibility to pay their bills.

The highlights of September's activities are below. The detailed version is in the attached monthly reports.

- A. **Treatment Compliance and System Operations:** October was a relatively quiet month as the interceptor system reported zero overflows and all plants met permit. In addition, we are on track to comply with our annual nutrient discharge limits which are calendar-year based averages. There were a few air emissions deviations due to utility power anomalies.
- B. **Water Quality:** Jamie Mitchell was selected as our next Director of Water Quality. She started at HRSD in 2001 as a Water Quality Investigator and worked in many roles in TSD before being named Chief of TSD in 2012. She is well known throughout Virginia and nationally as a technical and policy expert in water quality issues. Paula Hogg will continue to work closely with Ms. Mitchell during this transition period until she retires on March 1.

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

- C. **Internal Communications:** I participated in the following meetings/activities with HRSD personnel:
1. General Manager briefing to Engineering department staff
 2. Attended the CIGNA annual medical and pharmacy review meeting.
 3. Briefed Fred Taylor, the City of Suffolk land use attorney, on our pending Conditional Use Permit application for the Nansemond Treatment Plant.
 4. Attended the SWIFT VIP visioning workshop.
- D. **External Communications:** I participated in the following meetings/activities:
1. Provided an updated on the Regional Granular Activated Carbon Regeneration Facility study and staff presented the Regional Wet Weather Capacity Policy to the Directors of Utilities. Appointed to be the Secretary/Treasurer for the H2O program (Help To Others)
 2. Provided training for the Chesapeake Bay Foundation's VOICES environmental education program on "Where does our wastewater go?"
 3. Met with the Director of DEQ on WQIF grants for our SWIFT program
 4. Attended the Virginia Forever Bridge Builders event and met several Governor appointed officials
 5. Attended the Chesapeake City Council retreat for the Coastal Virginia Commerce Park upcoming rezoning
- E. **Strategic Plan:** On October 20, the fourth Strategic Planning workshop was held to develop the goals and objectives (see below). At the next workshop on November 9, we will develop action items to achieve the goals and objectives.



Thanks for your continued dedicated service to HRSD, the Hampton Roads region, the Commonwealth, and the environment. **I look forward to seeing you in person in Virginia Beach at 9 am on Tuesday, November 22, 2022.**

Respectfully submitted,

Jay Bernas, P.E.
General Manager

TO: General Manager
FROM: Director of Communications
SUBJECT: Monthly Report for October 2022
DATE: November 10, 2022

A. Publicity and Promotion

1. HRSD and/or SWIFT were mentioned or featured in nine news stories or media/social media mentions on topics that included:
 - a. New York Times story about SWIFT
 - b. Greasezilla system installation and implementation at Nansemond Treatment Plant
 - c. Imagine a Day without Water
 - d. Mainstream Shortcut Nitrogen Removal
2. Analysis of media coverage:

What are the key results for the timeframe?

Mentions

Compared to last period

232

↑ 346%

Total Potential News Reach

Compared to last period

236M

↑ 4%

Sentiment

Compared to last period

1

↓ 50%

What is the top performing news content?

Top Article by Reach



Top Article by Reach and Volume



Top Article by Social Echo

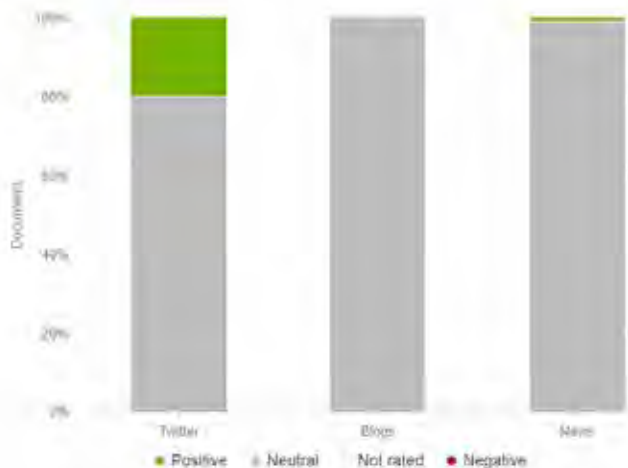


How favorable is the content?

Sentiment Share of Voice

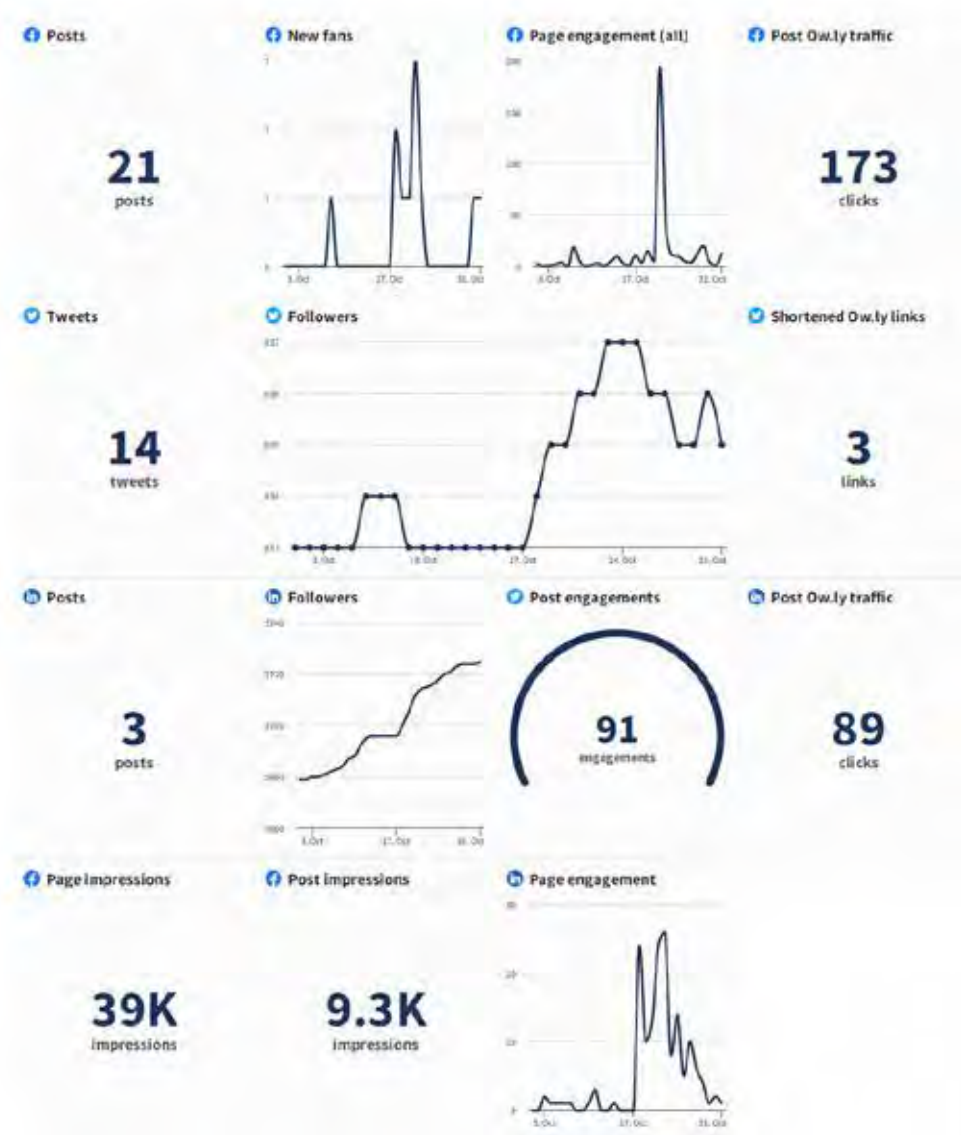


Sentiment by Source Type

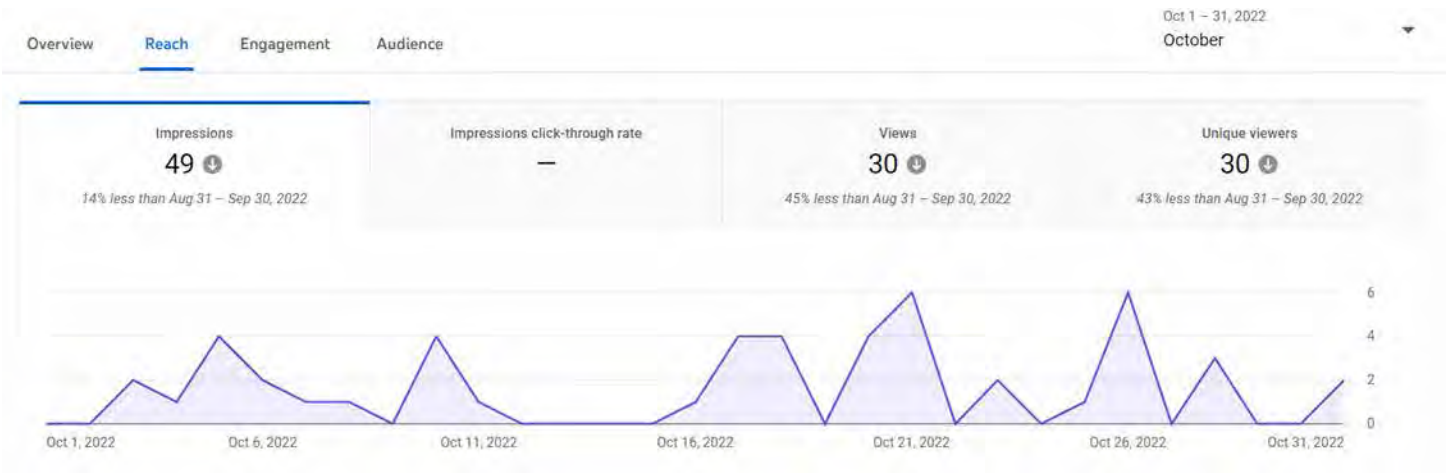


B. Social Media and Online Engagement

1. Metrics – Facebook, Twitter and LinkedIn



2. YouTube



3. Top posts on Facebook, Twitter, and YouTube

a. Top Facebook post

HRSD
Published by Hootsuite · October 21 at 2:03 PM ·

Feature Friday!
SWIFT was featured in *The New York Times*!
Read the full article here <http://ow.ly/T1tm50LhFpX>
Want to see SWIFT for yourself? Schedule a SWIFT tour here: <http://ow.ly/r22A50LhFpZ>

Get more messages for HRSD
You can add a Messenger button to your post to get more messages for HRSD.

See insights and ads **Boost post**

34 2 Comments 13 Shares

b. Top Tweet



c. Top YouTube Videos

- [The Wastewater Treatment Process](#) (262 views)
- [SWIFT Research Center: What is the Potomac Aquifer](#) (73 views)
- [Virtual Tour of HRSD's VIP Nutrient Reduction Project](#) (48 views)
- [What is Asset Management? Celebrating Infrastructure Week at HRSD](#) (39 views)
- [HRSD Employee Testimonials - Robert](#) (30 views)

4. Website and Social Media Impressions and Visits

a. Facebook:

- 39,453 page impressions
- 9,296 post impressions reaching 8,914 users
- Facebook Engagement of 401 (336 reactions, 42shares, and 23 comments)

b. Twitter:

- 3,484 tweet impressions
- 668 profile visits
- 9 mentions

c. HRSD.com/SWIFTVA.com: 1,297 page visits

d. LinkedIn Impressions:

- 5,205 page impressions
- 4,605 post impressions

e. YouTube: 716 views

- f. Next Door unique impressions: 120,373 post impressions from 14 targeted neighborhood posting shared with 563,708 residents
- g. Blog Posts: (2)
 - [Halloween Doesn't Have To Be Scary For the Environment: Tips for an Eco Friendly Halloween](#)
 - [How Individual Actions Can Make a Difference: Celebrating the Value of Water](#)
- h. Construction Project Page Visits – 1,970 total visits (not including direct visits from home page, broken down as follows:
 - 1,539 visits to individual pages
 - 431 to the status page

C. News Releases, Advisories, Advertisements, Project Notices, Community Meetings and Project Web Postings: 22

- 1. News Releases: 1
- 2. Traffic Advisories: 1
- 3. Construction Notices and/or notices to neighbors: 8
- 4. Advertisements: none
- 5. Project Notices: 10 (via door hangings, reaching 1,123 residents)
- 6. Project/Community Meetings: 1
- 7. New Project Web Pages: 1
 - [Redgate Avenue Meter Vault](#)
- 8. New Project Videos: 0

D. Special Projects and Highlights

- 1. Director participated in the first Atlantic Treatment Plant (ATP) Community Roundtable meeting. The newly formed group, comprised of community, business and civic group leaders, school staff and other stakeholders near the plant, will meet quarterly to establish ongoing dialogue on developments at ATP, answer questions and provide an opportunity for community members to share feedback and ask questions.
- 2. Director and staff attended the Newport News Green Foundation's "Green Drinks!" event, held at the Riverview Farm Park in Newport News. Attendees received an update on the James River SWIFT Full-Scale facility from the Chief of SWIFT and also received updates on park improvements from the Newport News Director of Parks and Recreation.

3. Director coordinated a photo shoot and escorted New York Times photographer through the SWIFT Research Center for the October 20 story published by the New York Times.

E. Internal Communications

1. Director participated in the following internal meetings and events:
 - a. HRSD Internal Conference planning meetings
 - b. Interviews for Public Information Specialist for North Shore
 - c. Interview panel participant for Director of Water Quality
 - d. Software demo meeting for SWIFT Community Commitment Planning dashboard
 - e. Strategic planning workshop #4
 - f. Operations Job Fair planning meetings
 - g. Meeting with customer care staff to discuss Low-Income Water Program communications
 - h. Open house planning meeting for Tabb Pressure Reducing Station
 - i. Meeting with Operations, IT and Safety staff to explore building security options
 - j. SWIFT Industry Day planning meeting
 - k. Discharge Monitoring Report (DMR), SWIFT Quality Steering Team (QST) and QST meetings
2. Director also conducted biweekly Communications department status meetings and weekly team and one-on-one check-in meetings.
3. Staff attended project progress and outreach development meetings with various project managers.

F. Metrics

1. Educational and Outreach Activities: 73 (71 virtual, one in-person)
 - a. Self-guided SWIFT Virtual Tours – 71 views (analytics specify number of times “Take a Tour” button was selected)
 - b. 10/14/2022 – SWIFT presentation to the Rotary Club of Oyster Point Newport News | 60 attendees
 - c. SWIFT presentation to Newport News Green Foundation -- approximately 20 attendees
2. Number of Community Partners: 2
 - a. Rotary Club of Oyster Point
 - b. Newport News Green Foundation
3. Additional Activities Coordinated by Communications Department: 2

4. Monthly Metrics Summary

Item #	Strategic Planning Measure	Unit	October 2022
M-1.4a	Total Training Hours per Full Time Employee (4) - Current Month	Hours / #FTE	1.0
M-1.4b	Total Training Hours per Full Time Employee (4) - Cumulative Fiscal Year-to-Date	Hours / #FTE	4.94
M-5.2	Educational and Outreach Events	Number	73
M-5.3	Number of Community Partners	Number	2

Respectfully,

Leila Rice, APR
Director of Communications

TO: General Manager
FROM: Director of Engineering
SUBJECT: Engineering Monthly Report for October 2022
DATE: November 11, 2022

A. General

1. Capital Improvement Program (CIP) spending for the third month of Fiscal Year (FY) 2023 was below the planned spending target.

CIP Spending (\$M):

	Current Period	FYTD
Actual	29.32	70.58
Plan	34.25	82.80

2. Staff retention and recruitment remain a significant focus for the Engineering Department. A total of 10 positions are needed to bring the Engineering Department to a fully staffed level. Two new employees have joined the Engineering Department this month:
 - Amber Di Somma – Condition Assessment Manager
 - Tony Meads – Condition Assessment Analyst

We continue to recruit and interview candidates for the many open positions, and we are working closely with the Talent Management Department to find new ways to reach out to potential recruits. We attended the WEFTEC Career Fair in October and talked with several potential candidates.

B. Asset Management Division

1. The Interceptor Sewer System Asset Management Plan (AMP) continues to evolve. All force main and gravity sewer assets are included in the AMP. Pump station and small community pipe asset inventory and criticality scoring is underway. Completing this asset inventory and scoring these assets will be a major focus of the Asset Management Division in the coming year.
2. The annual effort to assess critical force mains segments is underway. There are currently six pipeline segments that are under assessment. The assessment efforts involve a variety of field techniques including:
 - Ultrasonic thickness external testing
 - Smart Ball internal inspections
 - Excavation of buried segments

These efforts will be completed in the coming months to allow for any needed additions to the CIP if results indicate replacement or significant rehabilitation.

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

1. The design for the Middlesex Interceptor System Program Phase II project is nearing completion. The program was divided into three separate projects to manage the various work efforts more easily. These projects include:

- Saluda Pump Station
- Hartfield Pump Station
- Transmission Force Main

The design for each project has reached the 100% level and we are currently working to acquire the needed environmental approvals and associated property acquisition to construct each project. We expect to bid each project for construction in the coming months.

2. Construction for the Park Avenue Pump Station Replacement project continues. This is a very challenging project, replacing an aging and undersized pump station with a more modern and larger facility. The area available for the construction effort is very limited and located directly across from the Rena B. Wright Elementary School. There is another construction project in the area to replace the existing water and sewer in this neighborhood. This project requires significant coordination with the adjacent property owners to address access and limit other construction impacts. The contractor is currently installing the new pump station deep foundation and this task is expected to continue for the next three months.
3. The emergency effort to replace the damaged odor control scrubber at the Atlantic Treatment Plant continues. The forensic analysis of the fire damaged equipment indicates that the bearing within the odor scrubber fan failed causing the fan blades to impact the fan housing. Friction caused by this interaction ignited the fiberglass material. A review is underway to determine needed improvements to the maintenance practices for these fan bearings. A rehabilitation and/or replacement review of the damaged fiberglass scrubber is still underway. This effort will take several months to complete due to long lead times for some of the damaged items.
4. A Visioning Workshop was recently held for the future VIP SWIFT Project. This workshop focused on how to effectively align the project scope with HRSD's Nutrient Compliance Strategy. Several project alternatives were discussed and the need to send and treat flow from the Army Base Treatment Plant was reviewed. The Program Management Team will take the results of the workshop and use the alternatives to prepare an evaluation matrix. This matrix will consider cost, schedule and other impacts of each alternative considered. Completion of this matrix and determining a path forward at VIP will be included in the upcoming CIP Update planned for March 2023.

D. Planning & Analysis Division

1. Staff have begun the annual process to update the Regional Hydraulic Model. This work involves reaching out to each locality in the region to get new flow and pressure data, infrastructure improvements, and future growth projection data. This information will be used to update the model and to determine any near-term or long-term improvements

needed to the HRSD interceptor sewer system. Concurrently with this annual update, staff is working to migrate the model data to a new version of the software.

2. Staff collaborated with the Technical Services Division to investigate a sewer service area in Norfolk experiencing high tidal inflow. Field work was performed in the service area and a broken gravity sewer main crossing a saltwater creek was discovered. The City of Norfolk was then able to repair this section of damaged pipe. This is a good example of HRSD staff working to pinpoint specific area of high flow and resolve some of these locations of inflow that cause capacity issues during wet weather events.

E. Strategic Planning Metrics Summary

1. Educational and Outreach Events: 4
 - a. 10/12/2022 – Staff co-presented at the Water Environment Federation WEFTEC Conference entitled, *Recognizing Value from Virtual Reality During Design: Case Study Example of a Wastewater Utility's Approach To and Use of this Technology.*
 - b. 10/18/2022 – Staff made a presentation to the City of Virginia Beach Public Works Department on Design-Build Best Practices.
 - c. 10/18/2022 – Staff made a presentation to the City of Norfolk Environmental Commission on HRSD's SWIFT Program.
 - d. 10/29/2022 – Staff participated in the Roc Solid Foundation Community Outreach Program with the Ulliman Schutte/Alberici Project Team.
2. Number of Community Partners: 4
 - a. Water Environment Federation
 - b. City of Virginia Beach Public Works Department
 - c. City of Norfolk Environmental Commission
 - d. Roc Solid Foundation
3. Number of Research Partners: 0

4. Monthly Metrics Summary:

Item #	Strategic Planning Measure	Unit	October 2022
M-1.4a	Total Training Hours per Full Time Employee (53) - Current Month	Hours / #FTE	1.89
M-1.4b	Total Training Hours per Full Time Employee (53) - Cumulative Fiscal Year-to-Date	Hours / #FTE	7.88
M-5.2	Educational and Outreach Events	Number	4
M-5.3	Number of Community Partners	Number	4
M-5.4	Number of Research Partners	Number	0

Bruce W. Husselbee

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

TO: General Manager
FROM: Director of Finance
SUBJECT: Monthly Report for October 2022
DATE: November 9, 2022

A. General

1. Staff participated in a meeting with the Virginia Department of Environmental Quality (DEQ) concerning grant funding for Sustainable Water Initiative For Tomorrow (SWIFT) facilities. The presentation was well received, and staff will be working with DEQ to draft guidance for SWIFT plant eligibility for the WQIF program.
2. Staff completed a remote walk-in payment project with Fiserv (CheckFree) expanding the in-person payments locations beyond the HRSD facilities and certain locality partner offices. Locations such as Walmart, Kroger, Piggly Wiggly and Harris Teeter are all able to collect payments from customers as an authorized payment location, posting the payment within minutes to the HRSD billing system.
3. Low-Income Household Water Assistance Program (LIHWAP) program arrangements are complete and HRSD is ready to accept funding assistance for customers. HRSD will also be accepting HRUBS payments on behalf of our locality partners. Customers can apply for assistance online or by phone. Once eligibility and past due arrearages are verified, HRSD will be advised of approved customers to avoid disconnection.
4. Staff delivered 2,039 warning door tags and disconnected water service to 1,013 accounts during October, 100 fewer field activities than the previous month. In conjunction with website and phone communication, customers will receive a supplemental LIHWAP information tag attached to warning tags to increase awareness of the potential resource for assistance.
5. Customer calls and email increased in October, however due to the diligent work of the Call Center team, service levels improved to 60 percent of calls answered within three minutes and only 14 percent calls abandoned. Staff will continue to monitor and adjust as appropriate to maintain the best possible service levels with available resources.

B. Interim Financial Report

1. Operating Budget for the Period Ended October 31, 2022

	Amended Budget	Current YTD	Current YTD as % of Budget (33% Budget to Date)	Prior YTD as % of Prior Year Budget
Operating Revenues				
Wastewater	\$ 366,882,000	\$ 131,039,887	36%	36%
Surcharge	1,755,000	549,499	31%	31%
Indirect Discharge	3,200,000	1,467,109	46%	32%
Fees	2,910,000	1,154,721	40%	2%
Municipal Assistance	800,000	267,345	33%	56%
Miscellaneous	1,254,000	189,161	15%	34%
Total Operating Revenue	376,801,000	134,667,722	36%	36%
Non Operating Revenues				
Facility Charge	7,150,000	2,209,435	31%	32%
Interest Income	1,570,000	169,422	11%	-9%
Build America Bond Subsidy	2,026,000	-	0%	51%
Other	302,000	287,545	95%	64%
Total Non Operating Revenue	11,048,000	2,666,402	24%	33%
Total Revenues	387,849,000	137,334,124	35%	36%
Transfers from Reserves	18,868,701	6,289,567	33%	33%
Total Revenues and Transfers	\$ 406,717,701	\$ 143,623,691	35%	36%
Operating Expenses				
Personal Services	\$ 63,288,297	\$ 21,749,477	34%	33%
Fringe Benefits	26,520,561	7,896,001	30%	33%
Materials & Supplies	13,385,885	3,185,248	24%	26%
Transportation	1,797,226	501,745	28%	31%
Utilities	15,055,652	4,447,835	30%	30%
Chemical Purchases	13,026,120	3,540,262	27%	29%
Contractual Services	57,808,888	12,090,213	21%	20%
Major Repairs	12,409,035	2,693,768	22%	17%
Capital Assets	625,737	87,162	14%	33%
Miscellaneous Expense	3,594,334	977,238	27%	26%
Total Operating Expenses	207,511,735	57,168,949	28%	27%
Debt Service and Transfers				
Debt Service	69,533,000	31,602,976	45%	45%
Transfer to CIP	129,412,966	47,137,656	36%	38%
Transfer to Risk management	260,000	86,668	33%	33%
Total Debt Service and Transfers	199,205,966	78,827,300	40%	40%
Total Expenses and Transfers	\$ 406,717,701	\$ 135,996,249	33%	34%

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 Program (CIP).

Transfers represent certain budgetary policy designations as follows:

- a. Transfer to CIP: represents current period's cash and investments that are designated to partially fund HRSD's capital improvement program.
- b. Transfers to Reserves: represents the current period's cash and investments that have been set aside to meet HRSD's cash and investments policy objectives.

3. Reserves and Capital Resources (Cash and Investments Activity) for the Period Ended October 31, 2022

HRSD - RESERVE AND CAPITAL ACTIVITY October 31, 2022

	General Reserve				Capital	
	General	CARES - ARPA	Debt Service	Risk Mgmt Reserve	Paygo	Debt Proceeds
	Unrestricted	Restricted	Restricted	Unrestricted	Unrestricted	Restricted
Beginning - July 1, 2021	\$ 189,168,885	\$ 420	\$ 33,134,065	\$ 4,279,547	\$ 32,535,033	\$ -
Current Year Sources of Funds						
Current Receipts	139,835,655					
Line of Credit						
VRA Draws					23,755,278	
WIFIA Draws					5,634,795	
CARES Transfer In	730,692					
Days Cash on Hand Transfer In						
Transfers In				86,668	47,137,656	
Sources of Funds	140,566,347	-	-	86,668	76,527,729	-
Total Funds Available	\$ 329,735,232	\$ 420	\$ 33,134,065	\$ 4,366,215	\$ 109,062,762	\$ -
Current Year Uses of Funds						
Cash Disbursements	99,222,293				108,100,156	
CARES Transfer Out		(891)				
Days Cash on Hand Transfer Out						
Transfers Out	47,224,324					
Uses of Funds	146,446,617	(891)	-	-	108,100,156	-
End of Period - October 31, 2022	\$ 183,288,615	\$ 1,311	\$ 33,134,065	\$ 4,366,215	\$ 962,606	\$ -
Unrestricted Funds	\$ 188,617,436					

4. Capital Improvements Budget and Activity Summary for Active Projects for the Period Ended October 31, 2022

HRSD - PROJECT ANALYSIS Oct 31, 2022

Classification/ Treatment Service Area	Appropriated Funds	Expenditures		Total		Available Funds
		prior to 7/1/2022	Year to Date FY2023	Project Expenditures	Encumbrances	
Administration	73,738,240	24,017,666	1,032,814	25,050,480	2,336,831	46,350,929
Army Base	163,448,800	124,990,776	343,006	125,333,782	1,124,019	36,990,999
Atlantic	223,483,198	79,968,839	1,231,883	81,200,722	2,750,761	139,531,715
Boat Harbor	390,656,520	56,493,327	9,049,152	65,542,479	191,897,045	133,216,996
Ches-Eliz	183,285,621	118,083,285	1,601,463	119,684,748	5,145,623	58,455,250
Eastern Shore	28,167,651	3,409,844	9,280,850	12,690,694	13,248,562	2,228,395
James River	349,687,804	41,947,605	22,611,870	64,559,475	234,729,872	50,398,457
Middle Peninsula	101,335,187	20,701,425	2,125,303	22,826,728	10,549,446	67,959,013
Nansemond	465,790,657	42,047,584	8,553,512	50,601,096	317,005,009	98,184,552
Surry	57,612,528	38,362,111	1,710,158	40,072,269	3,942,896	13,597,363
VIP	165,969,940	17,792,976	5,500,482	23,293,458	27,684,756	114,991,726
Williamsburg	28,356,619	20,951,191	2,397,135	23,348,326	2,304,704	2,703,589
York River	77,255,863	13,910,493	521,749	14,432,242	10,233,377	52,590,244
General	1,198,301,469	212,260,993	31,098,121	243,359,114	343,953,254	610,989,101
	3,507,090,097	814,938,115	97,057,498	911,995,613	1,166,906,155	1,428,188,329

5. Debt Management Overview

HRSD - Debt Outstanding (\$000's) October 31, 2022

	Principal			Interest	
	Sept 2022	Principal Payments	Principal Draws	Principal Oct 2022	Payments
Fixed Rate					
Senior	170,742	-	-	170,742	-
Subordinate	634,795	(1,365)	5,635	639,065	(2,076)
Variable Rate					
Subordinate	50,000	-	-	50,000	(72)
Line of Credit	33,721			33,721	(78)
Total	\$ 889,258	\$ (1,365)	\$ 5,635	\$ 893,528	\$ (2,226)

HRSD- Series 2016VR Bond Analysis November 1, 2022

	Spread to		
	SIFMA Index	HRSD	SIFMA
Maximum	4.71%	4.95%	0.24%
Average	0.46%	0.52%	0.06%
Minimum	0.01%	0.01%	0.00%
As of 11/01/22	2.24%	2.10%	-0.14%

* Since October 20, 2011 HRSD has averaged 52 basis points on Variable Rate Debt

6. Financial Performance Metrics for the Period Ended October 31, 2022

HRSD - UNRESTRICTED CASH

October 31, 2022

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

		Days Cash on		Adjusted Days Cash
		Hand	on Hand	
Total Unrestricted Cash	\$ 188,617,436			332
Risk Management Reserve	\$ (4,366,215)	(8)		324
Capital (PAYGO only)	\$ (962,606)	(2)		322
Adjusted Days Cash on Hand	\$ 183,288,615			322

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

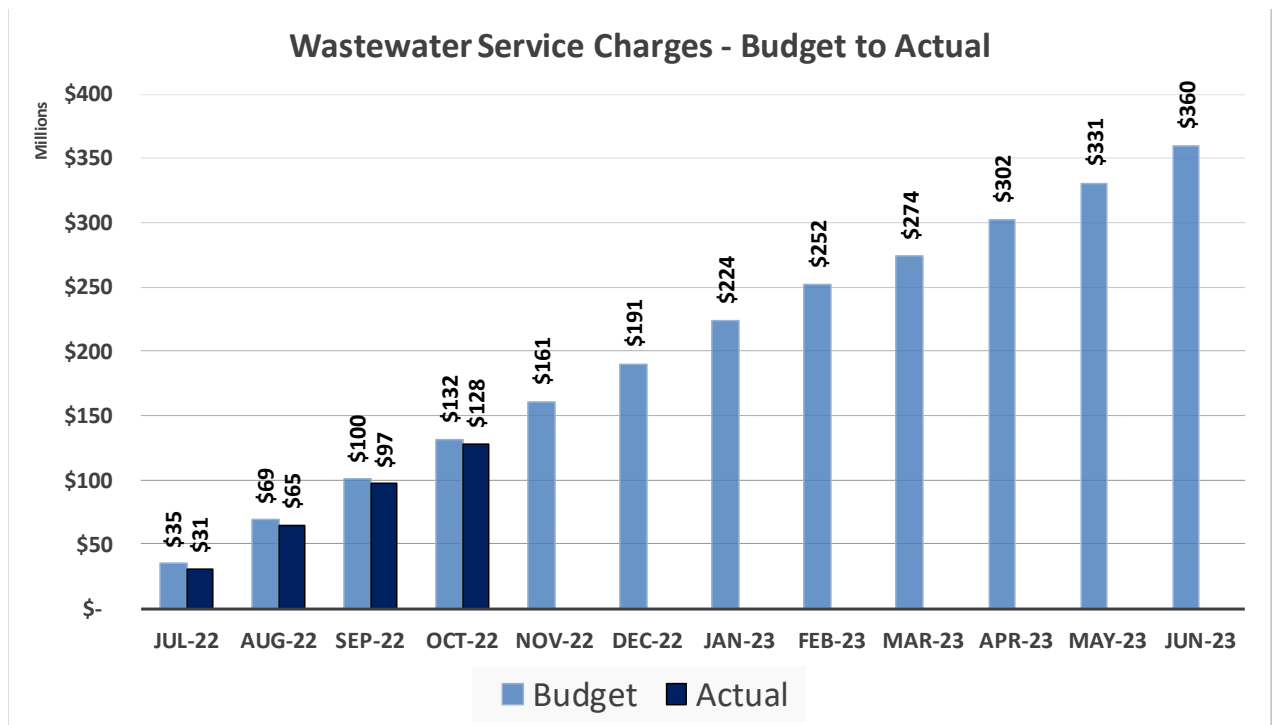
October 31, 2022

Primary Source	Beginning	YTD	YTD	YTD	Ending	Allocation of	Credit Quality	Current
	Market Value				Market Value			
	July 1, 2022	Contributions	Withdrawals	Income Earned	October 31, 2022			Yield
BAML Corp Disbursement Account	25,498,734	184,796,177	194,510,100	57,499	15,842,310	11.2%	N/A	0.55%
VIP Stable NAV Liquidity Pool	144,268,153	-	20,000,000	1,085,852	125,354,005	88.8%	AAAm	3.11%
Total Primary Source	\$ 169,766,887	\$ 184,796,177	\$ 214,510,100	\$ 1,143,351	\$ 141,196,315	100.0%		

Secondary Source	Beginning	YTD	YTD	YTD	Ending	Ending Cost	LTD	Yield to
	Market Value				Market Value			
	July 1, 2022	Contributions	Withdrawals	Income Earned & Realized G/L	October 31, 2022			at Market
VIP 1-3 Year High Quality Bond Fund	62,932,017	-	4,199	235,790	61,929,659	63,975,608	(2,045,949)	
Total Secondary Source	\$ 62,932,017	\$ -	\$ 4,199	\$ 235,790	\$ 61,929,659	\$ 63,975,608	\$ (2,045,949)	

	Total	Fund Alloc
Total Primary Source	\$ 141,196,315	69.5%
Total Secondary Source	\$ 61,929,659	30.5%
TOTAL SOURCES	\$ 203,125,974	100.0%

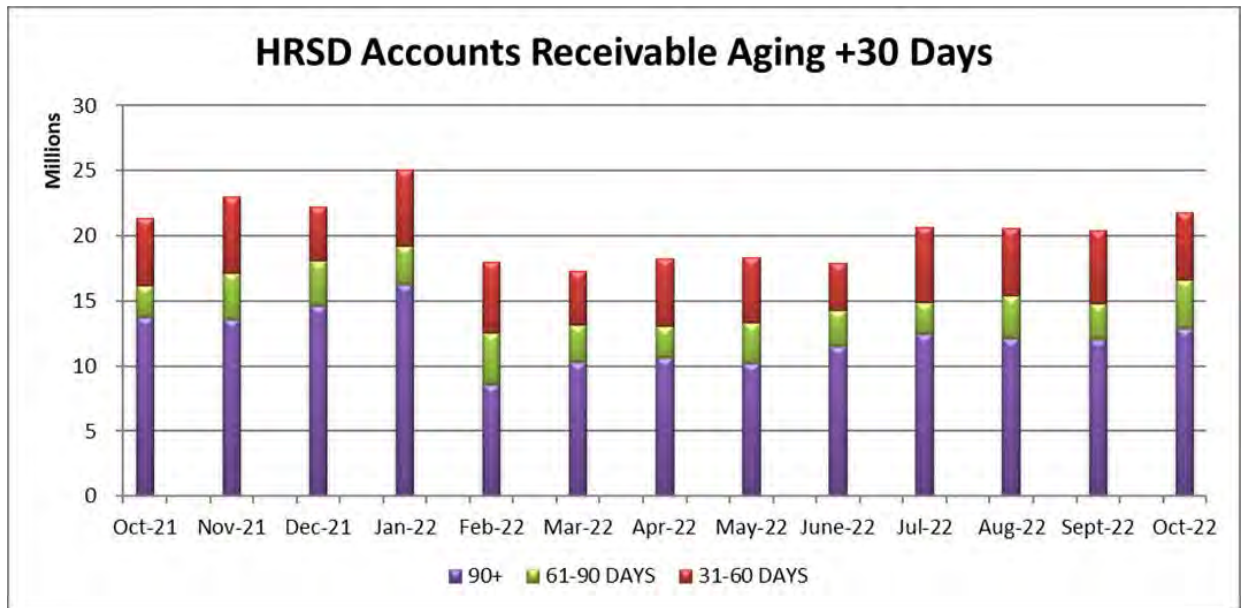
7. Summary of Billed Consumption

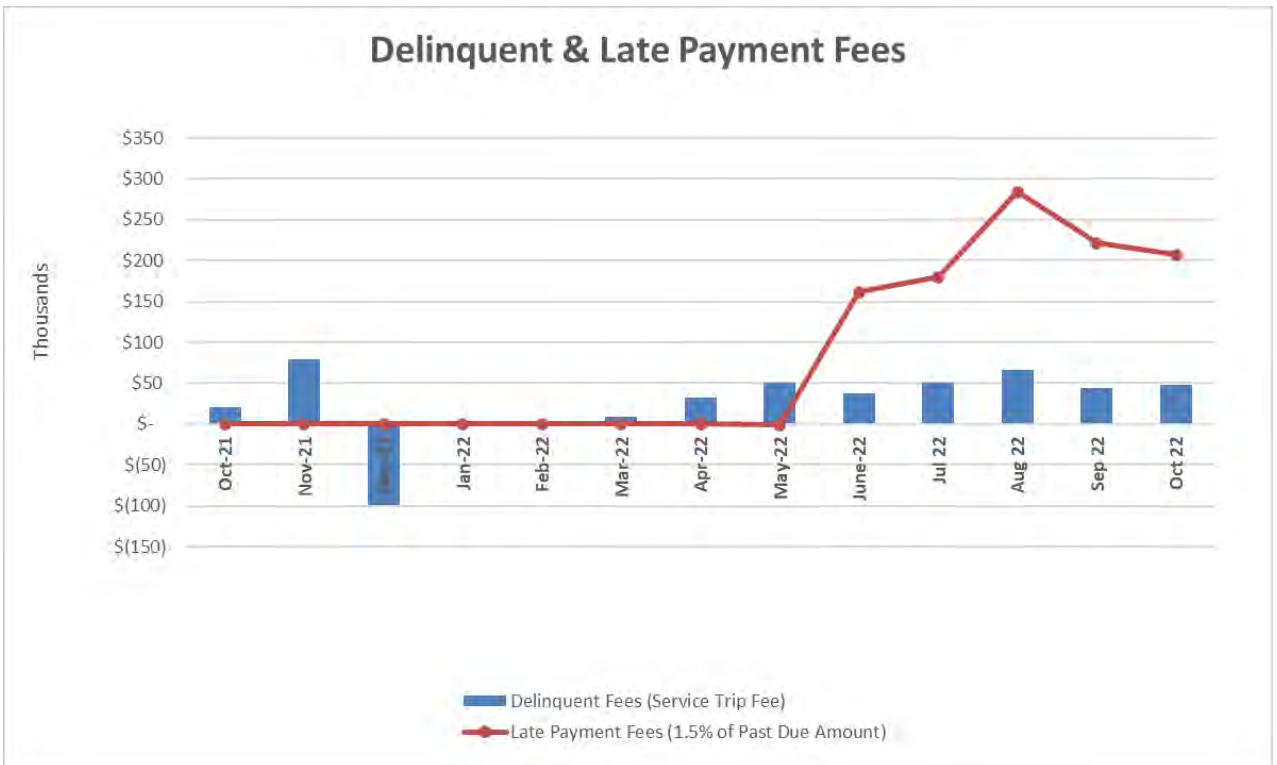


Summary of Billed Consumption (,000s ccf)							
Month	FY2023 Cumulative Budget Estimate	FY2023 Cumulative Actual	% Difference		% Difference		% Difference
			From Budget	Cumulative FY2022 Actual	From FY2022	Cumulative 3 Year Average	From 3 Year Average
July	5,015	4,682	-6.6%	4,976	-5.9%	4,947	-5.4%
Aug	9,883	9,651	-2.3%	9,518	1.4%	9,641	0.1%
Sept	14,413	14,207	-1.4%	14,347	-1.0%	14,345	-1.0%
Oct	18,892	18,679	-1.1%	19,048	-1.9%	18,955	-1.5%
Nov	23,125	-	N/A	22,953	N/A	22,412	N/A
Dec	27,336	-	N/A	27,541	N/A	27,558	N/A
Jan	32,088	-	N/A	31,865	N/A	32,148	N/A
Feb	36,182	-	N/A	36,188	N/A	36,087	N/A
March	39,309	-	N/A	40,229	N/A	40,452	N/A
Apr	43,360	-	N/A	44,569	N/A	44,644	N/A
May	47,508	-	N/A	48,315	N/A	48,656	N/A
June	51,620	-	N/A	53,243	N/A	53,324	N/A

C. Customer Care Center

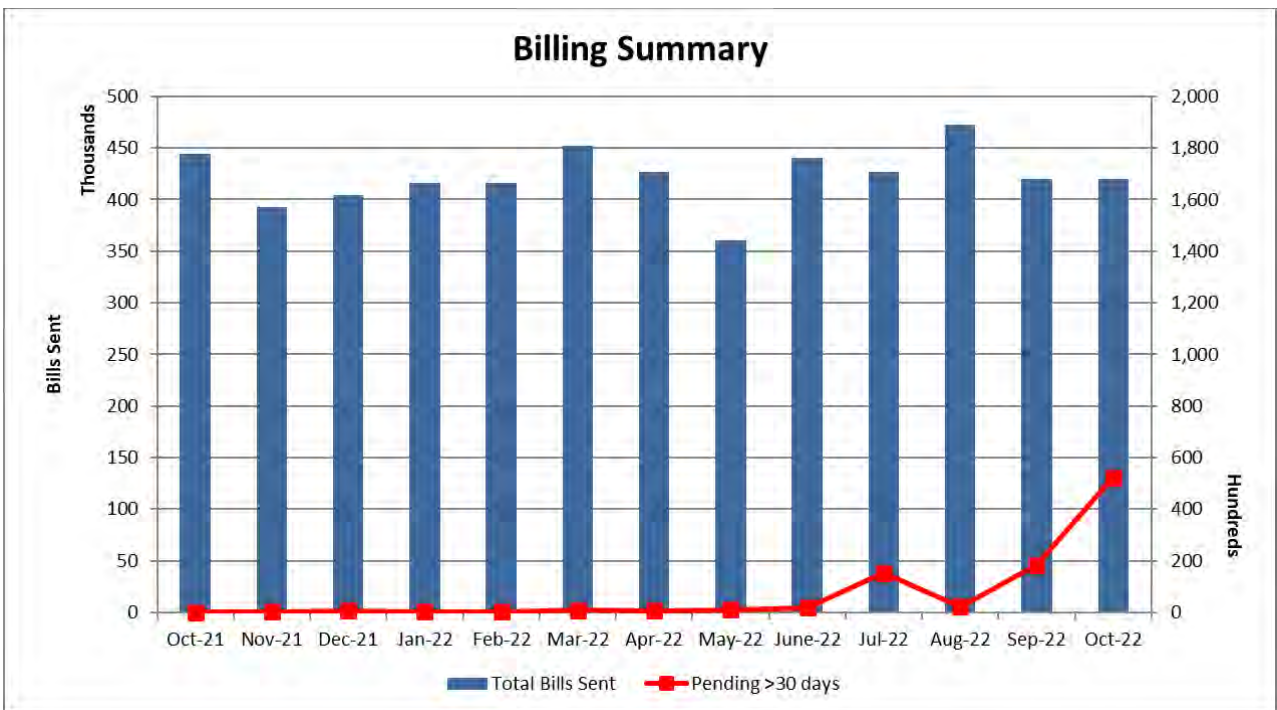
1. Accounts Receivable Overview

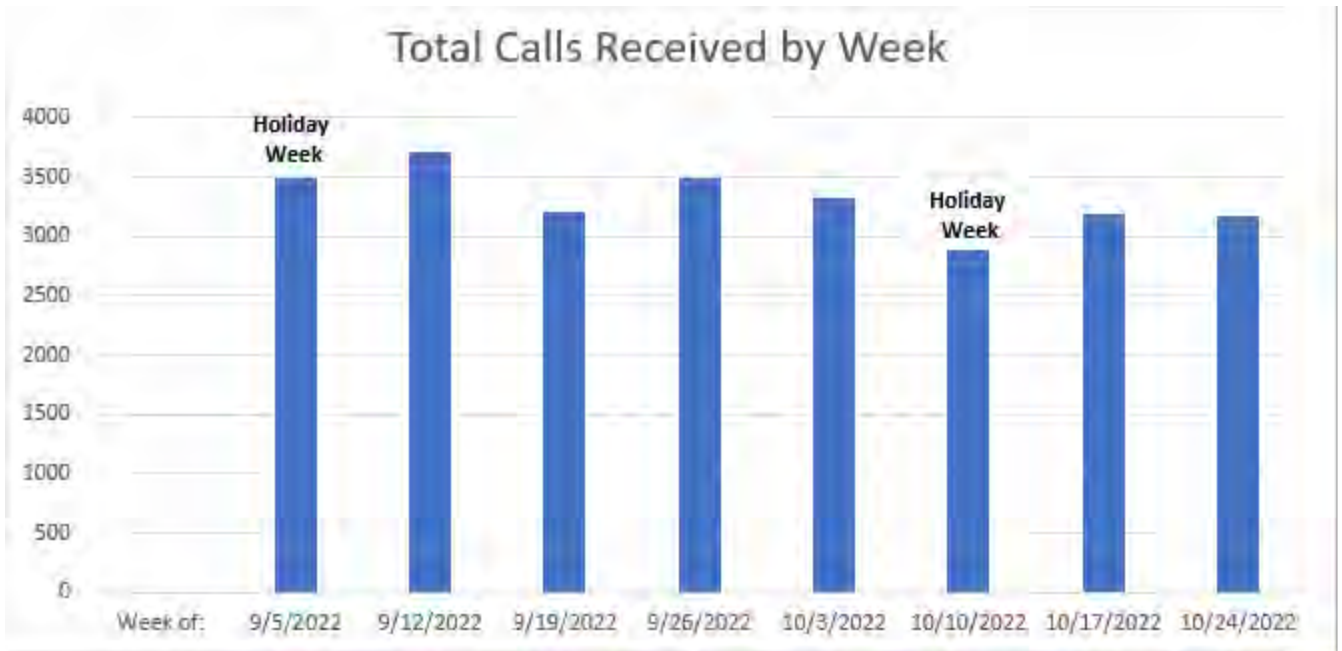
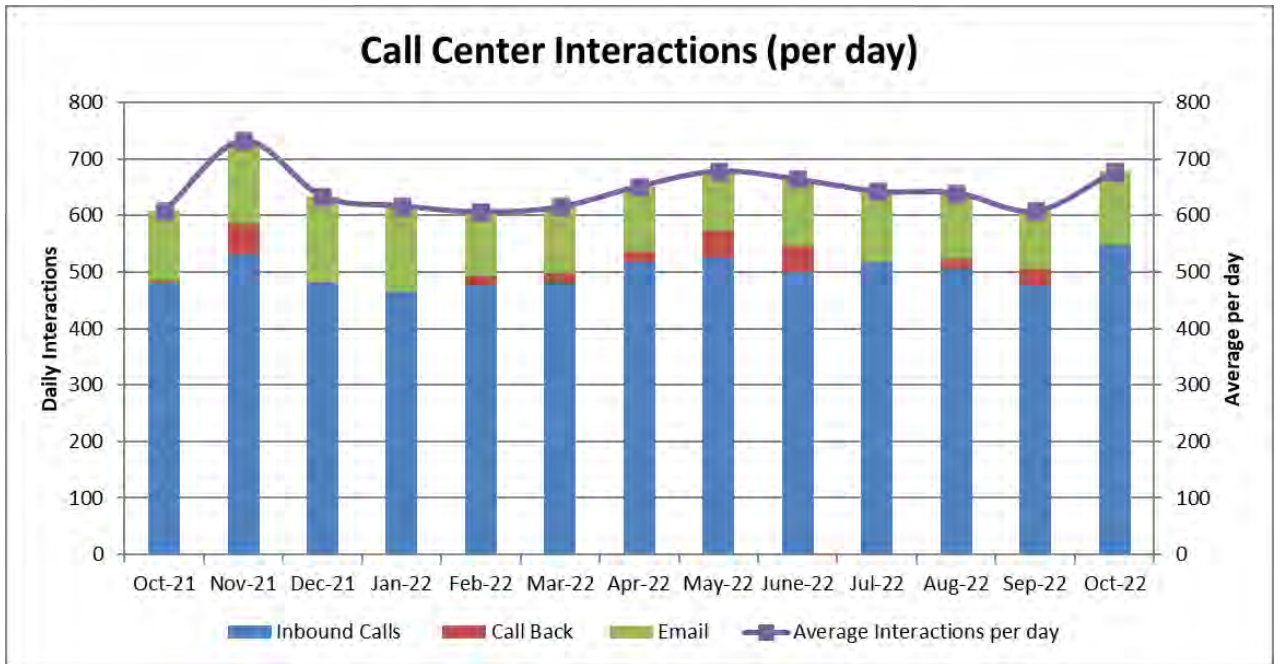


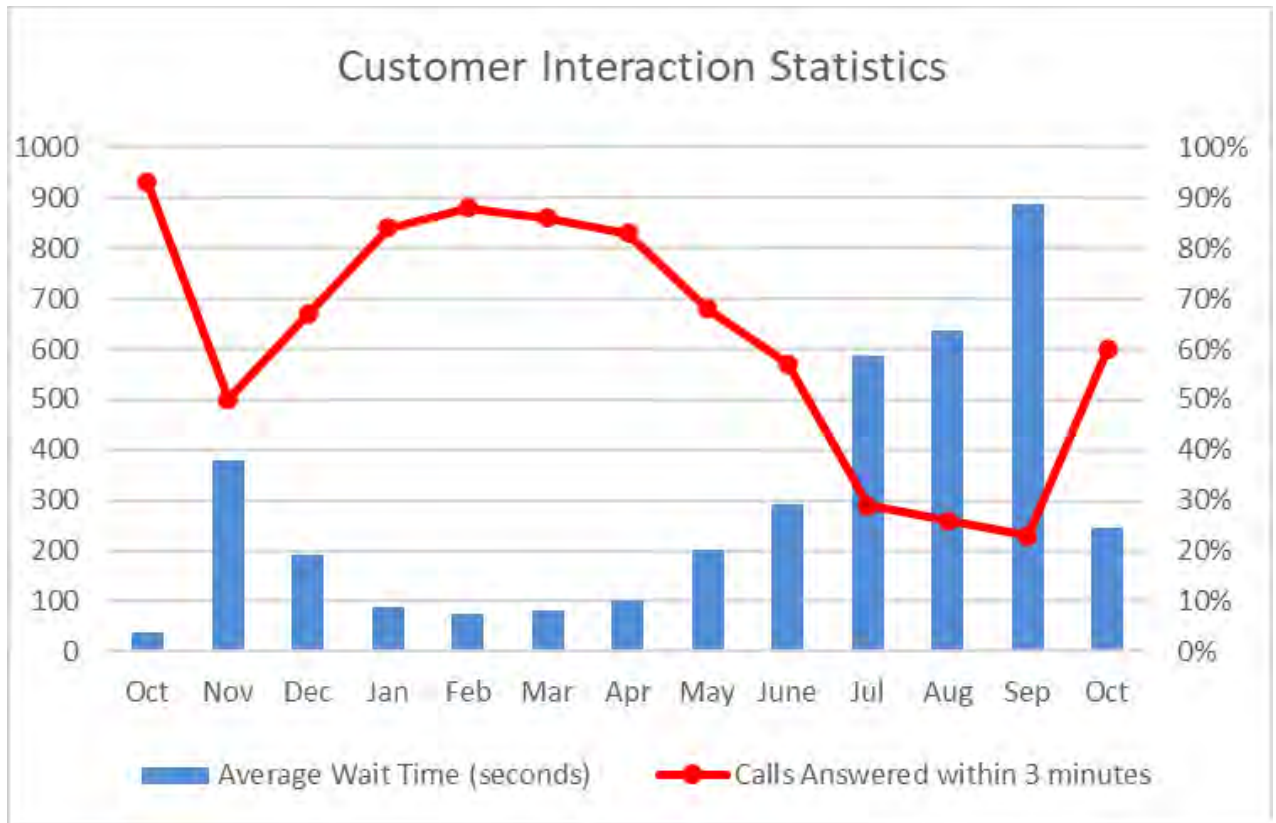


Apr 20-Feb 22 Field Activity was suspended late March 2020 in response to COVID-19.

2. Customer Care Center Statistics







Customer Interaction Statistics	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	Jul	Aug	Sep	Oct
Calls Answered within 3 minutes	93%	50%	67%	84%	88%	86%	83%	68%	57%	29%	26%	23%	60%
Average Wait Time (seconds)	38	379	193	89	75	81	101	203	291	587	638	887	246
Calls Abandoned	4%	22%	15%	9%	6%	7%	7%	12%	15%	25%	25%	31%	14%

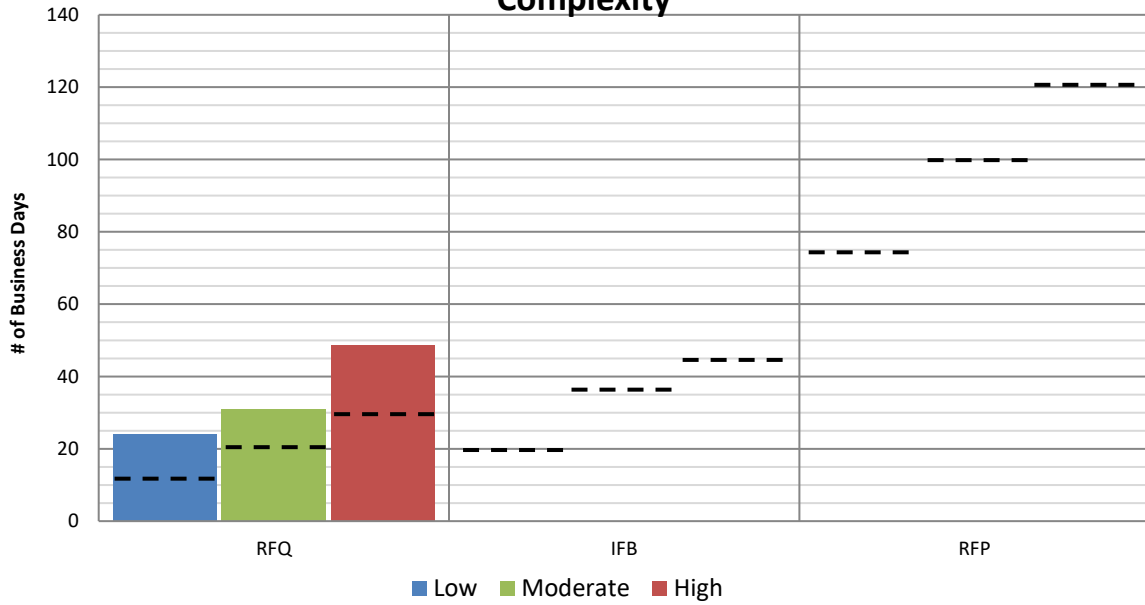
D. Procurement Statistics

Savings	Current Period	FYTD
Competitive Savings ¹	\$52,760	\$246,473
Negotiated Savings ²	\$0	\$7,585
Salvage Revenues	\$118	\$12,425
Corporate VISA Card - Estimated Rebate	\$20,664	\$84,777

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.

October Cycle Time Per Method of Procurement and Complexity

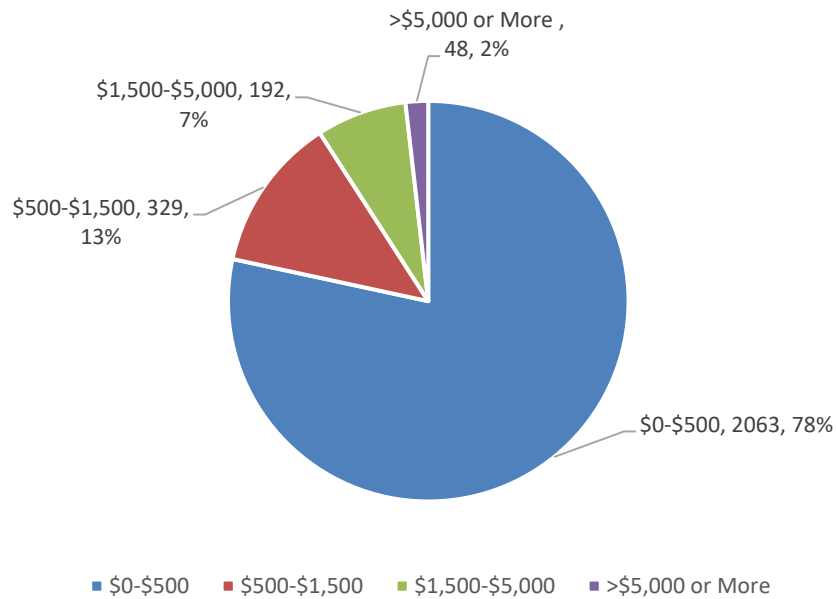


Dashed Line: Target Service Level Cycle Time

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

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

Procurement Transactions Dollar Amounts



ProCard Fraud	External Fraud Transactions *	Comments
July	0	
August	6	Caught By Cardholder. All transaction were on the same card.
September	2	Caught By Cardholder
October	3	Caught By Bank

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

Accidental Use, which is anything that is not purchased for use and ownership by HRSD, was at 0 transaction (0.00%) out of the 2632.

October ProCard transactions, with a total of \$0.00.

E. Strategic Planning Metrics Summary

1. Educational and Outreach Events: 0
2. Community Partners: 0
3. Monthly Metrics

Item #	Strategic Planning Measure	Unit	October 2022
M-1.4a	Training During Work Hours Per Full Time Employee (103) – Current Month	Hours / #FTE	0.72
M-1.4b	Total Training During Work Hours Per Full Time Employee (103) – Cumulative Fiscal Year-to-Date	Hours / #FTE	2.71
M-5.2	Educational and Outreach Events	Number	0
M-5.3	Number of Community Partners	Number	0
	Wastewater Revenue	Percentage of budgeted	109%
	General Reserves	Percentage of Operating Budget less Depreciation	104%
	Liquidity	Days Cash on Hand	332 Days
	Accounts Receivable (HRSD)	Dollars	\$42,098,005
	Aging Accounts Receivable	Percentage of receivables greater than 90 days	30.5%

4. Annual Metrics

Item #	Strategic Planning Measure	Unit	FY-2022
M-2.4	Infrastructure Investment	Percentage of Total Cost of Infrastructure	*
M-4.3	Labor Cost/MGD	Personal Services + Fringe Benefits/365/5-Year Average Daily Flow	*
M-4.4	Affordability	6.5 CCF Monthly Charge/Median Household Income ^[1]	*
M-4.5	Operating Cost/MGD	Total Operating Expense /365/5-Year Average Daily Flow	*
	Billed Flow	Percentage of Total Treated	*
	Senior Debt Coverage	Cash Reserves/ Senior Annual Debt Service	*
	Total Debt Coverage		*

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

Respectfully,

Steven G. de Mik

Steven G. de Mik, CPA
Deputy General Manager/CFO

TO: General Manager
FROM: Director of Information Technology
SUBJECT: Information Technology Department Report for October 2022
DATE: November 9, 2022

A. General

1. As part of HRSD's cybersecurity program, pre-deployment vulnerability assessment has been formally introduced as a critical step in the management of all IT projects.
2. Supply chain issues continue to hinder timely delivery of various hardware components ranging from monitors to high density servers, resulting in increased complexity in the scheduling and management of current and future projects.
3. The IT Help Desk processed 387 work orders in October, ensuring availability of computing resources to those working locally and remotely.
4. Staff are working with IT personnel from the cities of Norfolk and Chesapeake to implement changes in the cities' IT infrastructure related to billing operations. Such collaborative efforts facilitate continuity of operations and mutual cybersecurity initiatives.
5. Additional security enhancements are being made to HRSD building management systems at several HRSD sites. These systems are responsible for monitoring and control of HVAC, lighting, and other facility related equipment. Building management systems are often the targets of cyber criminals, and if not properly protected, can be used to gain broader access to network resources.
6. Migration and testing of the new backup and restoration platform are nearing completion. Following a period of system monitoring and stabilization, the legacy hardware and software will be decommissioned.

B. Strategic Planning Metrics Summary

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

C. Metrics Summary

Item #	Strategic Planning Measure	Unit	October 2022
M-1.4a	Training During Work Hours Per Full-Time Employee (54) – Current Month	Total Training Hours / # FTE	3.39
M-1.4b	Total Training During Work Hours Per Full-Time Employee (54) – Cumulative Fiscal Year-to-Date	Total Training Hours / # FTE	12.37
M-5.2	Educational and Outreach Events	Number	0
M-5.3	Number of Community Partners	Number	0

Respectfully,
Don Corrado

TO: General Manager
FROM: Director of Operations
SUBJECT: Operations Report for October 2022
DATE: November 18, 2022

A. Interceptor Systems

1. North Shore (NS) Interceptors

- a. The Supervisory Control and Data Acquisition (SCADA) project continued to implement new cutovers and execute global changes. XONA and Dispell systems were finalized as the means to get into the SCADA Ovation top end from the HRSD business network and from outside HRSD's network. Supply chain issues are still challenging for needed Information Technology (IT) hardware upgrades. The on-going outsourced integration work for Coliseum PRS and Off-Line Storage Tank was cancelled due to contractor performance issues. HRSD staff are planning how to best accommodate and configure a control strategy and implement a new control schema at this site with internal resources.
- b. Staffing remains challenging as we currently have five vacant Interceptor Technician positions and one vacant Interceptor Engineer position.
- c. There were no Sanitary Sewer Overflows (SSO).
- d. There was one odor complaint, three interceptor complaints, and seven system alarms during the month. These complaints and alarms were fully resolved by NS Operations staff.
- e. There were no Miss Utility 'no show' and seven after-hour emergency tickets reported for the month.
- f. Staff assisted with the delivery of 1,000 gallons of sodium hypochlorite from James River Treatment Plant (JRTP) to Boat Harbor Treatment Plant (BHTP).

2. South Shore (SS) Interceptor Systems

- a. There were no SSOs reported this month.
- b. There was one odor complaint reported this month. On October 24, a Suffolk business owner on Holland Road called to report a sewer odor in his building. Staff had operated an air vent on the force main adjacent to the business earlier in the day. Staff will utilize a portable carbon air scrubber when venting air in the future.
- c. There were no Miss Utility 'no show' reported this month.
- d. There were three interceptor complaints reported this month. One issue was with the City of Virginia Beach Public Utilities Department and one issue was with

Norfolk Department of Utilities. In addition, on October 25, a Norfolk resident reported air bubbling near the abandoned force main across the Lafayette River near the Luxembourg Avenue Pump Station (PS). Staff responded and found no odors or sewage. Staff spoke to the resident and informed the person of the findings.

- e. Staff responded to and resolved 12 system alarms this month.
- f. On October 17 and 24, staff assisted the Water Quality (WQ) Department with air sampling on the force main at Hillpoint Boulevard and Wilroy Road in Suffolk.
- g. On October 14, staff assisted the City of Chesapeake Department of Public Utilities by completing an emergency valve operation at the intersection of Military Highway and Smith Avenue.
- h. On October 20, staff assisted the City of Chesapeake Department of Public Utilities with work at a pump station near the intersection of George Washington Highway and Galberry Road.
- i. On October 26, staff assisted the City of Chesapeake Department of Public Utilities with a valve replacement at a pump station on Portsmouth Boulevard.
- j. Staffing remains challenging as we currently have nine vacant Interceptor Technician positions.

B. Major Treatment Plant Operations

- 1. Army Base (ABTP) Treatment Plant and Virginia Initiative Treatment Plant (VIP) (ACV Group)
 - a. VIP and ABTP complied with all VPDES permit requirements with no odor complaints.
 - b. Support was provided to the Onancock Treatment Plant (OTP) with maintenance activities and projects.
 - c. Staff completed start up and operation training for the dewatering unit at West Point Treatment Plant (WPTP).
 - d. Staff assisted Small Communities Division (SCD) and contractors with bypass installation and testing for the King William Treatment Plant (KWTP) upgrade.
 - e. ABTP
 - (1) The plant is operating ammonia-based aeration control targeting an ammonia setpoint of 2 mg N/L.
 - (2) The plant has started operating disinfection control in combined mode, which uses flow-paced dosage targeted feedforward with five-minute residual feedback control. This will allow for more stable and consistent operation and lower dosing of hypochlorite.

- (3) Taussig PS discharges continue to elevate plant saltwater content, impacting disinfection and biological phosphorus removal.
- (4) Staff completed routine maintenance and repairs.
- (5) Air quality tests were performed in the administration and solids handling buildings. The Technical Services Division (TSD) Air Team found the administration building to have no measurable H₂S inside the building. The solids handling building had elevated levels of H₂S concentrations in various locations. In response to the information provided by TSD, staff will relocate the operations lab and their offices to other temporary locations. A consultant (Hazen) will be providing a scope to evaluate the third floor of the solids handling building and recommend ventilation improvements.
- (6) Staff began converting the inventory building to a new operations work center and lab. All inventory has been relocated for this purpose. New plumbing, cabinets, counter tops, network connections, electrical alterations and operator workstation are being installed for the new lab. A mobile office trailer has been set up for the Lead Operators (LOs) and a Maintenance Planner until the administration building upgrades are complete.
- (7) Staff installed two new non-potable water (NPW) hydrants.
- (8) Staff excavated and repaired a broken potable line.
- (9) A contractor is onsite to conduct lead paint and asbestos surveys prior to the administration building upgrade.

f. VIP

- (1) There were three MACT 129 deviations for use of the bypass stack at VIP.
- (2) There were three reportable air permit events in October. A series of utility power anomalies on October 30 caused the ID fan to shut down on three separate occasions, opening the bypass damper for several minutes during each event.
- (3) There was also a reportable event on October 30 for a 1200-gallon overflow from a broken NPW line into a storm drain. The PVC line was split by flow surge when restarting the NPW pumps after one of the power sags.
- (4) Electrical and Instrumentation (E&I) and Industrial Automation Programmer (IAP) staff resolved a DCS communication issue at the Solids Handling facility that interfered with the furnace operation. A third-party contractor made repairs to the fiber optic system to restore proper control to the Solids Handling equipment.

- (5) Higher than normal conductivity levels were detected in the plant influent due to collection system tidal infiltration in early October which hampered disinfection and phosphorus uptake.
- (6) One aeration tank was cleaned, and the annual inspection completed.
- (7) Ammonia-Based Aeration Control (ABAC) is operating at a Dissolved Oxygen (DO) low-end setpoint of 0.8 mg/L, ortho-phosphate setpoint of 2.5 mg/L and ammonia setpoint of 1.0 mg/L. The average DO level in the aeration tanks was 0.8 mg/L for October. No supplemental carbon chemical addition was used for denitrification.
- (8) Maintenance and electrical staff worked to resolve issues with gas Maxon valves and burners, preparing the standby furnace for operation and testing in November.
- (9) One primary clarifier was returned to service following rebuild and two primary clarifiers were taken out of service for repairs.
- (10) The Norfolk Fire Marshal inspected the plant and requested annual flow testing of all fire hydrants. Testing was performed by a third party on October 31 and all hydrants will be color-coded, per the Fire Marshal's requirements.

2. Atlantic (ATP), Boat Harbor (BHTP), and Nansemond (NTP) Treatment Plant (ABN Group)

a. ATP

- (1) The plant met all Virginia Pollution Discharge Elimination System (VPDES) permit requirements.
- (2) Plant and Technical Services Division (TSD) staff continue working to minimize off-site odors.
- (3) On October 7, the Virginia Beach Fire Marshal reinspected the plant to for items that were addressed by Plant Staff.
- (4) Four employees attended Water Environment Federation Technical Exhibition Conference (WEFTEC). Two of the employees helped with Operations Challenge and judged the competition.
- (5) Three employees attended smoke school for visible emissions certification.
- (6) Plant staff met with the contractor to discuss the plan to provide digester seed to Raleigh Water for their Thermal Hydrolysis Process (THP) digester start up. A contractor will haul the seed to Raleigh water in early spring 2023.

- (7) Staff attempted to place #2 primary clarifier into service and the sludge flights failed. The chain and connecting links were replaced and the clarifier is now ready for service. Redundancy is now more critical than before due to the increase in flows from the Chesapeake-Elizabeth Treatment Plant (CETP) closure.
- (8) Staff tightened the packing on two THP system valves to prevent leaking from the system, which can also be a source for offsite odors.
- (9) Staff flushed all three cooling hexes for the THP, which were found to be clogged with dried solids and pieces of rubber from pump stators. Staff added a Preventative Maintenance (PM) to flush these cooling hexes twice a year and developed a flushing Standard Operating Procedure (SOP) to give to the operation staff.
- (10) Contractors are on site performing repairs to Combined Heat and Power (CHP) engine #1.
- (11) The blowers for digester #6 Dystor cover both failed on October 28, but staff had new blowers on site. Staff are in the process of repairing and replacing the blowers.
- (12) On October 29, a fire alarm panel at the plant went into an alarm condition which resulted in the Virginia Beach Fire Department (VBFD) responding to the plant. There were no conditions that warranted this alert to the fire department, but since the alarm panel was still in alarm condition and could not be reset the plant was required to have personnel on site 24/7 to perform a fire watch. The personnel assigned to the fire watch could not do any other tasks. Staff contacted the contractor who services our fire panels to have this condition repaired.
- (13) The contractor is on-site coating digester #4 and another contractor is repairing concrete at the contact tanks.
- (14) The gearbox for the biosolids conveyor from final dewatering to the north storage pad failed. Staff will replace the failed gearbox.
- (15) A contractor removed the hoist for the primary scum clam shell. This clam shell removes primary scum from the scum concentrator and puts it into a dumpster for removal. The contractor has found damage to the hoist outside the original scope and a change order was issued. This scum clam shell should be back into service sometime in November.

b. BHTP

- (1) No odor exception occurred for the month of October. No odor complaints were reported.
- (2) One Total Hydrocarbons reportable event occurred in the month of October.

- (3) One reportable event for loss of chlorination occurred in the month of October.
- (4) The plant continued to experience events of higher-than-normal hypochlorite usage. Plant staff, Pretreatment and Pollution Prevention (P3), and the Central Environmental Lab (CEL) are all working together to find the cause and a solution. Recent findings suggest saltwater infiltration during the high tides could be contributing to the high hypo demand. Plant staff have increased the solids retention time to act as a buffer for when the events happen, and the demand has stayed at more manageable levels for the time being. The Plant Operators (PO) remain diligent in managing the issue, keeping BHTP in compliance with the VPDES permit.
- (5) On October 1, one MACT 129 deviation occurred for use of the bypass stack. The incinerator scrubber system lost Non-Potable Water (NPW) flow due to a storm the night before and a second contact tank going into service. When influent flow returned to normal, plant staff chose to rotate contact tanks since it was the beginning of the month. The NPW gates were not opened to the online contact tank when the other was taken out of service. The tank drained down with usage and eventually lost flow to the solids handling building causing bypass stack use. Once the NPW gates were opened to the proper tank the incinerator scrubber system was restarted.
- (6) On October 31, the Total Hydrocarbon monitoring system failed calibration. The Electrical and Instrumentation (E&I) staff recalibrated the meter due to maintenance limit error and readings were obtained.
- (7) On October 5, a loss of chlorination to the contact tanks occurred. The cause was a closed valve while switching hypo tanks. The storage tank had been secured for repairs and the strainer valve had been closed when it was placed in service. Once the valve was opened and hypo flow was restored.
- (8) Two out of four caustic pumps have been replaced on the odor control scrubber system.
- (9) A contractor, with the assistance of plant staff, cleared the sumps on odor control system #1 to aid in odorous air removal by cleaning out the sand, debris, and old media material that had fallen into the sumps.
- (10) Plant staff completed the overhaul on the west bay of primary #3. The overhaul included replacement of wear strips, upper flight rails, hangers, chain, and flights. The east bay overhaul is ongoing.

c. NTP/Sustainable Water Initiative For Tomorrow (SWIFT) Research Center (RC)

- (1) The plant met all VPDES permit requirements.
- (2) There were no odor exceptions or complaints during the month.

- (3) The total volume of SWIFT recharge into the Potomac aquifer for the month of October was 6.7 million gallons (MG) (30% Recharge Time based on 500 gpm).
- (4) The construction of the Fats, Oils, and Grease (FOG) handling facility is in progress.
- (5) On October 12, staff shut down the NPW for the contractors to do a tie in. Contractors were pumping extra water into a containment and removing it with a vac trailer and pumping back to the plant. The containment overflowed, releasing NPW to the storm drain. The total quantity of chlorinated NPW lost was approximately 200 gallons.
- (6) Construction started on the Waste Activated Sludge Stripping (WASSTRIP) and solids handling improvement projects, with an estimated completion date in 2024. These new facilities and improvements will greatly increase phosphorus recovery, as well as improve the solids handling performance and reliability, to accommodate the closure of the BHTP.
- (7) On October 27, plant staff changed scrubber media in both towers of the #3 odor control scrubber.
- (8) There were a few events that impacted recharge operations for the SWIFT RC, resulting in fewer recharge days. These events include:
 - (a) Upsets at NTP (high Total Nitrogen (TN) to SWIFT)
 - (b) Contractor work with new well
 - (c) Testing operations of the new well, including extended backflushes
- (10) The new Managed Aquifer Recharge (MAR) well is close to completion and staff plan to begin recharge operations at 700 gpm in November 2022. Due to flow restrictions within the current well, recharge was roughly at 500 gpm for the past year.
- (11) The biological removal of 1,4-dioxane using propane shows success at both the pilot scale and research center scale. To date, staff has seen an 80% removal in both studies.

2. James River (JRTP), Williamsburg (WTP), and York River (YRTP) Treatment Plant (JWY Group)

a. JRTP

- (1) The plant met all Virginia Pollution Discharge Elimination System (VPDES) permit requirements.
- (2) There were no reportable wastewater events and one odor scrubber deviation. The odor scrubber deviation was a 14.6 ppm effluent hydrogen

sulfide reading which occurred while switching scrubbers.

- (3) Staff rebuilt the #3 return activated solids pump.
- (4) Staff cleared the fence line of over-grown vegetation and debris from #5 secondary clarifier to the solids handling building.
- (5) There continues to be no buildup of scum across primary clarifiers #3 and #4 after modifications to the scum removal system on both tanks was completed last month.
- (6) Coating of the solids handling odor scrubbers and duct by a contractor continued.
- (7) The contractor modifying the #5 reactor of the Integrated Fixed Film Activated Solids (IFAS) tanks for improved nutrient removal completed the installation of fixed media, piping, and steel structures in tank #8.
- (8) The contractor drilling on-site wells continued drilling the well near secondary clarifier #4 and is working on the well near the solids holding tank.
- (9) The contractor worked on the pipe connections between the IFAS effluent pipe and secondary clarifiers influent distribution pipe for the Advanced Nutrient Removal Improvements (ANRI)/ SWIFT Project. The contractor also excavated where the new SWIFT buildings will be located and installed temporary secondary effluent piping that can be used during high flow events while the new secondary clarifiers are being constructed.

b. WTP

- (1) The plant met all Virginia Pollution Discharge Elimination System (VPDES) permit requirements.
- (2) There were no reportable wastewater events and nine incinerator deviations. The incinerator air deviations were a failure of the total hydrocarbon monitor to record two valid readings per hour due to failures of the equipment to properly calibrate.
- (3) Staff performed routine maintenance on the primary clarifiers.
- (4) Refurbishment of the #1 centrifuge was completed offsite by a contractor. Maintenance staff installed the centrifuge and returned it to operation. The #3 centrifuge was taken out of service for inspection.
- (5) A contractor completed work on coating of steel structures in the FOG water tank.
- (6) FOG receiving was suspended the first three weeks of the month due to needed repairs on the FOG receiving tank. Repairs were completed and FOG receiving was resumed.

- (7) Work on the administration building renovation project continued with the contractor completing drywall installation, installing heating, ventilation, and air conditioning duct, and working on electrical fixtures and outlets.
- (8) A contractor installed new brushes on the #3 secondary clarifier rake arm used to remove algae from weirs.

c. YRTP

- (1) The plant met all VPDES permit requirements.
- (2) There were no reportable wastewater events and three odor complaints. Odor complaints were received on October 5, 17, and 27 by a resident in the Seaford area. Ferric chloride feed was increased to aid in eliminating any potential odors coming from the primary treatment section of the plant.
- (3) Staff performed routine maintenance and repairs which included some minor repairs to the #5 aeration tank air diffusers.
- (4) A contractor completed work on repairing and sealing expansion joints in aeration tanks #5 and #6.
- (5) On the administration building renovation project, the contractor completed the relocation of conduit, piping, and utility access holes and excavated the foundation for the building addition.
- (6) The Virginia Department of Environmental Quality (DEQ) inspected the plant on October 7. A report from their inspection has not yet been received.

3. Multiple Hearth Incinerator (MHI) Operations Events Summary

- a. Total Hydrocarbon (THC) monthly averages (not to exceed 100 ppm) were met by all four MHI plants (Army Base, Boat Harbor, Virginia Initiative, and Williamsburg) with a THC continuous emissions monitoring (CEM) valid data captured of greater than 90%.
- b. The MHIs had no deviations from the required 129 SSI rule minimum operating parameters and four minor bypass events (<60 minute). The MACT 129 emission limits testing for both facilities are to take place in November.

C. Small Communities (SC)

1. Middle Peninsula

- a. There were no SSOs in the Middle Peninsula System.
- b. There were no permit exceedances for the month.
- c. There were no odor complaints, and no collection system complaints.

- d. There were no Miss Utility 'No Show' and no after-hour emergency tickets reported for the month.
- e. Seven new single-family home connections were made in October.
- f. Staffing remains challenging as we currently have seven vacant System Operator positions.

g. Urbanna Treatment Plant (UBTP)

Staff are preparing for the IFAS system installation in November 2022. Staff were also busy preparing for the Town of Urbanna Oyster festival and the operational impacts it has on the Urbanna Collections System and Treatment Plant.

h. King William Treatment Plant (KWTP)

The layout for KWTP Improvements Phase II project was provided by the consultant for review. Comments were provided back to the Consultant. KWTP Improvements Phase I project is in progress.

2. Surry Systems

- a. There were no SSOs in Surry County.
- b. There were no permit exceedances for the month.
- c. There were no odor complaints, and no collections system complaints.
- d. There were no Miss Utility 'No Show' and no after-hour emergency tickets reported for the month.
- e. Industrial Park Pump Station Factory Acceptance testing (FAT) was completed this month and the station is expected to be activated in November 2022 along with the new Surry Pump Stations.

3. Lawnes Point (LP)

- a. There were no SSOs.
- b. Pump and Haul operations are ongoing. Atlantic Heating and Cooling performed four days of pump and haul of the Sequential Batch Reactor (SBR) tank this month.

4. Eastern Shore (ES)

- a. Telog was installed at the South Street Pump Station to monitor pressure, level power, and pump run status.
- b. Staff installed several new cleanouts throughout the collection system.
- c. There were no SSOs for this month.
- d. There were no permit exceedances for the month.
- e. There were no odor complaints and no collections system complaints
- f. There were no Miss Utility 'No Show' and no after-hour emergency tickets reported for the month.

g. Onancock Treatment Plant

- (1) A new polymer pump skid salvaged from CETP was installed on the existing belt press. The previous system was missing components and prone to shut down.
- (2) Membrane #2 went out of service due to internal breakage of permeate valve actuator. Staff were able to diagnose and repair within a few days. There was no impact on treatment.
- (3) Fine Screen #2 had a broken deflector plate. It was removed and sent to the Machine shop for a replacement. The cost of inhouse fabrication of two plates was roughly \$2,500 which is a significant cost savings compared to the manufacturer price of \$14,000 per plate.
- (4) A new backhoe was delivered to the plant; the old backhoe was the property of the Town of Onancock and was reclaimed by them upon HRSD taking ownership of the plant.
- (5) We received a trailer from fleet for our new sewer jetter. The old jetter was the property of the Town of Onancock and is being reclaimed.

D. Electrical & Instrumentation (E&I)

- 1. Staff met with the ABN TPE to discuss Final Effluent Flow Measurement discrepancies at ATP. Parameter settings were updated, and preparations are being made to transition from a transmitter flow calculation to a DCS flow calculation.
- 2. Staff met with the Limatorque representatives to evaluate and adjust the valve actuators on the aeration tanks at BHTP and NTP.
- 3. Staff assisted Infracore, the thermographer contractor, to conduct inspections at NS Pump Stations (PSs), YRTP, Surry County plants, and PSs, JRTP, KWTP, and PSs, Middlesex PSs, Urbanna Treatment Plant, and PSs, WPTP and PS's, Mathews County (MC) PSs and LPTP. Thermograph inspections identify faulty electrical components

(i.e., wiring, breakers, fuses, loose connection(s), etc.) before they cause catastrophic equipment failures and process disruptions.

4. Staff responded to 19 SCADA communication failures and four Telog communication failures. A communication failure is defined as a total loss of communication at a site that may require staff to respond to the site location during and/or after normal working hours.
5. Staff worked with contractor REW to install conduit for new burners in the incinerator building at VIP.
6. Staff are in the process of repairing and/or replacing faulty heat trace in multiple areas at OTP.
7. The Chief of E&I and the Electrical Manager met with Dominion Energy (DE) onsite at Lucas Creek PS (JR013500) to determine the next course of action involving the relocation of a bulk feeder that runs under the creek. The feeder in question has the potential to delay the project by six months. HRSD, DE, the consultant engineer, and the general contractor are working collaboratively in efforts to come up with a solution that would keep the project on schedule.
8. Staff are installing power and networking equipment in a temporary office trailer to relocate personnel from the incinerator building at ABTP. In addition, they also relocated the DCS workstation from the incinerator building to the former electrical shop in preparation for decommissioning the incinerator.
9. The IAPs participated in the successful completion of cutover testing for the new Ovation SCADA System at Courthouse, Taussig Pressure Reducing Stations (PRSs), Mount Ray, and Surry Plant PSs. The final site testing was completed by SEI staff, CEC staff, Emerson staff, SS and NS Interceptors, SC staff, IAPs, and E&I staff. These sites are now active on the new Ovation SCADA systems.
10. Staff installed a new Automatic Transfer Switch (ATS) to provide the appropriate generator test run duration at Virginia Beach Boulevard PS.
11. Chief of E&I, Electrical Manager, Chief of Resource Recovery, and the Support Systems (SS) Manager have been discussing the implementation of electric vehicle (EV) charging infrastructure at designated locations throughout the HRSD service area to facilitate charging for HRSD's future EV fleet.
12. Staff assisted automotive with diesel generator load bank testing at Claremont, Kingsmill, Lodge Road, Victoria PSs, and Lawnes Point TP. The generator operated as designed and was returned to service.

E. Support Systems (SS)

- a. The automotive and electrical personnel performed routine load bank and generator tests at Victoria Blvd Pump Station (PS), Lodge Rd Pump Station, Claremont Ave PS, and Lawnes Point Treatment Plant. A monthly generator test was completed at NS and SS main complexes, all generators operated as designed and were returned to service.

b. Facilities Maintenance (FM)

Renovation of the electrical shop at ATP continues, with the contractor completing the installation of conduit boxes and wiring for receptacles and network. The storefront door has been installed and the Drywall is 90% complete. Patching and painting efforts have started, and tile floors are scheduled to be completed in mid-November 2022. Furniture installation for the General Manager's (GM) suite has been completed. Furniture installation for the Operations Director's office is scheduled for November 11. FM Techs and Housekeeping completed carpet cleaning in the 1434 main building. The Carpentry Shop (CS) repaired two offices and the cashiering back counter in 1434 Main Office. CS also fabricated a new charging table for 1460 TSD. The Machine Shop had a total of 17 projects.

c. Infrastructure Assessment (IA)

Staff issued requisitions for work orders for the Closed-Circuit Television (CCTV) inspection of 42,544 Linear Feet (LF) for NS and SS Interceptors for FY23. Staff also issued requisitions for SC CCTV totaling 31,440 LF for FY23. Staff completed an inspection of a drain line going to Jefferson Ave at BHTP. The Concrete-Coatings staff oversaw several coating and concrete projects while completing the roof project at ABTP. Staff completed coating work at the JRTP Phase V and VI odor pipe system while continuing to work on Phase VII. Staff worked on coating projects for the chemical building, primaries #1 and #2, and rake arm assemblies for clarifiers #1 and #2 at NTP. Rehabilitation projects continue for the aeration tanks, aluminum sulfate tanks, and acid secondary containment area at VIP. Staff completed the replacement of leaking expansion joints on Aeration tank #5 and completed ferric building secondary containment at the YRTP. Staff completed the coating project for FOG thickener tank at WTP.

F. Resource Recovery (RR)

1. Staff are currently developing a strategy to reduce Greenhouse Gases (GHG). Staff have been utilizing the Environmental Protection Agency (EPA) site as a guide and continue to utilize the provided greenhouse equivalency calculator.
2. Staff are generating GHG reduction targets to present to HRSD leadership for inclusion within the strategic plan action items.
3. Staff are identifying the highest released methane concentration and duration in the collection system. In November 2022, staff will measure the flow rate of methane as well as the percent methane content in the released gases to identify the highest methane contributors. Data from field measurements will be used to calculate Carbon Dioxide equivalency.
4. Solar energy: a quote from the contractor was received for the installation of solar panels at ATP. ATP solar panels' payback period and return on investment are being calculated by staff. The location of the solar panels has been discussed among staff. There are currently three options for the location of the panels. Existing roofs, green fields, or in parking lots. Installing solar panels over existing parking lots makes effective use of impervious surfaces and would look like the photo below.



G. Water Technology and Research

Following several years of full-scale pilot testing, a decision was made to modify the Struvite Recovery Facility (SRF) at NTP to use magnesium oxide (MgO) instead of magnesium chloride (MgCl₂) and sodium hydroxide (NaOH). This modification will be made at the same time the facility is expanded to accommodate flows from BHTP, and with a project to incorporate the waste activated solids stripping (WASSTRIP) technology. These combined upgrades will result in an increase in struvite fertilizer production of approximately three to four times the current conditions. The change from MgCl₂/NaOH to MgO is a significant benefit for the financial viability of struvite recovery. MgO dramatically decreases operating costs for the facility, because of the expense of MgCl₂ and NaOH, particularly with WASSTRIP. MgO does come with engineering and operational challenges in terms of dewatering and drying the struvite product as well as operation and maintenance requirements associated with managing and slaking dry MgO. These challenges and costs were considered in the business case evaluation, which clearly demonstrated that transitioning to MgO makes struvite recovery sustainable and financially justifiable in the future. HRSD will be the first Ostara Pearl® struvite recovery process to use MgO.

I. Strategic Measurement Data

1. Education and Outreach Events: 13

- a. 10/03/2022 – ATP Tour for New Zealand – Dana Gonzalez and Jeff Nicholson
- b. 10/04/2022 – United Way Williamsburg Home Project Ribbon Cutting Ceremony – Mary Strong and Sherman Pressey
- c. 10/05/2022 – Meeting with Mathews County Administrator and Board of Directors Chair to discuss options for connecting Gwynns Island to HRSD's Mathews Force main – Sam McAdoo and Jeremiah Burford
- d. 10/06/2022 – HRSD Eastern Shore project updated to the Bayside Revitalization Community – Sam McAdoo and Commissioner Nancy Stern
- e. 10/06/2022 – Meeting with Accomack County's Administrator and head of Engineering to discuss policy and Eastern Shore projects – Sam McAdoo
- f. 10/10/2022 - WEFTEC, Podium Presentation, Navigating the Entropy of Innovation - Charles Bott
- g. 10/10/2022 - Podium Presentation, Mechanistic Evaluation Of The Adaptation of Nitrifiers and PAOs To Low DO Operation - Tyler Kisling
- h. 10/10/2022 - WEFTEC, Podium Presentation, Investigating the Use of Internally Stored Carbon in Post-Anoxic Denitrification - Kayla Bauhs
- i. 10/12/2022 - WEFTEC, Podium Presentation, Partial-Denitrification/Anammox As A Path To Infrastructure and Operational Savings For WWRFs Facing Stringent Nitrogen Limits - Kester McCullough
- j. 10/12/2022 - WEFTEC, Podium Presentation, Success At Pilot-Scale Leads To The Full-Scale Application of PdNA in MBBR and IFAS and The Inadvertent Development of Mainstream PNA Along The Way - Megan Bachmann
- k. 10/20/2022 – SCD hosted an open house in the town of Urbanna for the new HRSD Urbanna PS – Jeremiah Burford
- l. 10/27/2022 – Attended Women United Luncheon for United Way – Kelly Lamp and Sheryl Brennel
- m. 10/28/2022 – Tour for an engineering graduate student and family – Kelly Lamp

2. Community Partners: 6

- a. Accomack County
- b. Chesapeake Bay Foundation-Oyster Cage Maintenance at BHTP for Oyster Garden Project
- c. DOE Jefferson Lab
- d. Mathews County
- e. Old Dominion University (ODU)
- f. United for Women Lunch

3. Monthly Metrics

Item #	Strategic Planning Measure	Unit	October 2022
M-1.4a	Training During Work Hours per Full Time Employee (FTE) (524) – Current Month	Hours / FTE	3.87
M-1.4b	Total Training During Work Hours per FTE (524) – Cumulative Year-to-Date	Hours / FTE	10.32
M-2.3a	Planned Maintenance Total Maintenance Hours	Total Recorded Maintenance Labor Hours	27,987.10
M-2.3b	Planned Maintenance – Preventive and Condition Based	percent of Total Maintenance Hours	61.49%
M-2.3c	Planned Maintenance - Corrective Maintenance	percent of Total Maintenance Hours	18.56%
M-2.3d	Planned Maintenance - Projects	percent of Total Maintenance Hours	19.95%
M- 4.1a	Energy Use: Treatment	kWh/MG	2,575
M-4.1b	Energy Use: Pump Stations	kWh/MG	267
M-4.1c	Energy Use: Office Building	kWh/MG	141
M-5.2	Educational and Outreach Events	Number	13
M-5.3	Number of Community Partners	Number	6

4. Annual Metrics

Item #	Strategic Planning Measure	Unit	FY-2023
M-2.3a	Planned Maintenance Total Maintenance Hours	Total Recorded Maintenance Labor Hours(average)	28,030
M-2.3b	Planned Maintenance – Preventive and Condition Based	% of Total Maintenance Hours (average)	61%
M-2.3c	Planned Maintenance-Corrective Maintenance	% of Total Maintenance Hours (average)	15%
M-2.3d	Planned Maintenance-Projects	% of Total Maintenance Hours (average)	24%
M-3.6	Alternate Energy	Total kWh	*
M- 4.1a	Energy Use: Treatment	kWh/MG	2,439
M-4.1b	Energy Use: Pump Stations	kWh/MG	218
M-4.1c	Energy Use: Office Building	kWh/MG	136

* To be provided once data is reported

Respectfully submitted,
Eddie M. Abisaab, PE
 Director of Operations

TO: General Manager

FROM: Director of Talent Management (TM)

SUBJECT: Monthly Report for October 2022

DATE: November 9, 2022

A. Talent Management Executive Summary

1. Recruitment Summary

New Recruitment Campaigns	3
Job Offers Accepted – Internal Selections	4
Job Offers Accepted – External Selections	9
Internal Applications	24
External Applications	91
Average Days to Fill Position	128.77

2. Employee Separation Summary

	October 2022	Total (April 2022-October 2022)
Career/Better Opportunity	2	9
Content of work	1	3
Family circumstances	0	2
Dismissal	0	5
Going to school	0	1
Lack of Opportunity for Advancement	0	1
Moving from the area	0	4
Salary	0	4
Retirement	1	9
End of Assignment (PT)	1	17
Unknown	0	1

3. Continued addressing and monitoring suspected COVID-19 cases and potential exposures based on Virginia Department of Health (VDH) guidelines:

Description	October 2022	Total (March 2020 – October 2022)
Quarantines due to illness or direct exposure (household or external)	0	452
Work Related Quarantines	0	106
Personal Travel Quarantines	0	61
Confirmed Employee COVID-19 Cases	17	313
Work Related Confirmed COVID-19 Cases	0	13
Contractor COVID-19 Cases on HRSD Sites*	0	12
Work Related exposure no quarantine required*	21	84
Vaccine Acknowledgements	8	887
Booster Acknowledgements	17	432
Vaccination Rate	94%	
Boosted*	44%	

*Added May 2022

4. Human Resources continued working with the consultant on system changes to benefit interfaces and benefit plan changes.
5. Benefits and Compensation
- a. The Compensation and Classification team met with the General Manager to discuss upcoming needs related to future C&C reviews.
 - b. The implementation meeting and all necessary documents have been returned to CIGNA for the Medicare Surround renewal. There open enrollment period is in November/December with the changes being effective on January 1, 2023.
 - c. Gallagher has begun compiling the data for our survey from third-party sources; the custom survey has been sent out and we are awaiting responses for the salary survey.
 - d. Human Resources and the Deputy General Manager have begun the RFP process to select a benefit consultant. We received four responses that include our current vendor.
 - e. We participated in the annual CIGNA claims review for the plan year 2021-2022 and CIGNA reported on trends and benchmarks us to similar industry.

6. Wellness Program

a. Participation

Year Ten Participation Activities	Unit	October 2022	Year to Date (March 2022–February 2023)
Biometric Screenings	Number	33	99
Preventive Health Exams	Number	0	58
Preventive Health Assessments	Number	39	73
Online Health Improvement Programs	Number	0	
Web-MD Online Health Tracking	Number	0	N/A
New Challenges “ <i>Team to Team</i> ”	Number	0	153
Fit-Bit Promotion	Number	0	N/A

- b. Flu and tetanus clinics were completed at all locations. WellSpark is awaiting total numbers of shots given from Affiliated Physicians.
- c. Chanda Giles, Brenda Matesig, and Dorissa Pitts-Paige interviewed one candidate for the onsite Wellness Specialist from WellSpark. A candidate was selected and WellSpark is moving forward with the hiring process.

7. Organizational Development and Training

- a. Worked with consultant Hicks-Carter-Hicks (H-C-H) and the HRSD sponsor on several Diversity, Equity, and Inclusion (DE&I) initiatives.
- b. Worked with consultant H-C-H on the Leadership Ethical Accountability Program (LEAP) supervisor training program. The topic was Change Management and Organizational Learning.
- c. Continued working on the LAMA Cohort 2022- 2023 program. The topic was Situational Leadership.
- d. Facilitated the full day Your Role In Quality (YRIQ) workshop
- e. Held a luncheon for the LAMA Cohort and facilitation team
- f. Continued work with the Customer Care Division to curate online learning paths and integration of available Corporate Training courses
- g. Continued work with the Water Quality Department to increase quality assurance training courses
- h. Facilitated the QST YRIQ Project. The winner was Monica Maples, Specialist with the Technical Services Division. The project was an Odor Complaint Log
- i. Continued work on the Corporate Training software. We successfully created badges for courses
- h. Continued to work with a cross-departmental team to advance the functionality of Canvas

9. Apprenticeship Program

- a. Surveyed recent graduation participants and recommended changes to the program
- b. Continued developing the new math instructor, Gina Foote
- c. Work continued on the following:
 - (1) Apprenticeship Mentoring Program
 - (2) Catalog software
 - (3) Developing Standard Operating Procedures for ODT responsibilities
 - (4) Trade curricula revisions and course development to update and enhance course offerings

10. Mishaps and Work-Related Injuries Status to Date (OSHA Recordable)

	<u>2021</u>	<u>2022</u>
Mishaps	33	37
Lost Time Mishaps	12	4
<i>Numbers subject to change pending HR review of each case.</i>		

11. Safety Division Monthly Activities

Safety Training Classes	19
Work Center Safety Inspections	12
Reported Accident Investigations	5
Construction Site Safety Evaluations	8
Contractor Safety Briefings	10
Hot Work Permits Issued	0
Confined Space Permits Issued/Reviewed	188
Industrial Hygiene Monitoring Events	1

B. Monthly Strategic Planning Metrics Summary

- 1. Education and Outreach Events (3):
 - a. 10/18/2022 - Ft. Eustis Transition Military Class
 - b. 10/25/2022 – Ft. Eustis Transition Military Class
 - c. 10/27/2022 - Indian Creek Correctional Center - Second Chance Employment Fair
- 2. Community Partners: (7)
 - a. Civic Leadership Institute Opening Retreat
 - b. Hampton Roads Workforce Council
 - c. United Way Campaign meeting
 - d. Virginia Values Veterans (V3)
 - e. VWEA Leadership Academy

- f. VWEA Leadership Retreat
- g. VWEA/AWWA Joint DE&I Committee

3. Monthly Metrics

Item #	Strategic Planning Measure	Unit	August 2022
M-1.1a	Employee Turnover Rate (Total)	Percentage	0.50
M-1.1b	Employee Turnover - Service Retirements	Percentage	0%
M-1.4a	Total Training Hours Per Full Time Employee (18)	Total Training Hours/ FTE	6.81
M-1.4b	Total Training During Work Hours Per Full Time Employee (18) – Cumulative Fiscal Year-to-Date	Hours / FTE	11.97
M-5.2	Educational and Outreach Events	Number	3
M-5.3	Community Partners	Number	7

Respectfully submitted,

Dorissa Pitts-Paige
 Director of Talent Management

TO: General Manager
FROM: Director of Water Quality (DWQ)
SUBJECT: Monthly Report for October 2022
DATE: November 9, 2022

A. General

1. No civil penalties were issued by the Pretreatment and Pollution (P3) Division in October.
2. Jamie Mitchell, Chief of Technical Services Division (TSD), was selected to fill the Director of Water Quality position. Jamie began her career in 2001 as a Water Quality Investigator and worked in many roles in TSD before becoming Chief of TSD in 2012. She is well known throughout Virginia and nationally as a technical and policy expert in water quality issues.
3. The Chief of P3 presented HRSD's Industrial Pretreatment and Enhanced Source Control Program at Water Environment Federation's Technical Exhibition and Conference (WEFTEC).
4. The Chief of the Lab Division along with the Project Engineer prepared and co-presented an update on the Central Environmental Laboratory (CEL) Construction and Renovation Project to the HRSD Commission. The presentation included the CEL's current capacity and capability limitations, future work-load projections, project options evaluated during the study phase, cost projections and project management information.
5. The CEL completed a review of The National Environmental Laboratory Accreditation Conference (NELAC) 2016 standard, adopted by the Virginia Environmental Laboratory Accreditation Program (VELAP), to identify and implement required changes to the Quality Assurance Manual. Changes focus on quality control application and initial demonstration of capability requirements. The QA Manual will be finalized, and training completed in November.
6. CEL and TSD representatives worked with Nansemond Treatment Plant (NTP) to complete training for online total residual chlorine testing for all operators as part of implementing the Alternate Test Protocol approved for compliance monitoring. A required month-long data acquisition period ended, and data evaluation began. Full-scale implementation will be based on the data evaluation.
7. The P3 Division continued to assist Boat Harbor Treatment Plant (BHTP) in determining the cause of increased hypochlorite demand. Sequential sampling was performed at the headworks, with inconclusive results. BHTP staff are currently evaluating saltwater intrusion as a potential cause.
8. WQ continued work with Operations staff to address ongoing odor issues at the Atlantic Treatment Plant (ATP). TSD maintained increased odor surveillance and

work with ATP staff to identify and mitigate odor sources and provide immediate response to odor complaints.

9. The quarterly Water Quality Lunch and Learn, *Traceability, How to Have Confidence in Your Data*, was held.
10. DWQ participated in the following HRSD Activities:
 - a. Director of Water Quality Interviews
 - b. HRSD Quality Steering Team (QST)
 - c. Organizational Development and Training consultant meeting to discuss previous Senior Management retreats
 - d. Strategic Planning Workshops
 - e. SWIFT QST
 - f. SWIFT Strategy meeting

B. Quality Improvement and Strategic Activities

1. The Sustainability Environment Advocacy (SEA) Group performed the following:
 - a. Conducted a beach cleanup near NTP on Saturday, October 22. Over two hours, nine volunteers collected 18 bags of trash and several large items.
 - b. Announced a volunteer tree planting event for Saturday, November 12 at ATP. This event will add to the 500 trees planted in 2021 and 2022.
2. The WQ Communication team continued planning WQ focus group meetings. The team leader met with WQ QST to review survey results and discuss next steps.

C. Municipal Assistance Program (MAP)

HRSD provided sampling and analytical services to the following to support monitoring required for their respective VPDES permits:

1. Northumberland County
2. Town of Lawrenceville
3. Western Virginia Water Authority
4. Westmoreland County

D. Microbial Source Tracking (MST)

Hampton Roads Projects - HRSD provided sampling and analytical services to:

1. City of Chesapeake (Southern Branch)
2. City of Hampton (New Market Creek)
3. City of Newport News (Southeast Newport News)
4. City of Norfolk (Mason Creek)
5. City of Suffolk (downtown)
6. City of Virginia Beach (Thalia Creek)
7. James City County

E. Strategic Planning Metrics Summary

1. Educational and Outreach Events: (2)

- a. 10/8 -12/2022 - Attended WEFTEC and provided operator training on laboratory procedures as part of Operations Challenge Laboratory Event and Committee leadership.
- b. 10/28/2022 - Accompanied Old Dominion University Environmental Engineering tours of NTP, SWIFT Research Center, and Virginia Initiative Plant to supplement virtual classes and gain a better understanding of HRSD and wastewater treatment and innovation in place at the SWIFT Research Center.

2. Community Partners: (6)

- a. City of Chesapeake, Chesapeake Local Health District
- b. City of Virginia Beach
- c. Fats, Oils & Grease (FOG) Subcommittee
- d. Hampton Roads Planning District
- e. Lynnhaven Now Citizen Monitoring project
- f. Virginia Department of Health

3. Odor Complaints:

See attached [Effluent and Air Emissions Summary](#)

4. Monthly Metrics

Item #	Strategic Planning Measure	Unit	October 2022
M-1.4a	Training During Work Hours Per Full Time Employee (120) (Current Month)	Total Hours / # FTE	4.7
M-1.4b	Total Training During Work Hours Per Full Time Employee (120) (Cumulative Fiscal Year-to-Date)	Total Hours / # FTE	20.22
M-2.5	North Shore/South Shore Capacity Related Overflows	# within Level of Service	0
M-3.1	Permit Compliance	# of Exceedances: # of Permitted Parameters	4:21,411
M-3.2	Odor Complaints	#	12
M-3.4	Pollutant Removal (Cumulative Fiscal Year-to-Date)	Total Pounds Removed	86,621,880
M-3.5	Pollutant Discharge (Cumulative Fiscal Year-to-Date)	% Pounds Discharged/ Pounds Permitted	14%
M-5.2	Educational and Outreach Events	#	2
M-5.3	Community Partners	#	6
	Average Daily Flow	Total MGD for all Treatment Plants	128.55
	Pretreatment Related System Issues	#	0

Respectfully submitted,
Paula A Hogg
 Director of Water Quality

EFFLUENT SUMMARY FOR OCTOBER 2022

PLANT	FLOW mgd	% of Design	BOD mg/l	TSS mg/l	FC #/UBI	ENTERO #/UBI	TP mg/l	TP CY Avg	TN mg/l	TN CY Avg	CONTACT TANK EX
ARMY BASE	7.59	42%	0	2.5	1	1	1.9	0.88	4.3	4.3	2
ATLANTIC	42.19	78%	14	11	3	2	NA	NA	NA	NA	19
BOAT HARBOR	9.67	39%	6	7.8	4	2	1.0	0.75	30	27	21
CENT. MIDDLESEX	0.011	42%	<2	<1.0	<1	1	NA	NA	NA	NA	NA
JAMES RIVER	11.65	58%	5	3.9	1	1	0.23	0.59	9.0	9.3	5
KING WILLIAM	0.074	74%	<2	<1.0	NA	1	0.29	0.20	1.4	2.3	NA
NANSEMOND	14.53	48%	3	3.5	4	1	0.32	0.63	3.8	3.8	0
NASSAWADOX	0.013	13%	1	9.5	1	1	0.26	0.65	12	15	NA
ONANCOCK	0.165	22%	<2	<1.0	1	1	0.24	0.25	1.4	1.5	NA
SURRY, COUNTY	0.034	52%	9	2.9	NA	1	NA	NA	NA	NA	0
SURRY, TOWN	0.026	44%	4	8.0	NA	6	NA	NA	NA	NA	NA
URBANNA	0.065	65%	2	6.5	2	2	4.0	2.8	14	13	NA
VIP	22.08	55%	2	2.2	2	1	0.50	0.62	3.8	4.0	2
WEST POINT	0.279	47%	20	7.8	<1	2	3.2	2.7	20	18	0
WILLIAMSBURG	9.88	44%	4	3.2	11	12	0.73	0.93	2.3	2.8	2
YORK RIVER	10.29	69%	4	1.5	1	1	0.22	0.27	4.4	5.0	3
	<u>128.55</u>										

	% of Capacity
North Shore	50%
South Shore	52%
Small Communities*	36%

Tributaries	Tributary Summary					
	Annual Total Nitrogen			Annual Total Phosphorus		
	Discharged	Operational		Discharged	Operational	
	YTD	Projection	CY22	YTD	Projection	CY22
	%	Lbs	%	%	Lbs	%
James River	45%	2,074,895	58%	44%	201,660	64%
York River	58%	209,843	73%	56%	14,298	74%
Rappahannock	59%	NA	NA	53%	NA	NA

Permit Exceedances: Total Possible Exceedances, FY23 to Date: 4:21,411
Pounds of Pollutants Removed in FY23 to Date: 86,621,880
Pollutant Lbs Discharged/Permitted Discharge FY23 to Date: 14%

	Rainfall (inch)		
	North Shore (PHF)	South Shore (ORF)	Small Communities (FYJ)
Month	3.24"	2.00"	3.21"
Normal for Month	4.35"	3.60"	4.31"
Year to Date Total	41.70"	33.04"	34.60"
Normal for YTD	45.08"	42.93"	42.44"

*Small Communities includes Eastern Shore

AIR EMISSIONS SUMMARY FOR OCTOBER 2022

	No. of Permit Deviations below 129 SSI Rule Minimum Operating Parameters								Part 503e Limits		
	Temp 12 hr ave (F)	Venturi(s) PD 12 hr ave (in. WC)	Precooler Flow 12 hr ave (GPM)	Spray Flow 12 hr ave (GPM)	Venturi Flow 12 hr ave (GPM)	Tray/PBs Flow 12 hr ave (GPM)	Scrubber pH 3 hr ave	Any Bypass Stack Use	THC Mo. Ave (PPM)	THC DC (%)	BZ Temp Daily Ave Days >Max
MHI PLANT											
ARMY BASE	0	0	0	0	0	0	0	0	47	100	0
BOAT HARBOR	0	0	0	n/a	0	0	0	1	24	100	0
VIP	0	0	0	n/a	0	0	0	3	26	100	0
WILLIAMSBURG	0	0	0	n/a	0	0	0	0	36	90	0

ALL OPERATIONS

DEQ Reportable Air Incidents:	0
DEQ Request for Corrective Action:	0
DEQ Warning Letter:	1
DEQ Notice of Violation:	0
Other Air Permit Deviations:	0
Odor Complaints Received:	12
HRSD Odor Scrubber H2S Exceptions:	1

Items of Interest – October 2022

MULTIPLE HEARTH INCINERATION (MHI)

Total Hydrocarbon (THC) monthly averages (not to exceed 100 ppm) were met by all four MHI plants (Army Base, Boat Harbor, Virginia Initiative, and Williamsburg) with a THC continuous emissions monitoring (CEM) valid data captured of greater than 90%.

The MHIs had no deviations from the required 129 SSI rule minimum operating parameters and four (4) minor bypass events (<60 minute).

October 7 submitted Army Base MHI's quarterly HCI corrective action plan to DEQ. Additionally, the operational decision to postpone the MHI's 129 emissions stack testing has been made with the expectation of shuttering the MHIs by the end of 2023.

October 20 HRSD responded to an out of compliance warning letter from DEQ over the accounting of the MHI operating months required before and between testing. DEQ's concerns about the timing of testing have been addressed within the ongoing MHI test schedule spreadsheet we have been providing them since March 2016. Specifically at issue was the accounting of MHI operating months of previous failed complete tests and their retests that only included the testing for the pollutant limit failed and not all 129 emission limits e.g., Army Base HCI. DEQ agreed to the changes made to the spreadsheet and deemed Army Base back in compliance on October 24.

AIR PERMITS and ODOR CONTROL

October 20 Williamsburg's Title V permit modification was submitted to DEQ. This permit modification will roll the recently issued construction permit for the plant's new backup generator into the pending renewal of the plant's Title V permit.

October 21 Atlantic Plant's air permit modification was put to public notice in The Virginian-Pilot by DEQ.

One (1) odor control scrubber system hydrogen sulfide exception was measured and a total of twelve (12) odor complaints were received during October as follows:

Atlantic Plant received eight odor complaints during October. The complaints are dated October 6, the morning and afternoon of the 13th, October 16-17, the 26-27th, and October 31. In all instances Ocean Lakes neighbors contacted HRSD about various plant odors coupled with the worst-case meteorological conditions. Plant staff and TSD responded to all complaints, most were attributed to higher-than-normal plant odor and a couple of THP maintenance activities. Where possible, corrective action was taken including increasing sodium hypochlorite to the odor scrubbers along with the immediate clean-up of THP maintenance and repair work.

On October 24 South Shore Operations received an odor complaint. No further complaints have been received. A lingering odor in the area AV NA1238-1 from earlier venting in the day was reported. The crew vented for approximately 35 minutes and was using the dispersion vent stack mounted to the truck but did not have the portable odor scrubber with them. This line is vented on a weekly basis with this being the first time in the ten years there has been any kind of odor issue. No further complaints have been received.

York River received three (3) odor complaints from one neighbor located at 718 Back Creek Road, Seaford, VA. Plant Staff and TSD responded the best we possibly could to these complaints that were all made well after normal working hours on October 5, 17, and 27. A correlation of the complaints being caused by post rain event flow surges resulting in increased odor from the primary clarifiers has been noted. The exact cause and source of these complaints has yet to be clearly identified. More odor monitoring work and real time complaint response is needed to understand the nature of the problem and exact source of these odors before HRSD makes any additional odor control resource commitments to address the issue.

TREATMENT

DEQ was notified of the following reportable events:

Boat Harbor

On October 5 a loss of chlorination to the contact tanks between 06:45 and 07:03 occurred while Operations was swapping hypo tanks to a tank that had been offline for repair work. Flow dropped due to air being in the line and the strainer valve had been mostly closed for the repair and was not reopened. Once opened, the flow was restored, and chlorine levels returned to normal.

Nansemond

On October 12 the Non-Potable Water (NPW) line was shut down for a new section of pipe to be tied in. Mid Eastern Builders (MEB) were pumping the NPW to a containment area then removing it with a vac trailer, however, the water level in the containment reached a level high enough to leak into the storm drain. Water was pumped back to the original excavation to bring the containment level below overflow. Approximately 200 gallons of NPW was not recovered and entered a storm drain to Streeter Creek.

Virginia-Initiative

On October 30 a broken pipe under pressure caused NPW to spill onto the ground and run to a nearby storm drain. The NPW supply valve was closed ceasing the release. Approximately 1200 gallons of NPW entered the storm drain to the Elizabeth River and was not recoverable.

2022 Metals, Ammonia, and TKN

		Limit	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sep	Oct	Nov	Dec
Central Middlesex	Ammonia	0.56	0.03	NA	NA	0.23	NA	NA	0.19	NA	NA	0.06		
	TKN	3.0	<0.50	NA	NA	<0.50	NA	NA	0.52	NA	NA	<0.50		
King William	Zinc	*	75	NA	NA	18	NA	NA	NA	25	NA	54		
	TKN	3.0	1.3	2.6^	0.44	0.40	0.26	0.27	0.24	0.13	0.03	0.28		
Nassawadox Riverside	Cadmium	2.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50		
	Copper	23	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0		
	Nickel	38	17	23	14	15	<10	<10	<10	<10	<10	<10		
	Zinc	150	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50		
	Ammonia	1.7	2.2^	0.09	0.07	0.09	0.07	0.08	0.06	0.06	0.04	0.03		
Onancock	Copper	12	2.0	NA	NA	1.3	NA	NA	2.7	NA	NA	1.7		
	Ammonia	0.90, 2.0	0.29	0.16	0.02	0.04	0.10	0.18	0.49	0.06	0.75	<0.02		
Surry County	Copper	5.9	3.0	2.0	1.0	4.0	4.0	5.5^	3.0	5.6	4.0	3.0		
	Zinc	56	24	33	11	31	28	37	16	21	14	17		
	Ammonia	0.77	NA	NA	NA	NA	NA	**	1.9^	0.09	0.03	0.10	NA	NA
	TKN	3.0	0.55	NA	0.57	NA	2.7	NA	<0.50	NA	0.78	NA		
Town of Surry	Copper	12	2.0	6.0	3.0	5.0	4.0	2.0	3.0	2.0	2.0	11		
	Zinc	39	14	12	12	14	11	10	11	10	10	19		
	Ammonia	4.5	0.11	0.10	0.11	0.11	<0.10	<0.10	<0.10	0.16	0.10	2.2		
	TKN	6.7	2.0	1.9	1.8	1.3	0.57	1.2	1.6	0.71	1.9	2.8		
Urbanna	Ammonia	3.83, 9.08	7.76	0.05	1.26	0.08	0.41	0.14	<0.02	0.08	0.12	0.25		

*No limit. Treatment objective 53 ug/L

Units: TKN, Ammonia: mg/L. Metals: ug/L

^ NR monthly average 2.2, weekly Jan 23 3.4

^ KW monthly average 2.6, weekly Feb 6 9.95

^ CSY monthly average 5.5, weekly June 5 7.0

** CSY weekly ammonia samples not collected during the month of June

^ CSY monthly average 1.9, weekly July 3 7.7

2022 MONTHLY FLOW AVERAGES

	JAN	FEB	MAR	APRIL	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	YR AVG	FY AVG
Army Base	8.38	8.29	9.12	8.56	8.56	8.05	8.01	7.53	7.38	7.59			8.15	7.63
Atlantic	42.47	42.46	42.81	40.26	42.88	43.58	46.32	46.01	43.20	42.19			43.22	44.43
Boat Harbor	15.64	13.78	13.31	12.04	11.66	10.17	10.10	9.51	9.63	9.67			11.55	9.73
C.Middlesex	0.005	0.006	0.006	0.010	0.011	0.011	0.011	0.012	0.013	0.011			0.009	0.012
Ches-Eliz	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			0.00	0.00
James River	14.47	13.70	14.65	13.10	12.12	11.39	11.97	11.95	11.65	11.65			12.66	11.80
King William	0.064	0.050	0.066	0.070	0.069	0.073	0.071	0.073	0.074	0.074			0.068	0.073
Lawnes Point	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			0.000	0.000
Nansemond	16.32	15.78	16.16	15.46	15.54	14.53	14.64	14.99	14.42	14.53			15.24	14.64
Nassawadox	0.020	0.013	0.022	0.023	0.017	0.016	0.016	0.013	0.013	0.013			0.016	0.014
Onancock	0.177	0.160	0.208	0.174	0.171	0.175	0.174	0.155	0.143	0.165			0.17	0.159
Surry, County	0.047	0.043	0.057	0.046	0.040	0.036	0.039	0.039	0.037	0.034			0.042	0.037
Surry, Town	0.043	0.044	0.057	0.047	0.039	0.032	0.041	0.035	0.024	0.026			0.039	0.031
Urbanna	0.041	0.034	0.038	0.059	0.068	0.074	0.075	0.068	0.061	0.065			0.058	0.068
VIP	25.64	26.17	27.83	23.85	23.53	20.25	20.27	20.39	19.82	22.08			22.98	20.64
West Point	0.433	0.385	0.429	0.415	0.345	0.312	0.297	0.300	0.286	0.279			0.348	0.290
Williamsburg	8.25	7.59	8.41	8.51	8.64	8.49	9.36	9.72	9.64	9.88			8.85	9.65
York River	14.08	12.97	13.66	12.81	12.35	11.02	10.87	10.43	9.80	10.29			11.83	10.35
North Shore	52.45	48.03	50.03	46.45	44.76	41.07	42.30	41.60	40.71	41.50			44.89	41.52
South Shore	92.81	92.70	95.92	88.13	90.52	86.40	89.24	88.93	84.81	86.39			89.58	87.34
Small Communities	0.83	0.73	0.88	0.84	0.76	0.73	0.72	0.70	0.65	0.67			0.75	0.68
TOTAL	146.09	141.47	146.84	135.42	136.04	128.20	132.26	131.22	126.17	128.55			135.23	129.55

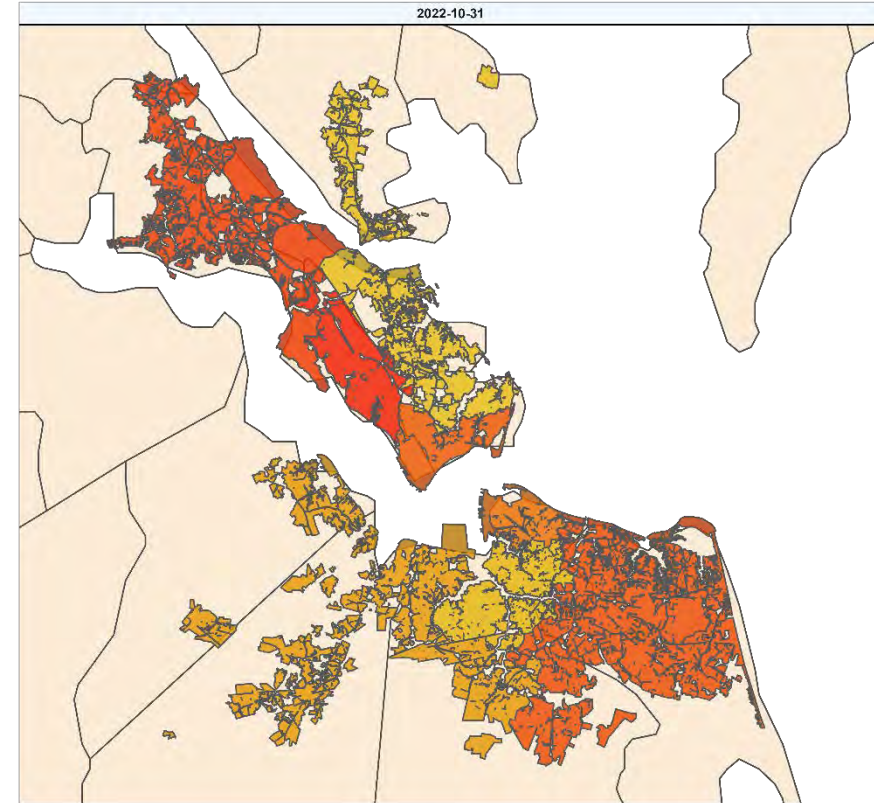
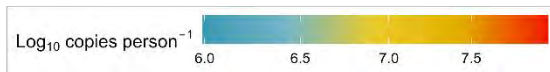
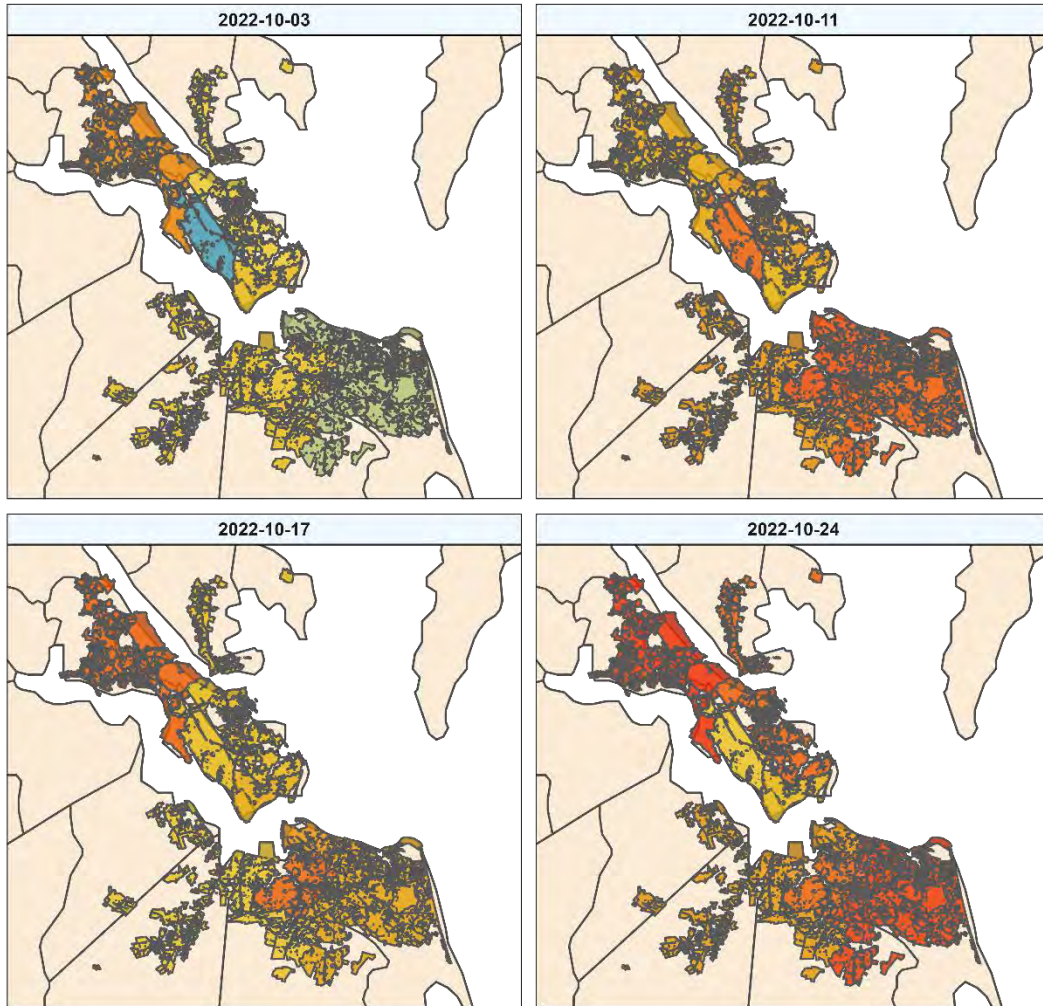
Bold values indicate monthly plant flow average >95% of permitted design flow



Wastewater Surveillance Commission Report

October 31, 2022

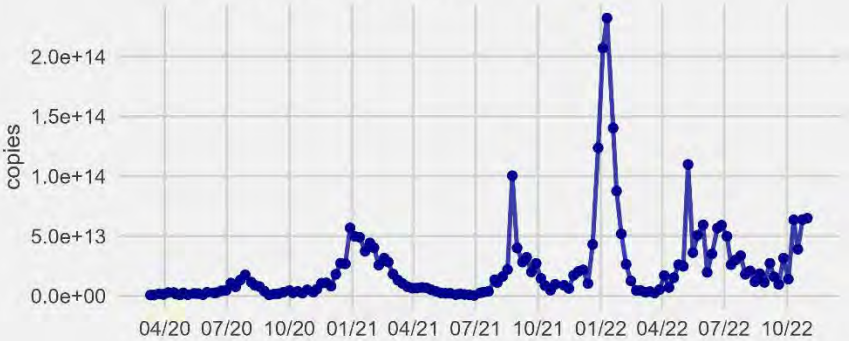
SARS-CoV-2 Most Recent 5 Weeks



** Note that the scale for this heatmap is now based on the range of the most recent 5 weeks of data.

Regional Viral Load, Hospitalizations, and Deaths

Aggregate Viral Load for HRSD Treatment Facilities

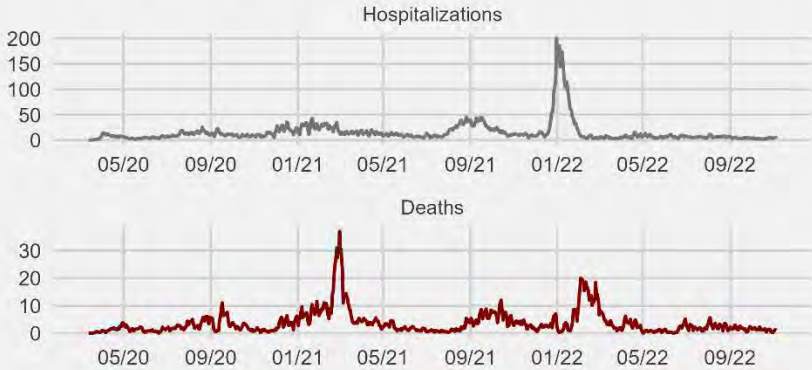


Most Recent 8 Weeks



COVID-19 Hospitalizations and Deaths

Hampton Roads 5 Day Rolling Mean

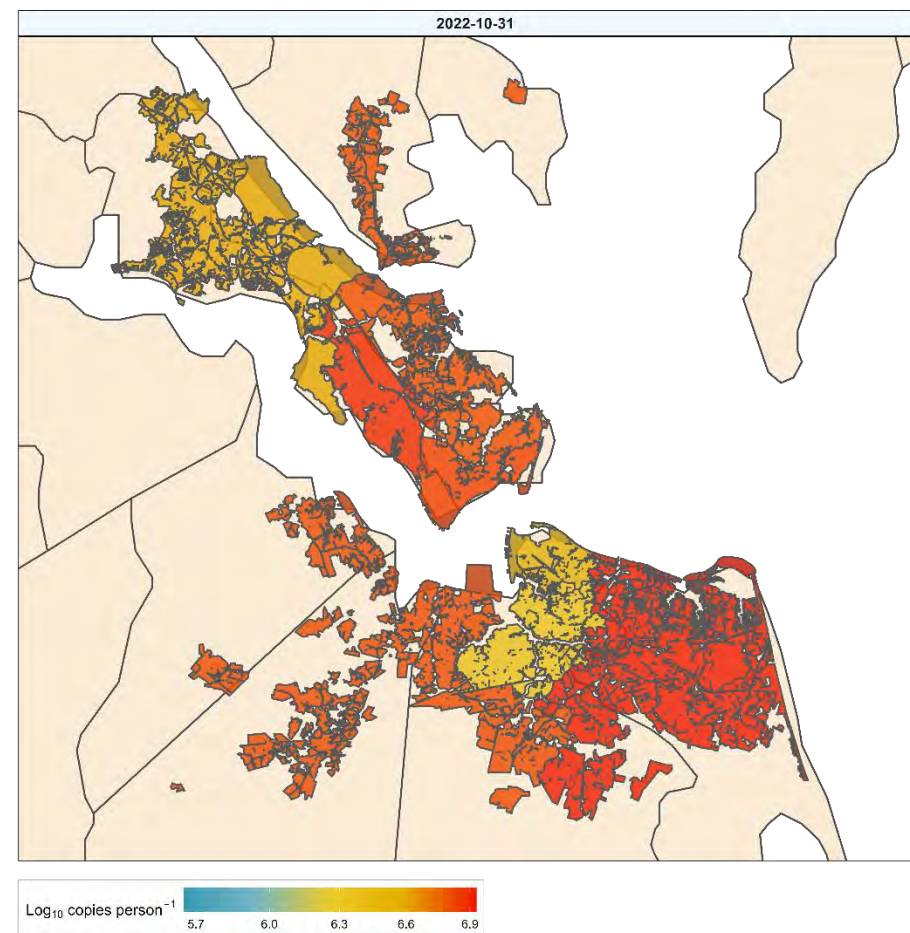
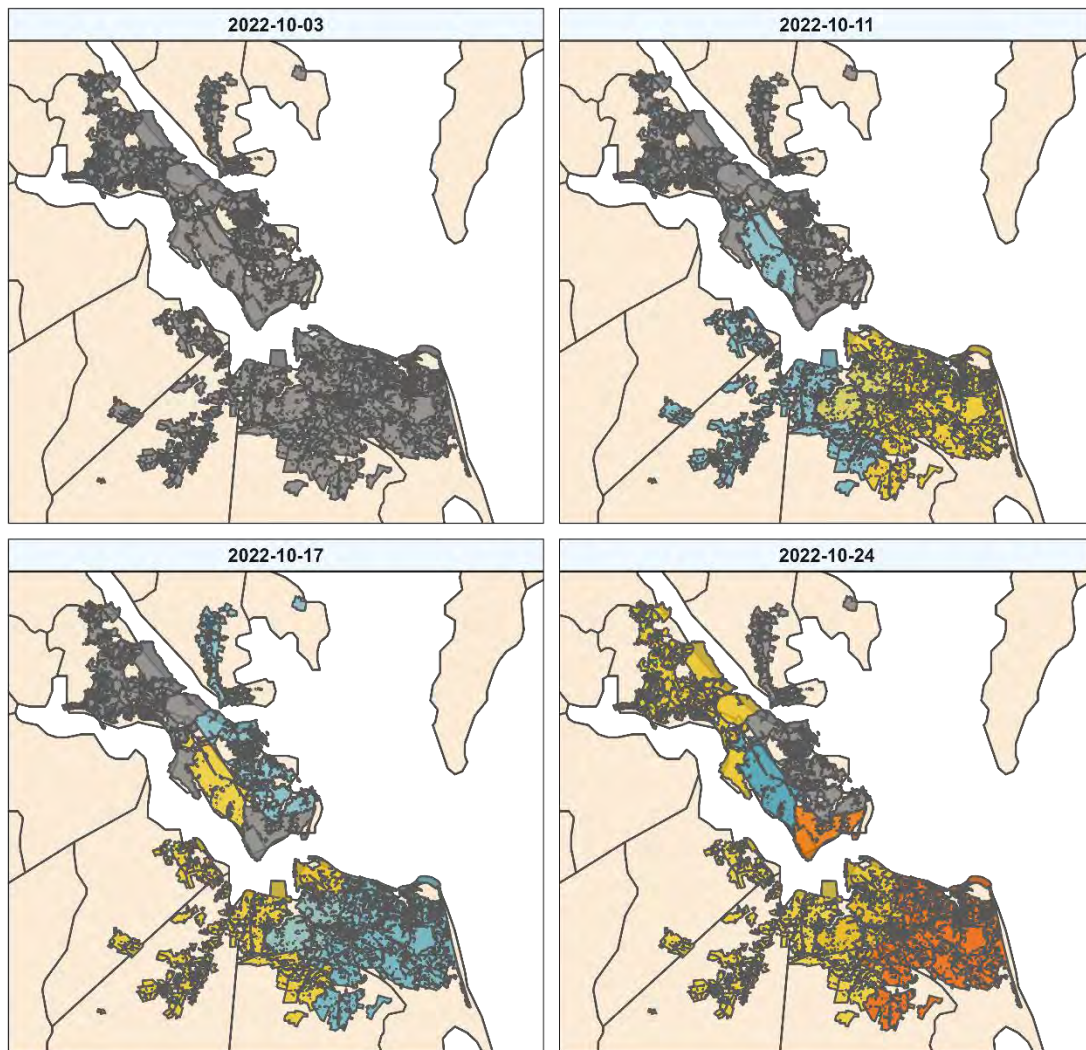


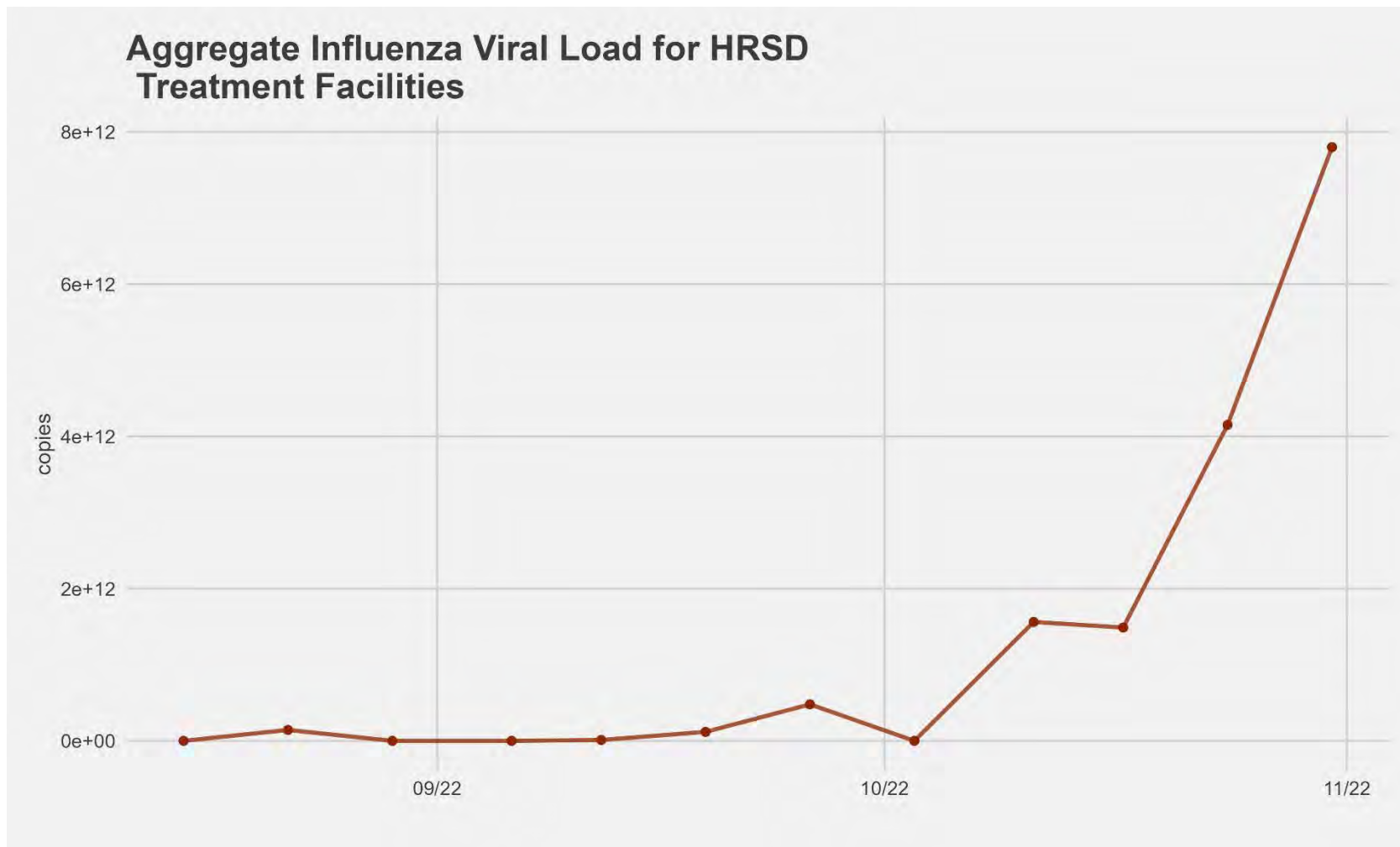
COVID-19 Hospitalizations and Deaths

Most Recent 8 Weeks

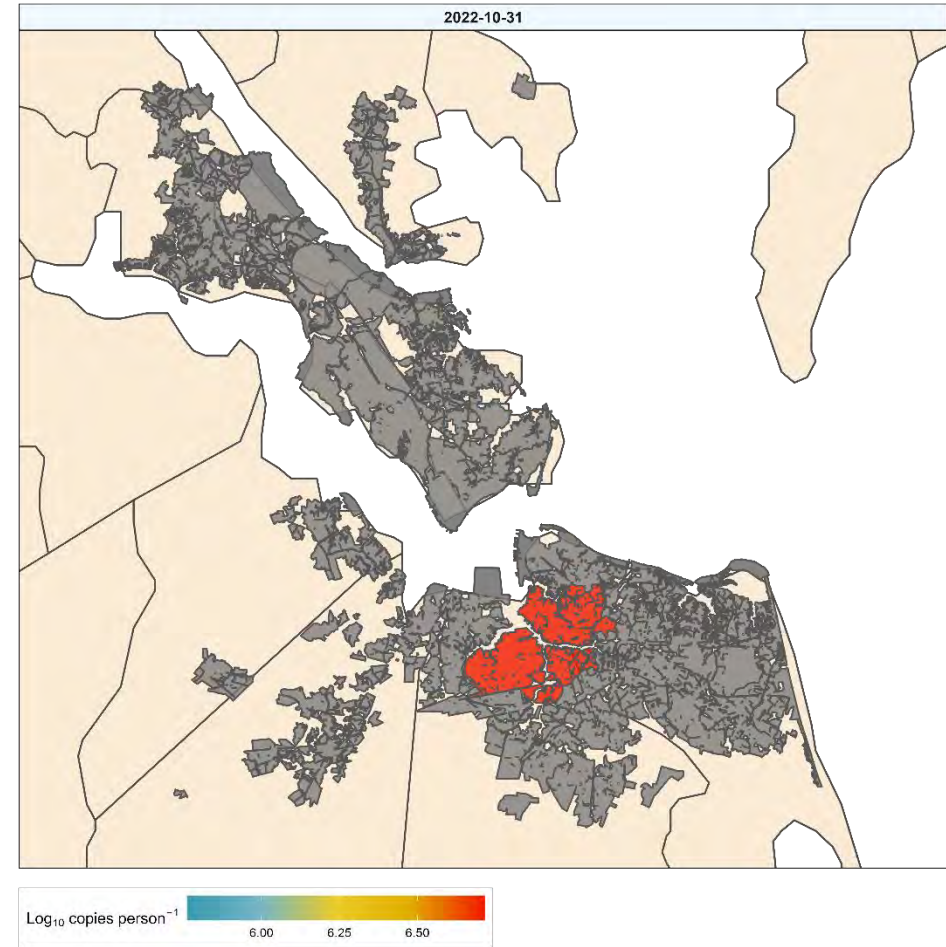
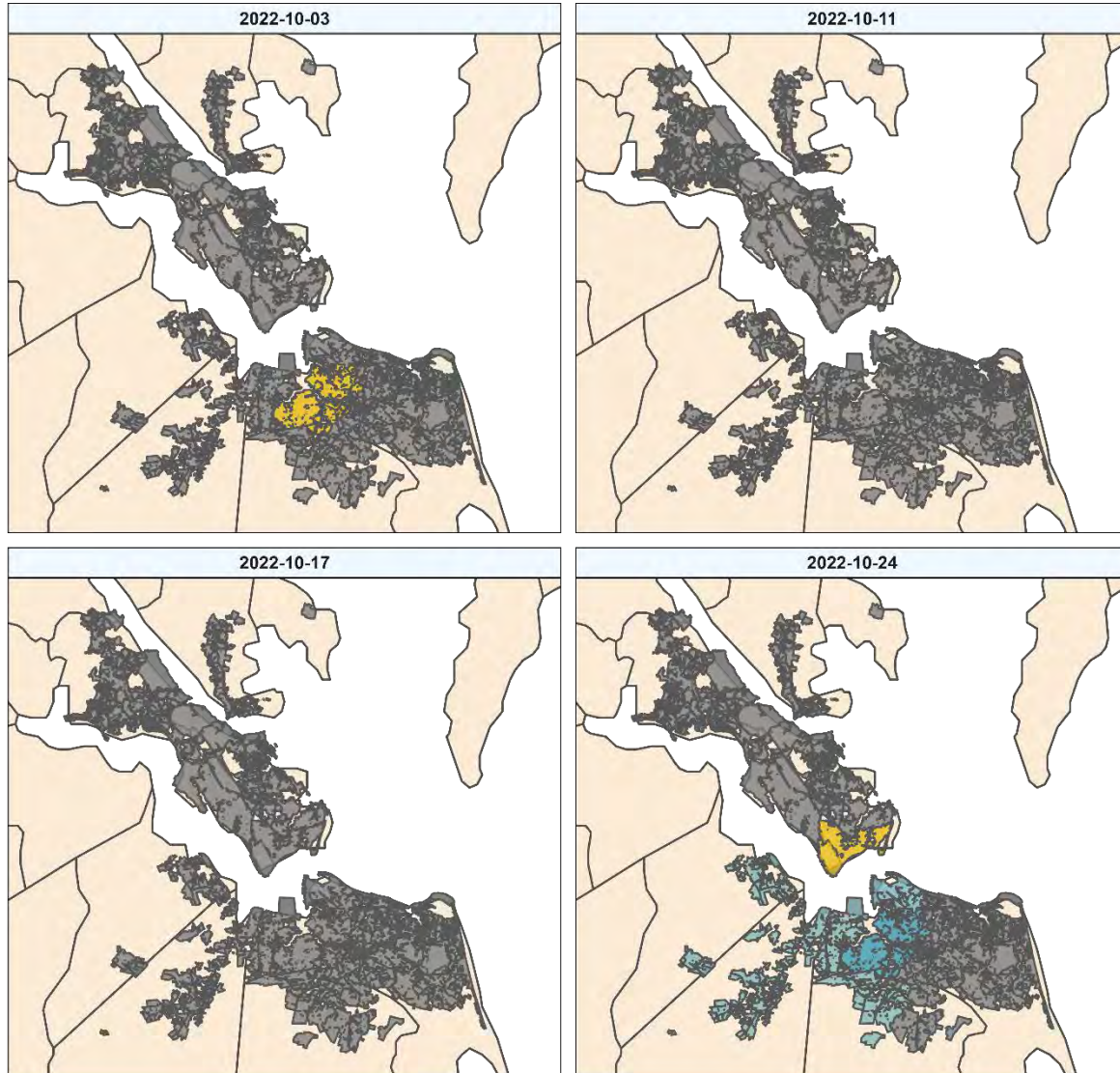


Influenza





Monkeypox



Aggregate MPX Viral Load for HRSD Treatment Facilities





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

I. Projects in Process

Family Medical Leave Act (FMLA)

- **Tasks Completed (October 2022)**
 - Received documentation from Talent Management
 - Continued fieldwork procedures
- **Upcoming Tasks (November 2022)**
 - Finalize fieldwork procedures as information is received
 - Commence reporting procedures

Freedom of Information Act (FOIA)

- **Tasks Completed (October 2022)**
 - Met with main POC to discuss preliminary findings
 - Drafted final report
- **Upcoming Tasks (November 2022)**
 - Issue final report

Grants Management

- **Tasks Completed (October 2022)**
 - Met with main Finance POC to begin planning procedures
 - Scheduled and conducted process walkthroughs with Finance, Engineering, and Water Tech and Research
 - Began drafting flowcharts documenting the process
 - Began drafting checklists/tools to assist in the facilitation of the grants management process
- **Upcoming Tasks (November 2022)**
 - Conduct additional process walkthroughs, as needed
 - Finalize flowcharts
 - Finalize checklists/tools
 - Develop preliminary improvement opportunities

Personally Identifiable Information

- **Tasks Completed (October 2022)**
 - Commence planning procedures
 - Attended pre-planning meetings
- **Upcoming Tasks (November 2022)**
 - Conduct entrance meeting (11/17)
 - Develop survey
 - Continue planning procedures



II. Management Action Plan Monitoring

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

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

The following describes the current project monitoring status. This listing does not include audits which were determined by HRSD Management and the Commission to include confidential or sensitive information.

Audit	Report Date	Next Follow-up	Recommendations		
			Closed	Open	Total
Safety Division	9/12/19	November 2022	2	1	3
SWIFT Program	2/24/2021	November 2022	9	3	12
Succession Planning	6/4/2021	November 2022	0	4	4
Emergency Repairs	1/18/2022	February 2023	0	3	3
D&C: CIP Project Management	5/11/16	Closed	13	0	13
HR Benefits	11/22/16	Closed	15	0	15
Inventory	4/20/17	Closed	5	0	5
Procurement/ProCard	8/23/17	Closed	11	0	11
Engineering Procurement	4/20/18	Closed	8	0	8
Corporate Governance: Ethics Function	3/21/18	Closed	5	0	5
Treatment Plant Operations	10/15/18	Closed	9	0	9
Permitting	2/4/20	Closed	2	0	2
Payroll	3/27/20	Closed	3	0	3
Customer Care Division	7/26/19	Closed	4	0	4
Pollution Source Control	6/2/20	Closed	8	0	8
Fleet Services	2/24/2021	Closed	17	0	17
Biosolids Recycling	10/8/16	Closed	8	0	8
Unifier/ERP Integration	6/27/2022	Closed	4	0	4
Totals			123	11	134

Annual Metrics																
Item	Strategic Planning Measure	Unit	Target	FY-10	FY-11	FY-12	FY-13	FY-14	FY-15	FY-16	FY-17	FY-18	FY-19	FY-20	FY-21	FY-22
M-1.1a	Employee Turnover Rate (Total)	Percentage	< 8%	5.63%	4.09%	6.64%	7.62%	8.22%	9.97%	6.75%	6.66%	9.99%	6.63%	6.78%	6.31%	16.04%
M-1.1b	Employee Turnover Rate within Probationary Period		0%		2.22%	8.16%	14.58%	9.68%	0.66%	0.13%	0.90%	1.01%	2.10%	3.08%	5.44%	1.64%
M-1.2	Internal Employee Promotion Eligible	Percentage	100%		59%	80%	70%	71%	64%	69%	68%	85%	85%	63%	78%	65%
M-1.3	Average Time to Fill a Position	Calendar Days	< 30		70	60	52	43.76	51	56	67	67	66	60	95	74.52
M-1.4	Training Hours per Employee - cumulative fiscal year-to-date	Hours	> 40		30.0	43.8	37.5	35.9	42.8	49.0	48.4	41.1	40.9	39.3	28.2	32.3
M-1.5a	Safety OSHA 300 Incidence Rate Total Cases	# per 100 Employees	< 3.5	6.57	6.15	5.8	11.2	5.07	3.87	7	5.5	5.7	4.1	4.8	4.1	4.53
M-1.5b	Safety OSHA 300 Incidence Rate Cases with Days Away	# per 100 Employees	< 1.1	0.74	1.13	1.33	0.96	1.4	0.82	1.9	1	1.1	0.8	1.34	1.3	1.09
M-1.5c	Safety OSHA 300 Incidence Rate Cases with Restriction, etc.	# per 100 Employees	< 0.8	3.72	4.27	2.55	4.5	2	1.76	3.6	2.8	2.8	1.8	1.6	4.1	3.43
M-2.1	CIP Delivery - Budget	Percentage			113%	96%	124%	149%	160%	151%	156%	160%	170%	170%	123%	120%
M-2.2	CIP Delivery - Schedule	Percentage			169%	169%	161%	150%	190%	172%	173%	167%	159%	159%	155%	152%
M-2.3a	Total Maintenance Hours	Total Available Mtc Labor Hours Monthly Avg			16,495	22,347	27,615	30,863	35,431	34,168	28,786	28,372	31,887	29,596	28,722	28,030
M-2.3b	Planned Maintenance	Percentage of Total Mtc Hours Monthly Avg			20%	27%	70%	73%	48%	41%	43%	44%	59%	59%	62%	61%
M-2.3c	Corrective Maintenance	Percentage of Total Mtc Hours Monthly Avg			63%	51%	12%	10%	18%	25%	25%	24%	18%	19%	16%	15%
M-2.3d	Projects	Percentage of Total Mtc Hours Monthly Avg			18%	22%	20%	18%	32%	34%	32%	32%	27%	25%	22%	24%
M-2.4	Infrastructure Investment	Percentage of Total Cost of Infrastructure	2%		8.18%	6%	6%	4%	7%	7%	5%	5%	4	5%	7%	*
M-3.3	Carbon Footprint	Tons per MG Annual Total			1.61	1.57	1.47	1.46	1.44	1.45	1.58	1.66	1.58	1.7	1.75	1.89
M-3.6	Alternate Energy (Incl. Green Energy as of FY19)	Total KWH			0	0	0	5,911,289	6,123,399	6,555,096	6,052,142	5,862,256	47,375,940	56,473,800	58,044,110	*
M-4.1a	Energy Use: Treatment	kWh/MG Monthly Avg			2,473	2,571	2,229	2,189	2,176	2,205	2,294	2,395	2,277	2,408	2,459	2,439
M-4.1b	Energy Use: Pump Stations	kWh/MG Monthly Avg			197	173	152	159	168	163	173	170	181	174	170	218
M-4.1c	Energy Use: Office Buildings	kWh/MG Monthly Avg			84	77	102	96	104	97	104	104	95	102	82	136
M-4.2	R&D Budget	Percentage of Total Revenue	> 0.5%		1.0%	1.4%	1.0%	1.3%	1.0%	0.8%	1.3%	1.4%	1.8%	1.3%	1.4%	1.4%
M-4.3	Total Labor Cost/MGD	Average Daily Flow		\$1,028	\$1,095	\$1,174	\$1,232	\$1,249	\$1,279	\$1,246	\$1,285	\$1,423	\$1,348	\$1,487	\$1,545	*
M-4.4	Affordability	Median Household Income	< 0.5%		0.48%	0.41%	0.43%	0.53%	0.55%	0.59%	0.60%	0.64%	0.71%	0.67%		*
M-4.5	Total Operating Cost/MGD	365/5-Year Average Daily Flow		\$2,741	\$2,970	\$3,262	\$3,316	\$3,305	\$3,526	\$3,434	\$3,592	\$3,959	\$3,823	\$4,048	\$4,311	*
M-5.1	Name Recognition	Percentage (Survey Result)	100%	67%	71%	N/A	62%	N/A	60%	N/A	N/A	53%	N/A	53%	N/A	N/A
M-5.4	Value of Research	Percentage - Total Value/HRSD Investment			129%	235%	177%	149%	181%	178%	143%	114%	117%	143%	138%	128%
M-5.5	Number of Research Partners	Annual Total Number			42	36	31	33	28	35	15	20	26	32	27	39
	Rolling 5 Year Average Daily Flow	MGD		157.8	155.3	152	154.36	155.2	151.51	153.09	154.24	152.8	152.23	149.84	149.72	145.75
	Rainfall	Annual Total Inches		66.9	44.21	56.21	46.65	46.52	51.95	54.14	66.66	49.24	53.1	48.49	54.04	38.18
	Billed Flow	Annual Percentage of Total Treated		71.9%	82.6%	78%	71%	73%	74%	72%	73%	76%	72%	78%	72%	*
	Senior Debt Coverage	Net Revenue/Senior Annual Debt Service	> 1.5	2.51%	2.30%	2.07%	1.88%	1.72%	1.90%	2.56%	3.10%	3.59%	4.84%	5.80%	6.03%	*
	Total Debt Coverage	Net Revenue/Total Annual Debt	> 1.4	1.67%	1.67%	1.46%	1.45%	1.32%	1.46%	1.77%	1.93%	2.03%	2.62%	2.81%	2.66%	*

*to be reported

Monthly Updated Metrics																	FY-23	FY-23
Item	Strategic Planning Measure	Unit	Target	FY-10	FY-11	FY-12	FY-13	FY-14	FY-15	FY-16	FY-17	FY-18	FY-19	FY-20	FY-21	FY-22	Sep-22	Oct-22
	Average Daily Flow	MGD at the Plants	< 249		136	146.5	158.7	156.3	153.5	155.8	153.5	145.8	152.7	141.5	155.3	131.3	126.2	128.6
	Industrial Waste Related System Issues	Number	0		3	6	6	6	2	4	7	4	7	1	2	4	3	0
	Wastewater Revenue	Percentage of budgeted	100%		97%	96%	98%	107%	102%	104%	103%	103%	104%	104%	106%	106%	108%	109%
	General Reserves	Percentage of Operating and Improvement Budget	75% - 100%		72%	82%	84%	92%	94%	95%	104%	112%	117%	119%	108%	106%	103%	104%
	Accounts Receivable (HRSD)	Dollars (Monthly Avg)			\$17,013,784	\$17,359,488	\$18,795,475	\$20,524,316	\$20,758,439	\$22,444,273	\$22,572,788	\$22,243,447	\$23,900,803	\$27,335,100	\$34,060,154	\$39,539,639	\$41,007,932	\$42,098,005
	Aging Accounts Receivable	Percentage of receivables greater than 90 days			21%	20%	18%	19%	21%	20%	18%	18%	17%	18%	29%	33%	29%	31%
M-2.5	Capacity Related Overflows	Number within Level of Service	0		25	1	30	5	11	16	6	10	5	2	25	0	1	0
M-3.1	Permit Compliance	# of Exceedances to # of Permitted Parameters	0		12:55,045	1:51995	2:52491	1:52491	2:52491	2:52491	9:53236	9:58338	2:60879	9:60879	23:60879	9:60879	4:16059	4:21411
M-3.2	Odor Complaints	Number	0		6	2	7	11	5	9	7	6	9	15	31	51	8	12
M-3.4	Pollutant Removal (total)	Total Pounds Removed			178,163,629	171,247,526	176,102,248	185,677,185	180,168,546	193,247,790	189,765,922	190,536,910	187,612,572	182,759,003	183,123,855	177,322,331	68,389,850	86,621,880
M-3.5	Pollutant Discharge (% of permitted)	Pounds Discharged/Pounds Removed	< 40%		25%	22%	25%	22%	22%	20%	22%	17%	17%	17%	18%	14%	14%	14%
M-5.2	Educational and Outreach Events	Number			302	184	238	322	334	443	502	432	367	256	145	687	51	25
M-5.3	Number of Community Partners	Number			280	289	286	297	321	354	345	381	293	230	128	125	17	95