



COMMISSION MEETING MINUTES
January 23, 2018

<u>No.</u>	<u>Topic</u>	<u>Page</u>
1.	<u>Consent Agenda</u>	3
	a. <u>Approval of Minutes</u>	3
	b. <u>Contract Awards</u>	3
	c. <u>Task Orders</u>	3
2.	<u>Asset Management Policy</u>	4-5
3.	<u>Town of Surry</u> <u>State Water Control Board Enforcement Action</u> <u>Amendment to Order by Consent</u>	6
4.	<u>Town of Surry Sewer System</u> <u>Sussex Service Authority Operation and Maintenance Agreement</u>	7
5.	<u>Aquifer Replenishment System Concept Feasibility Evaluation (SWIFT)</u> <u>Additional Appropriation</u>	8
6.	<u>Jefferson Avenue Interceptor Force Main Replacement Phase III</u> <u>Initial Appropriation and Contract Award</u>	9-10
7.	<u>Patrick Henry Pump Station Interceptor Force Main</u> <u>Initial Appropriation and Contract Award</u>	11-12
8.	<u>Middlesex County Sewer Service Expansion</u> <u>Initial Appropriation</u>	13-14
9.	<u>Pressure Reducing Station (PRS) Modifications:</u> <u>Atlantic PRS Reliability Modifications, Kempsville PRS Reliability</u> <u>Modifications, Laskin Road PRS Reliability Modifications, Pine Tree PRS</u> <u>Reliability Modifications and Providence Road PRS Upgrades</u> <u>Alternative Project Delivery</u>	15-16
10.	<u>EPA Consent Decree Annual Public Meeting</u>	17



COMMISSION MEETING MINUTES
January 23, 2018

<u>No.</u>	<u>Topic</u>	<u>Page</u>
11.	<u>Unfinished Business</u>	18
12.	<u>New Business</u>	18
13.	<u>Commissioner Comments</u>	18
14.	<u>Public Comments Not Related to Agenda</u>	18
15.	<u>Informational Items</u>	19
	a. <u>Management Reports</u>	19
	b. <u>Strategic Planning Metrics Summary</u>	19
	c. <u>Effluent Summary (Monthly and Annual)</u>	19
	d. <u>Air Summary (Monthly and Annual)</u>	19
16.	<u>Closed Meeting</u>	20
	a. <u>Acquisition of Real Property for Public Purpose in the City of Norfolk</u>	20
	b. <u>Acquisition of Real Property for Public Purpose in the City of Portsmouth</u>	20
	c. <u>Discussion of terms or scope of a public contract</u>	20
17.	<u>Reconvened Meeting</u>	20
18.	<u>Announcements</u>	21

Attachments (6)



COMMISSION MEETING MINUTES
January 23, 2018

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

1. **CONSENT AGENDA**

Action: Approve the items listed in the Consent Agenda.

Moved: Michael Glenn **Ayes:** 8
Seconded: Willie Levenston **Nays:** 0

Brief:

- a. Approval of minutes from previous meeting.
- b. Contract Awards
 - 1. [Employee Benefits Consulting Services Contract](#) \$240,000
- c. Task Orders
 - 1. [Laskin Road Pressure Reducing Station \(PRS\) Reliability Modifications](#) \$263,155
 - 2. [Providence Road Pressure Reducing Station \(PRS\) Upgrades and Interconnect Force Main](#) \$611,400

Item(s) Removed for Discussion: None

Attachment #1: [Consent Agenda](#)

Public Comment: None



COMMISSION MEETING MINUTES
January 23, 2018

2. **ASSET MANAGEMENT POLICY**

Action: Approve Asset Management Policy.

<u>Moved:</u>	Willie Levenston	<u>Ayes:</u>	8
<u>Seconded:</u>	Vishnu Lakdawala	<u>Nays:</u>	0

Brief: HRSD is an asset intensive organization. Managing this diverse portfolio of assets effectively and efficiently is critical to HRSD's long term financial sustainability. The goals of Asset Management (AM) are to make more informed decisions based on improved asset data in order to better manage risk and to instill risk-based decision making and lifecycle cost evaluation into the organization's culture.

A gap assessment was performed in 2017, which identified key initiatives that are essential to develop a robust AM Program. A three-year Capital Improvement Plan (CIP) was approved to implement the recommended initiatives. The goal of the project is to develop a consistent and formal approach for the management and funding of infrastructure assets. The initial phase of the implementation plan includes developing an [AM Policy](#) that establishes the corporate vision for AM, provides direction to the implementation of AM improvements, and demonstrates executive leadership and commitment. The AM Policy will be updated periodically as the AM program matures.

The Chief of Asset Management provided a presentation on the Asset Management Program.

Discussion Summary: Development of the Atlantic Treatment Plant Risk Assessment took approximately seven months to complete (page 11 of presentation). The project established criteria for asset likelihood and consequences of failure and subsequently asked plant staff to rank each asset based on their knowledge due to the lack of available data. The project also helped establish guidelines for data collection, analysis, and reporting in order to create a data-driven risk assessment tool leveraging data from other enterprise systems. A similar assessment was performed on the force mains impacted by the Chesapeake-Elizabeth Treatment Plant closure which helped determine there were some risks that needed to be addressed prior to the diversion of flow to the Atlantic Treatment Plant. We were also able to identify data that will increase confidence in the model and we found areas that can be prioritized.



COMMISSION MEETING MINUTES
January 23, 2018

Assets included in the plan are based on criticality and not a dollar value. Assets that help us achieve our level of service, that provide a value, ensure we meet permit and are not experiencing overflows are included in the plan. Heating, Ventilation and Air Conditioning (HVAC) equipment, Distributed Control Systems (DCS), roofing and coatings projects are included, but other Information Technology (IT) assets such as computers or laptops are not included in the plan. IT has a program in place for computer assets that has a similar process for assessing risk. The goal of the program is a projected financial model. Each workcenter will have an asset management plan that shows their inventory of assets, their risk, the cost to replace, and how much to budget to replace that specific asset. The organizational plan will look at the entire portfolio of assets.

Commissioner Rodriguez said this was a great plan and was happy to see us moving forward. He asked that an update be provided either quarterly or semi-annually.

There is no federal or state requirement to have an Asset Management Plan in place. The U.S. EPA is very interested in seeing a plan in place. The Virginia Resources Authority is requiring a fiscal sustainability plan for Clean Water Revolving loans to ensure we can afford the assets that we are putting in place. The Rating Agencies are also interested in the plan to ensure there is enough revenue to build the assets and maintain and replace them in the future.

Attachment #2: [Policy and Presentation](#)

Public Comment: None



COMMISSION MEETING MINUTES
January 23, 2018

3. **TOWN OF SURRY
STATE WATER CONTROL BOARD ENFORCEMENT ACTION
AMENDMENT TO ORDER BY CONSENT**

Action: Accept the terms and conditions of the Order by Consent for Town of Surry Wastewater Treatment Plant Virginia Pollutant Discharge Elimination System (VPDES) Permit No. VA0061646 issued by State Water Control Board and authorize the General Manager to execute same.

Moved: Vishnu Lakdawala **Ayes:** 8
Seconded: Michael Glenn **Nays:** 0

Background: The Town of Surry Wastewater Treatment Plant was under a consent order between the Department of Environmental Quality (DEQ) and the Town when the ownership was transferred to HRSD. DEQ agreed to amend the order to provide HRSD time to understand what performance the plant can be expected to achieve and to provide time for HRSD to develop and execute a plan to eliminate the discharge from the plant outfall.

The attached [order](#) includes terms that staff and DEQ have agreed to through negotiations conducted over the past few months. The key elements of the order include:

- HRSD shall submit effluent data by April 1, 2018 for calculation of interim permit limits that shall be in effect through November 1, 2020 or upon plan completion, whichever comes first.
- HRSD shall submit a plan on or before May 1, 2018 for elimination of the discharge at the Town of Surry wastewater treatment plant no later than November 1, 2020.
- HRSD shall submit quarterly reports to DEQ on progress toward discharge elimination.

This order has been reviewed by AquaLaw.

Discussion Summary: Commissioner Lynch recently toured the Surry facilities and noted the condition of the assets. He recommended addressing these conditions be made a top priority. Staff stated plans are underway to upgrade and/or replace aging infrastructure.

Attachment #3: [Consent Order](#)
Public Comment: None



COMMISSION MEETING MINUTES
January 23, 2018

4. **TOWN OF SURRY SEWER SYSTEM
SUSSEX SERVICE AUTHORITY OPERATION AND MAINTENANCE AGREEMENT**

Action: Approve the terms and conditions of the agreement with the Sussex Service Authority to operate and maintain the Town of Surry sewer system on behalf of HRSD 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:	Maurice Lynch	Ayes:	8
Seconded:	Willie Levenston	Nays:	0

Agreement Description: The [attached agreement](#) between HRSD and the Sussex Service Authority (Authority) describes the terms and conditions under which the Authority will operate the Town of Surry system for HRSD.

HRSD has a contract with the Authority to operate the Surry County Sewer System. Prior to HRSD assuming ownership of the Surry County system, they successfully operated the system for Surry County for many years.

Staff determined it is in HRSD's best interest and most cost effective for the Authority to maintain the Town of Surry sewer system as well.

This agreement was approved by the Sussex Service Authority Board on January 16, 2018.

Attachment #4: [Agreement](#)

Public Comment: None



COMMISSION MEETING MINUTES
January 23, 2018

5. **AQUIFER REPLENISHMENT SYSTEM CONCEPT FEASIBILITY EVALUATION (SWIFT)
ADDITIONAL APPROPRIATION**

Action: Appropriate additional funding in the amount of \$200,000.

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

CIP Project: GN015700

Budget	\$10,900,000
Previous Expenditures and Encumbrances	(\$11,034,661)
Available Balance	(\$134,661)
Proposed Contingency	(\$65,339)
Project Shortage/Requested Additional Funding	(\$200,000)
Revised Total Project Authorized Funding	\$11,100,000

Project Description: The Aquifer Replenishment System Concept Feasibility Evaluation (SWIFT) will evaluate the feasibility of reusing highly treated wastewater for aquifer replenishment to protect groundwater supplies as well as accomplish wastewater treatment objectives and enhance the region's total groundwater supply.

Funding Description: Funding for this project includes an authorization of \$7,214,417 for CH2M Hill Engineers, Inc. to complete the feasibility study and a contract with A.C. Schultes for installation of test wells and monitoring wells for \$3,112,426. Staff has been supporting the effort and assisting with analytical services through a number of miscellaneous small purchases that were processed by ProCard or purchase order. The purchases by staff totaled \$271,145 and were not included in the original budget estimate. The contingency absorbed some of the unanticipated costs but not the entire amount. This request includes additional funding of \$134,661 for the analytical services and a \$65,339 contingency to accommodate any additional unforeseen needs.

Schedule: Study June 2018

Attachment: None

Public Comment: None



COMMISSION MEETING MINUTES
January 23, 2018

6. **JEFFERSON AVENUE INTERCEPTOR FORCE MAIN REPLACEMENT PHASE III INITIAL APPROPRIATION AND CONTRACT AWARD (>\$200,000)**

Actions:

- a. **Appropriate total project funding in the amount of \$11,039,588.**
- b. **Award a contract to Rummel, Klepper, & Kahl, LLP in the amount of \$59,220.**

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

CIP Project: JR011730

Type of Procurement: Competitive Negotiation

Proposers	Technical Points	Recommended Selection Ranking
Rummel, Klepper, and Kahl, LLP	85	1
Michael Baker, Inc.	83	2
Whitman, Requardt, and Associates, LLP	77	3

Contract Description: A Public Notice was issued on October 1, 2017. Eight firms submitted proposals on November 7, 2017 and all firms were determined to be responsive and deemed fully qualified, responsible and suitable to the requirements in the Request for Proposals. Three firms were short listed, interviewed, and technically ranked. The Professional Services Selection Committee selected the firm of Rummel, Klepper, and Kahl (RK&K) whose professional qualifications and proposed services best serve the interest of HRSD. This professional services selection was integrated with the Patrick Henry Pump Station Interconnection Force Main project due to the schedule, location and similar nature of the work.

Project Description: This project will replace approximately 7,000 linear feet of 12-inch, 14-inch and 16-inch force main from the intersection of Oyster Point Road and Jefferson Avenue to the proposed Patrick Henry jumper in Newport News. The proposed force main will be 30-inch diameter. The sizing was performed during the City Center HART Analysis.



COMMISSION MEETING MINUTES
January 23, 2018

Funding Description: The total cost estimate for this project is \$11,039,588. The estimate includes approximately \$1,223,256 in engineering costs, \$8,163,610 in construction costs, and a 20 percent project contingency. The estimate was developed by HRSD Operations and reviewed by HRSD Design and Construction staff.

Analysis of Cost: A meeting was held with RK&K to discuss the project and scope of services. A fee of \$59,220 was negotiated for the preparation of a Preliminary Engineering Alignment Evaluation during the Pre-Planning phase of the project. This cost is 0.5 percent of the total project budget which is in agreement with other similar efforts from other firms. Future phases of the work will be negotiated after the Pre-Planning phase of the project is completed.

<u>Schedule:</u>	Pre-Planning	February 2018
	PER	April 2018
	Design	September 2018
	Bid	January 2020
	Construction	March 2020
	Project Completion	September 2021

Discussion Summary: A 20 percent contingency is typical for these types of projects due to the unknown conditions that may arise once the work begins. With regard to Asset Management, a new asset is added to the plan when the asset comes online. The asset is reviewed to determine the expected life of that asset and what strategies would extend the life of the asset. A funding stream is established for when the asset would be retired. The asset is added to the Condition Assessment program to inspect its condition at intervals based on pipe material, location and size. The frequency of the inspection may increase towards the end of its useful life, which is defined in the Condition Assessment Program.

Attachment: None

Public Comment: None



COMMISSION MEETING MINUTES
January 23, 2018

7. **PATRICK HENRY PUMP STATION INTERCONNECTION FORCE MAIN INITIAL APPROPRIATION AND CONTRACT AWARD (>\$200,000)**

Actions:

- a. **Appropriate total project funding in the amount of \$3,857,468.**
- b. **Award a contract to Rummel, Klepper, & Kahl, LLP in the amount of \$39,480.**

Moved: Michael Glenn **Ayes:** 8
Seconded: Elizabeth Taraski **Nays:** 0

CIP Project: JR011300

Type of Procurement: Competitive Negotiation

Proposers	Technical Points	Recommended Selection Ranking
Rummel, Klepper, and Kahl, LLP	85	1
Michael Baker, Inc.	83	2
Whitman, Requardt, and Associates, LLP	77	3

Contract Description: A Public Notice was issued on October 1, 2017. Eight firms submitted proposals on November 7, 2017 and all firms were determined to be responsive and deemed fully qualified, responsible and suitable to the requirements in the Request for Proposals. Three firms were short listed, interviewed and technically ranked. The Professional Services Selection Committee selected the firm of Rummel, Klepper, and Kahl, LLP (RK&K) whose professional qualifications and proposed services best serve the interest of HRSD. This professional services selection was integrated with the Jefferson Avenue Interceptor Force Main Replacement Phase III project due to the schedule, location and similar nature of the work.

Project Description: This project involves the installation of approximately 3,600 linear feet of 30-inch force main (FM) from the Colony Area Interceptor Force Main (IFM) and the Oyster Point IFM to Patrick Henry Pump Station in Newport News.



COMMISSION MEETING MINUTES
January 23, 2018

Funding description: The total cost estimate for this project is \$3,857,468. The estimate includes approximately \$407,260 in engineering costs, \$2,866,840 in construction costs, and a 20 percent project contingency. The estimate was developed by HRSD Operations and reviewed by HRSD Design and Construction.

Analysis of Cost: A meeting was held with RK&K to discuss the project and scope of services. A fee of \$39,480 was negotiated for the preparation of a Preliminary Engineering Alignment Evaluation during the Pre-Planning phase of the project. This cost is one percent of the total project budget which is in agreement with other similar efforts. Future phases of the work will be negotiated after the Pre-Planning phase of the project is completed.

<u>Schedule:</u>	Pre-Planning	February 2018
	PER	April 2018
	Design	September 2018
	Bid	January 2020
	Construction	March 2020
	Project Completion	September 2021

Discussion Summary: This project is not included in the Interim Systems Improvements required by the Federal Consent Decree. These types of projects were delayed until the Regional Wet Weather Management Plan (RWWMP) was finalized to determine the appropriate pipe sizing and priority for completion.

Attachment: None

Public Comment: None



COMMISSION MEETING MINUTES
January 23, 2018

8. **MIDDLESEX COUNTY SEWER SERVICE EXPANSION
INITIAL APPROPRIATION**

Action: Appropriate partial project funding in the amount of \$250,000.

Moved: Maurice Lynch **Ayes:** 8
Seconded: Willie Levenston **Nays:** 0

CIP Project: MP013200

Background: In accordance with the agreement with Middlesex County approved at the February 2017 meeting, HRSD will conduct sewer system expansion studies approved by the County Board of Supervisors. If the County fails to move these projects forward, the County is to reimburse HRSD for half of the cost of the studies.

Project Description: At their January meeting, the Middlesex Board of Supervisors requested HRSD conduct several studies for Middlesex County to explore options for providing sewer service to various portions of the County. The approved engineering studies cover multiple community areas within the County.

While staff has been working with Middlesex County, there has been no indication the County would move any of these projects forward. For that reason a new CIP will be required to cover this work. The small community process is different from our typical CIP process as the construction costs shown in these studies are for collection system construction costs and will be the responsibility of the County. HRSD costs, for conveyance and treatment are not known at this time and will be determined once the County chooses a course of action based on these studies.

The study costs and the conceptual construction cost estimates, without contingencies, to provide sewer collection service in each area are as follows:

County Area	Study Cost	Construction Estimate
Cook's Corner	\$47,500	\$1,689,420
Deltaville	\$52,500	\$10,382,980
Hartfield	\$37,500	\$ 411,600
Locust Hill	(Included with Cook's)	\$1,151,920
Saluda	\$47,500	\$1,091,720
Topping	\$37,500	\$ 805,000 - \$1,506,120*

* Two options will be studied with varied construction costs



COMMISSION MEETING MINUTES
January 23, 2018

These studies will be accomplished by Bowman Consulting under the sole source authority granted at the April 2016 meeting for work in Middlesex County.

Should the study's construction estimate come in or within 25 percent above the conceptual construction costs the County will be required to reimburse HRSD half of the cost of the studies not pursued further.

Discussion Summary: A study for HRSD to assume the existing treatment plants in Middlesex has not been done. This study is for collection system extensions, how they would serve these areas, what the cost would be and if the County can fund the expansion.

Attachment: None

Public Comment: None



COMMISSION MEETING MINUTES
January 23, 2018

9. **PRESSURE REDUCING STATION (PRS) MODIFICATIONS:
ATLANTIC PRS RELIABILITY MODIFICATIONS, KEMPSVILLE PRS RELIABILITY
MODIFICATIONS, LASKIN ROAD PRS RELIABILITY MODIFICATIONS, PINE
TREE PRS RELIABILITY MODIFICATIONS AND PROVIDENCE ROAD PRS
UPGRADES
ALTERNATIVE PROJECT DELIVERY**

Action: Approve the Construction Management project delivery method for the Pressure Reducing Station reliability modifications for Atlantic PRS, Kempsville PRS, Laskin Road PRS, Pine Tree PRS and a capacity upgrade for Providence Road PRS.

Moved:	Stephen Rodriguez	Ayes:	8
Seconded:	Michael Glenn	Nays:	0

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

Brief: The design effort for upgrades to the five listed pressure reducing stations in support of decommissioning the Chesapeake-Elizabeth Treatment Plant and routing flow to the Atlantic Treatment Plant has recently reached the Preliminary Engineering Report (PER) stage of completion. As the preliminary design of this project has evolved, it has become apparent how complex the construction sequencing of these five PRS upgrades will be to ensure desired operation as increased flow is routed to the Atlantic Treatment Plant. Due to the long lead time for the replacement pumps for these stations, pre-purchase will be necessary and then reassignment of the purchase agreements with the pump vendors to the contractor. The construction phase cost estimate for these projects from the PER level is \$21,058,800 and is considered a Class 4 budget with an expected accuracy range of -20% under and +30% above the calculated cost.

While the design bid-build (traditional sealed competitive bid) process is the typical method of construction procurement for HRSD, this project delivery method will not meet all of the critical needs for this project. A Construction Management delivery process is more advantageous than a sealed competitive bid for this project for the following reasons:

1. The Construction Management delivery method will allow for contractor input during the design, which will be beneficial for the complex construction and sequencing of the work.



COMMISSION MEETING MINUTES

January 23, 2018

2. The Construction Management delivery method will allow for contractor input to consider cost saving alternatives during the design and a lump sum or guaranteed maximum price can be received during the final design stage.
3. The Construction Management delivery method will facilitate a single responsible construction entity to coordinate all construction activities as opposed to bidding and awarding up to five individual construction contracts for the individual PRS upgrades.
4. The Construction Management delivery method will allow for the early selection of subcontractors and the procurement of the pumps that can be assigned directly to this Construction Manager instead of HRSD taking temporary ownership then reassigning at a later date.

Discussion Summary: As previously noted, last year the General Assembly changed the rules for Construction Management project delivery to require less self-performance. Previously a construction management firm was allowed to perform 50 percent of the work with their own forces. Now they can only perform 10 percent of the work. In addition, the award of the construction management package must now be based 50 percent on price. Previously, there was no minimum requirement on price and was a qualification-based selection. A construction cost limit must now be established along with qualifications. With these changes, we anticipate a more competitive price. Staff is comfortable with moving forward with the Construction Management project delivery method.

Attachment: None

Public Comment: None



COMMISSION MEETING MINUTES
January 23, 2018

10. **EPA CONSENT DECREE ANNUAL PUBLIC MEETING**

Action: No action required.

Brief: The Consent Decree with the U.S. Environmental Protection Agency (U.S. EPA) requires that we hold an annual informational meeting open to the public and the localities we serve. The meeting is intended to provide an update on compliance activities and status of all activities related to the Consent Decree. The meeting will be held today at 1:30 p.m. following the regular Commission meeting at the North Shore Operations Center. Staff provided the Commission an overview of the materials to be presented at that meeting.

Discussion Summary: The U.S. EPA uses cost as a percent of Median Household Income (MHI) as a measure of affordability and defines costs above two percent of MHI to be high burden. As part its affordability analysis, HRSD also looked at the impact on the poorest residents of the region by estimating cost as a percent of Household Income (HHI) for the lowest and second lowest quintile income groups. Each quintile represents 20 percent of the households in the region. The cost at the lowest quintile is more than nine percent of HHI and is 3.5 percent of HHI at the second lowest quintile. Each quintile contains approximately 120,000 households. The numbers of households impacted will be included in future presentations.

Steps citizens can take to protect receiving waters were also discussed. HRSD provides regional education through a partnership with askHRGreen.org. Staff continues to look for ways to better educate the community.

Attachment #5: [Presentation](#)

Public Comment: None



COMMISSION MEETING MINUTES
January 23, 2018

11. **UNFINISHED BUSINESS**

Mr. Henifin said House Bill 771 for the SWIFT Monitoring Oversight Committee was introduced by Delegate Jones. It will be going to the House Agriculture Chesapeake and Natural Resources committee tomorrow morning. Staff does not anticipate any issues with it going through that committee. Commissioner Rodriguez will be at the committee meeting tomorrow to assist with that process.

Ms. Cascio reminded the Commission the Ethics Training and Annual Financial Disclosures are due by February 1, 2018.

12. **NEW BUSINESS**

Mr. Henifin informed the Commission he has been invited to attend the Water Leaders' Summit at the Singapore Water Week. This summit is held every other year and is the biggest international water-focused event with Singapore being an international leader in reuse. Mr. Henifin believes his attendance at this conference would be very beneficial to HRSD with our involvement with reuse. Attending the conference will expand our information and knowledge base on how reuse projects have gone beyond the planning phase, it will establish HRSD as a leader in reuse internationally, and will help attract employees. He will apply for a Water Environment Federation (WEF) scholarship, which would partially pay for the conference.

13. **COMMISSIONER COMMENTS**

Commissioner Lynch encouraged each Commissioner to tour the small communities' facilities. He is really pleased with our efforts to improve these facilities.

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



COMMISSION MEETING MINUTES
January 23, 2018

15. **INFORMATIONAL ITEMS**

Action: No action required.

Brief: The items listed below were presented for information.

- a. [Management Reports](#)
- b. [Strategic Planning Metrics Summary](#)
- c. [Effluent Summary](#)
- d. [Air Summary](#)

Attachment #6: [Informational Items](#)

Public Comment: None



COMMISSION MEETING MINUTES
January 23, 2018

18. **ANNOUNCEMENTS**

Ms. Cascio reminded the Commission of the Elizabeth River Project River Star Awards Luncheon to be held on January 25, 2018.

Next Commission Meeting Date: February 27, 2018 at the HRSD South Shore Operations Complex, 1434 Air Rail Avenue, Virginia Beach, VA 23455.

Meeting Adjourned: 10:43 am

SUBMITTED:

APPROVED:

Jennifer L. Cascio

Frederick N. Elofson

Jennifer L. Cascio
Secretary

Frederick N. Elofson, CPA
Chair

HRSD COMMISSION MEETING MINUTES
January 23, 2018

ATTACHMENT #1

AGENDA ITEM 1. – Consent Agenda

CONSENT AGENDA ITEM 1.b.1. – January 23, 2018

Subject: Employee Benefits Consulting Services Contract
Contract Award (>\$200,000)

Recommended Action: Award a contract for employee benefits consulting services to Marsh & McLennan Agency in the estimated amount of \$48,000 for year one with four annual renewal options and an estimated cumulative value in the amount of \$240,000.

Type of Procurement: Competitive Negotiation

Proposers	Technical Points	Recommended Selection Ranking
Marsh & McLennan Agency	85	1
USI Insurance Services	72	2
Willis of Virginia Inc.	67	3
The Segal Company	66	4
Wells Fargo Insurance Services	64	5
Bolton Partners Inc.	87/57	6

HRSD Estimate:

\$60,000/year

Contract Description: This contract is an agreement for employee benefits consulting services. Services include benefits program management, annual renewal services and negotiations, benefit plan design, funding, and accounting, employee benefit communications development, and other advisory services as requested. A Public Notice was issued on September 19, 2017. Six Offerors submitted proposals on October 19, 2017 and all were determined to be responsive and deemed fully qualified, responsible and suitable to the requirements in the Request for Proposal (RFP). All six were technically ranked. Four Offerors were short listed, interviewed and technically ranked. Bolton Partners Inc. was included in the top four Offerors short listed; however, during the first round of interviews and mid-ranking, the pricing structure was evaluated to be not in line with the RFP requirements and given a second ranking. The proposal submitted by Marsh & McLennan Agency (MMA) was ranked by technical points to be the highest qualified.

MMA proposed a unique plan where the requested services stipulated in the RFP will be provided at the annual rate of \$48,000 and will research additional cost saving initiatives on HRSD's behalf for a percentage of the actual realized savings. Negotiations resulted in the percentage rate reduced to 18 percent and an annual cap of \$42,000 on actual realized savings after each benefit plan year. The percentage rate will only be based on MMA actually providing HRSD with yearly initiative savings.

Analysis of Cost: The current provider of the employee benefits services is Willis of Virginia, Inc. at a current annual rate of \$52,950. The RFP proposed annual rates are as follows:

Marsh & McLennan Agency	\$48,000
Willis of Virginia Inc.	\$80,000
USI Insurance Services	\$105,000
Bolton Partners Inc.	n/a

Below is a snapshot of estimated HRSD savings based from the proposed percentage rate structure and example initiatives:

HRSD Paid Claims Amount (Year 0 Base): \$600,000

	HRSD Paid Claims	Claims Savings	MMA Percentage (18%)	Capped Percentage Paid to MMA
Prescription Carve Out	\$350,000	\$250,000	\$45,000	\$42,000
Prescription Carve Out & Additional Savings Initiative	\$150,000	\$450,000	\$81,000	\$42,000

CONSENT AGENDA ITEM 1.c.1. – January 23, 2018

Subject: Laskin Road Pressure Reducing Station (PRS) Reliability Modifications Task Order (>\$200,000)

Recommended Action: Approve a task order with Kimley-Horn and Associates in the amount of \$263,155.

CIP Project: CE011829

Budget	\$3,220,000
Previous Expenditures and Encumbrances	(\$199,500)
Available Balance	\$3,020,500

Contract Status:	Amount
Original Contract with Kimley-Horn and Associates	\$149,500
Total Value of Previous Task Orders	\$0
Requested Task Order	\$263,155
Total Value of All Task Orders	\$263,155
Revised Contract Value	\$412,655
Engineering Services as % of Construction	28%

Project Description: This project will make reliability improvements to the existing Laskin Road PRS including new pumps, interior piping, and electrical modifications associated with the new pumps. Some minor structural modifications are expected for equipment access platforms and pump pads. Minor modifications to the interior mechanical equipment are also expected. This project must be substantially complete by June 2021 to allow for closure of the Chesapeake-Elizabeth Treatment Plant.

Task Order Description and Analysis of Cost: This amendment authorizes the preparation of a pump procurement package for the pre-purchase of pumps for the project and design phase services for the construction of improvements at the PRS. The cost for this task order is based on a negotiated number of consulting hours and hourly rates, which are considered reasonable for this effort. The Engineering Services as a percentage of Construction is higher than average since this project is a rehabilitation with a lower than average construction cost.

Schedule:

PER	June 2017
Design	January 2018
Construction	February 2019
Project Completion	March 2020

CONSENT AGENDA ITEM 1.c.2. – January 23, 2018

Subject: Providence Road Pressure Reducing Station (PRS) Upgrades and Interconnect Force Main Task Order (>\$200,000)

Recommended Action: Approve a task order with Kimley-Horn and Associates, Inc. in the amount of \$611,400.

CIP Project: CE011822

Budget	\$ 5,445,000
Previous Expenditures and Encumbrances	(\$ 208,492)
Available Balance	\$5,236,508

Contract Status:	Amount
Original Contract with Kimley-Horn and Associates	\$ 208,300
Total Value of Previous Task Orders	\$ 0
Requested Task Order	\$ 611,400
Total Value of All Task Orders	\$ 819,700
Revised Contract Value	\$ 819,700
Engineering Services as % of Construction	18%

Project Description: This project will upgrade the existing Providence Road Pressure Reducing Station (PRS) to meet future flow and pressure conditions and to construct an interconnect force main to reduce the length of travel to the HRSD system. The project is needed to provide reliable capacity and maintain HRSD pressure policy when flow is diverted in support of the Chesapeake-Elizabeth Treatment Plant closure and for the ultimate Regional Wet Weather Management Plan (RWWMP). This project was part of the Chesapeake-Elizabeth offline solution set developed by HRSD, CDM Smith, and Brown and Caldwell assuming a 2-year level of service. This project must be substantially complete by June 2021.

Task Order Description and Analysis of Cost: This task order will provide design phase services for the PRS and Interconnect Force Main, including the preparation of a pump procurement package for the pre-purchase of pumps for this project. The cost for this task order is based on a negotiated number of consulting hours and hourly rates, which are considered reasonable for this effort. The Engineering Services as a percentage of Construction is comparable to other projects of similar size and complexity.

Schedule:	PER	April 2017
	Design	January 2018
	Construction	April 2019
	Project Completion	March 2021

HRSD COMMISSION MEETING MINUTES
January 23, 2018

ATTACHMENT #2

AGENDA ITEM 2. – [Asset Management Policy](#) and [Presentation](#)

1.0 Purpose and Need

HRSD is an asset intensive organization. Managing this diverse portfolio of assets effectively and efficiently is critical to HRSD's long term financial sustainability. This policy describes the key principles and requirements that HRSD will adopt for managing its assets.

The goals of Asset Management are to make more informed decisions, based on improved asset data, to better manage risk, and to instill risk based decision making and lifecycle cost evaluation into the organization's culture.

2.0 Definitions

Asset: Plant, equipment, buildings, property, pipelines, infrastructure and other items that have potential or actual value to the organization through the production and delivery of the utilities' service to the community or group of customers.

Asset Lifecycle: Stages involved in the management of an Asset. These stages or activities include asset planning, design, construction, commissioning, operation, maintenance, and retirement/decommissioning.

Asset Management Framework: organization's asset management policies; asset management strategy; asset management objectives; asset management plans; and the processes, information systems and organizational structures necessary for their development, implementation and continual improvement.

Asset Management Policy: intentions and direction of an organization as formally expressed by its top management. Consists of principles and mandated requirements derived from (and consistent with) the organizational strategic plan and/or goals, providing a framework for the development and implementation of the asset management strategy and the setting of the asset management objectives.

Asset Management Program: a program to implement asset management improvements, focusing on developing an organization's asset management capabilities and its asset management maturity. Typically includes development of people, processes and information systems (including asset data).

Asset Management Strategy: strategy for improving asset management capabilities of an organization, focusing on people, processes and procedures, and information systems.

Investment: capital expenditure and operations and maintenance expenditure (including labor and materials) that enables an organization to realize value from its assets in order to achieve its levels of service and organizational objectives.

Levels of Service (LOS): a statement of outputs or objectives that an organization or activity intends to deliver to customers and stakeholders.

Risk: the effect of uncertainty on objectives. Risk is often expressed in terms of a combination of the consequences of an event and the associated “likelihood” of occurrence.

Risk Based Approach: decisions are informed by the assessment of risk.

3.0 Guiding Principles

HRSD’s Asset Management Vision is “making the right investment at the right time” and we will achieve this through our Asset Management Program.

HRSD’s Asset Management Policy is intended to facilitate the planning, construction, operation, maintenance, and retirement of needed infrastructure. The Asset Management Program will promote a lifecycle approach to managing assets in order to balance asset performance, cost and risk.

In managing our assets, we will:

- Establish levels of service and monitor the performance of assets or class of assets
- Use cost effective approaches that consider the asset lifecycle
- Use integrated enterprise systems and asset management tools to inform decision making
- Follow a risk-based approach to prioritize maintenance, capital projects and asset replacements

In implementing the Asset Management Program, we will:

- Establish an Asset Management Framework aligned with industry best practices
- Develop an Asset Management Strategy that is aligned with the Strategic Plan
- Determine data needs for managing our assets, including maintenance management, risk assessment and replacement planning
- Establish a risk management methodology and process
- Develop a robust long term investment plan for rehabilitation and replacement of assets
- Perform research and development to find new technologies and optimize existing operation and maintenance strategies

COMMISSION ADOPTED POLICY
Asset Management



Adopted: January 23, 2018

Revised: N/A

Page 3 of 3

- Develop resource and training plans that align with Asset Management Strategy requirements
- Incorporate regular audits and formal management reviews to promote continual improvement

HRSD will provide sufficient information, training and resources to enable continuous improvement of the Asset Management Program.

4.0 Responsibility and Authority

Effective asset management and continuous improvement of the Asset Management Framework is the responsibility of all HRSD employees, consultants and contractors in accordance with the Asset Management policies, standards, procedures and guidelines.

The Chief of Asset Management is responsible for the periodic review and update of this policy and for coordinating related training for HRSD employees.

Approved:


Frederick N. Eloffson
Commission Chair

1/23/18
Date

Attest:


Jennifer L. Cascio
Commission Secretary

1/23/18
Date

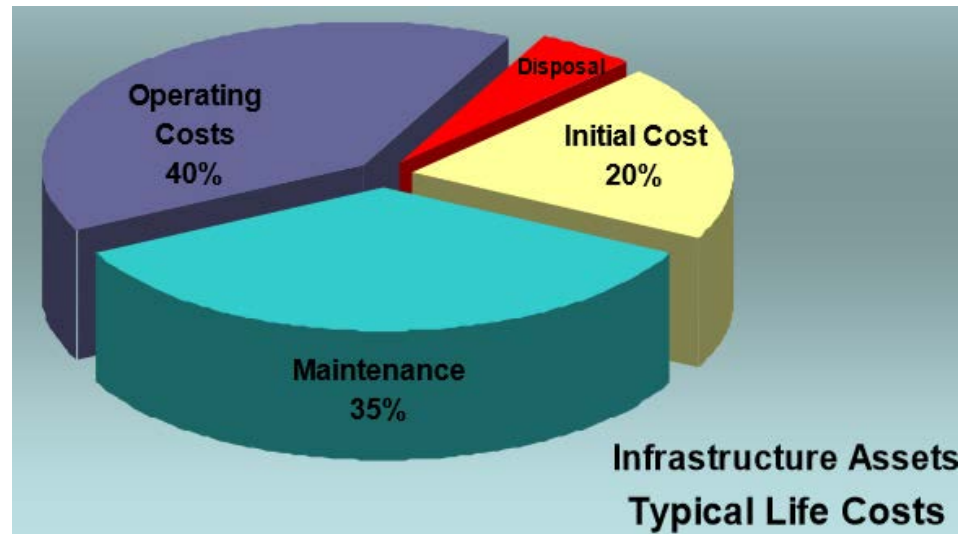


Asset Management Program

January 23, 2018

What is Asset Management

- *Maintaining a desired level of service for what you want your assets to provide at the lowest life cycle cost.* (EPA, 2008)
- **Asset Management Vision:**
“Making the right investment at the right time”



Why Asset Management

- Improved justification and prioritization of required asset investments
- Optimizing the maintenance program by focusing on critical assets and priorities
- Selection of the best equipment for the right environment based on failure and performance history
- A proactive approach to addressing asset performance and preventing failures
- Identifying opportunities for efficiency and sustainability
- Long-term financial viability and affordability

What AM implementation will require

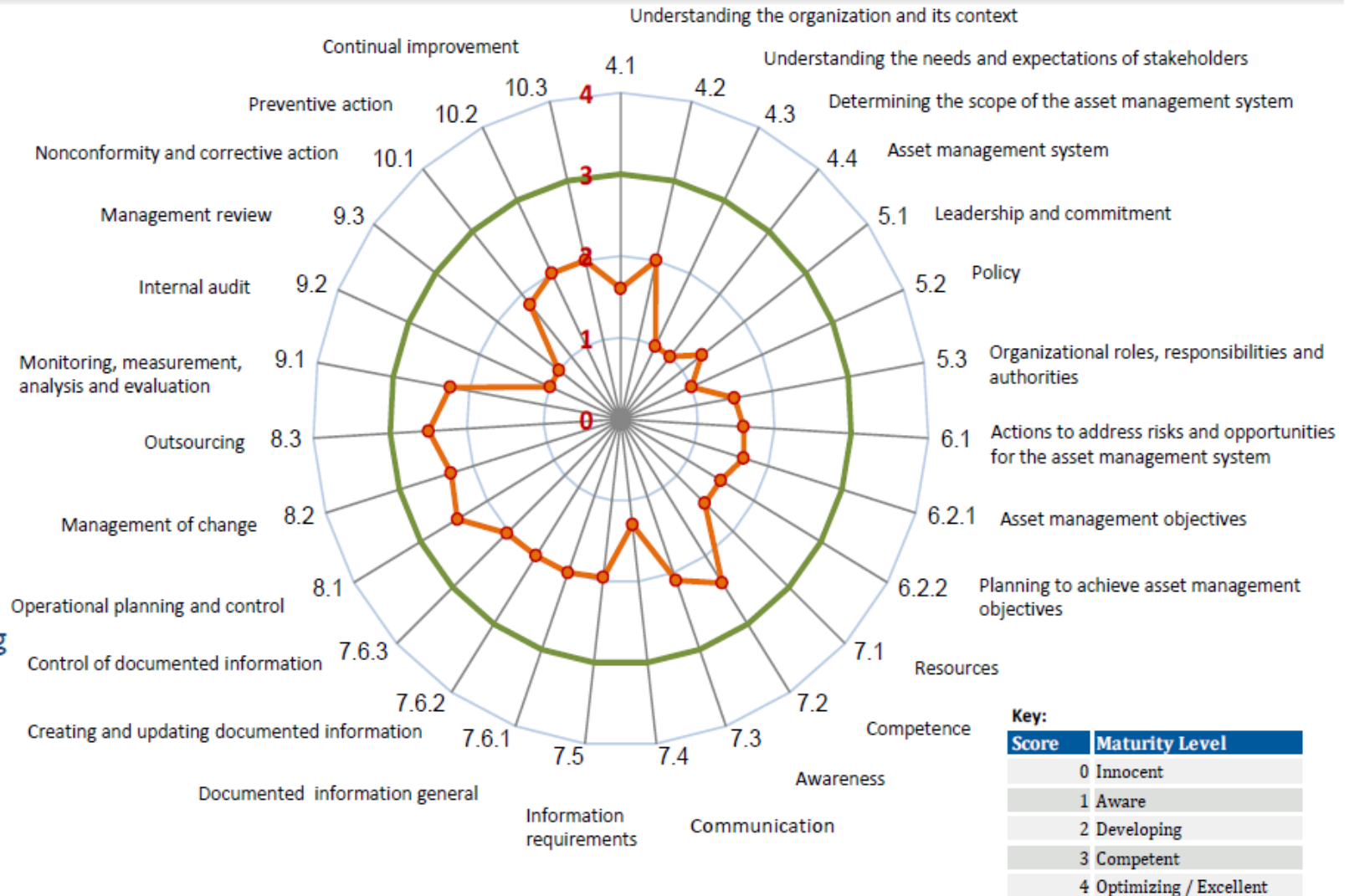
- Developing an organizational risk management criteria and defined levels of service
- Systematic condition assessment and predictive maintenance strategies
- Integrated information systems
- Improved data quality
- Effective collaboration with all internal and external stakeholders

Elements of Asset Management

- What is the current state of my assets?
- What is my required "sustainable" level of service?
- Which assets are critical to sustained performance?
- What are my minimum life-cycle costs?
- What is my best long-term funding strategy?

- Hired GES consultant team
 - Hazen & Sawyer / Black & Veatch
- Used the ISO-55000 framework
 - International standard developed in 2014
- Purpose:
 - Identify current AM practices
 - Identify target goals
 - Develop a roadmap for bridging the gaps

AM Gap Assessment



Overall
Score: 1.8

Maturity
level:
Aware/
Developing

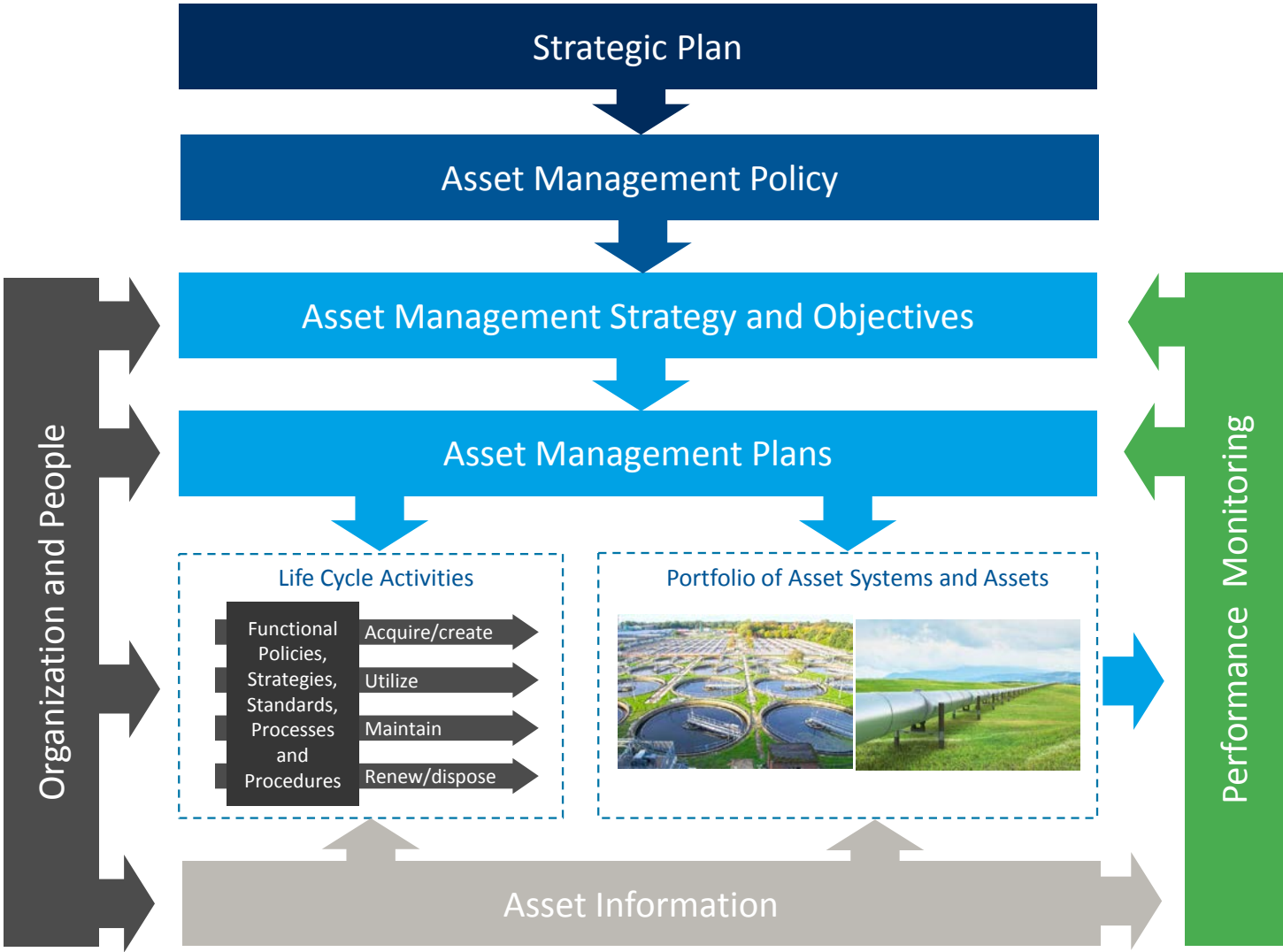
- 3-year CIP (\$1.7 million)

Asset Management Initiatives	FY2018					FY2019					FY2020												
	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M
AM Program Communications	█					█					█												
Asset Management Framework Development				█	█	█																	
Levels of Service and KPI's				█	█	█																	
Risk Management						█	█	█	█	█	█												
Asset Management Resource Planning and Development						█	█	█	█	█	█												
Management Oversight and Review	█											█											
Asset Data Analysis				█	█	█	█	█	█	█	█	█	█	█	█	█	█						
Asset Management Planning												█											
Preventative Maintenance							█					█											
Document Management and SOP Updates												█											

Asset Management Policy

- Statement by an organization of the principles by which it will manage its assets
- Includes the corporate Vision for asset management
 - “Making the right investment at the right time”
- Provides direction to the implementation of asset management improvements
- Approved and signed at Executive level
- Demonstrates commitment from senior leadership to asset management

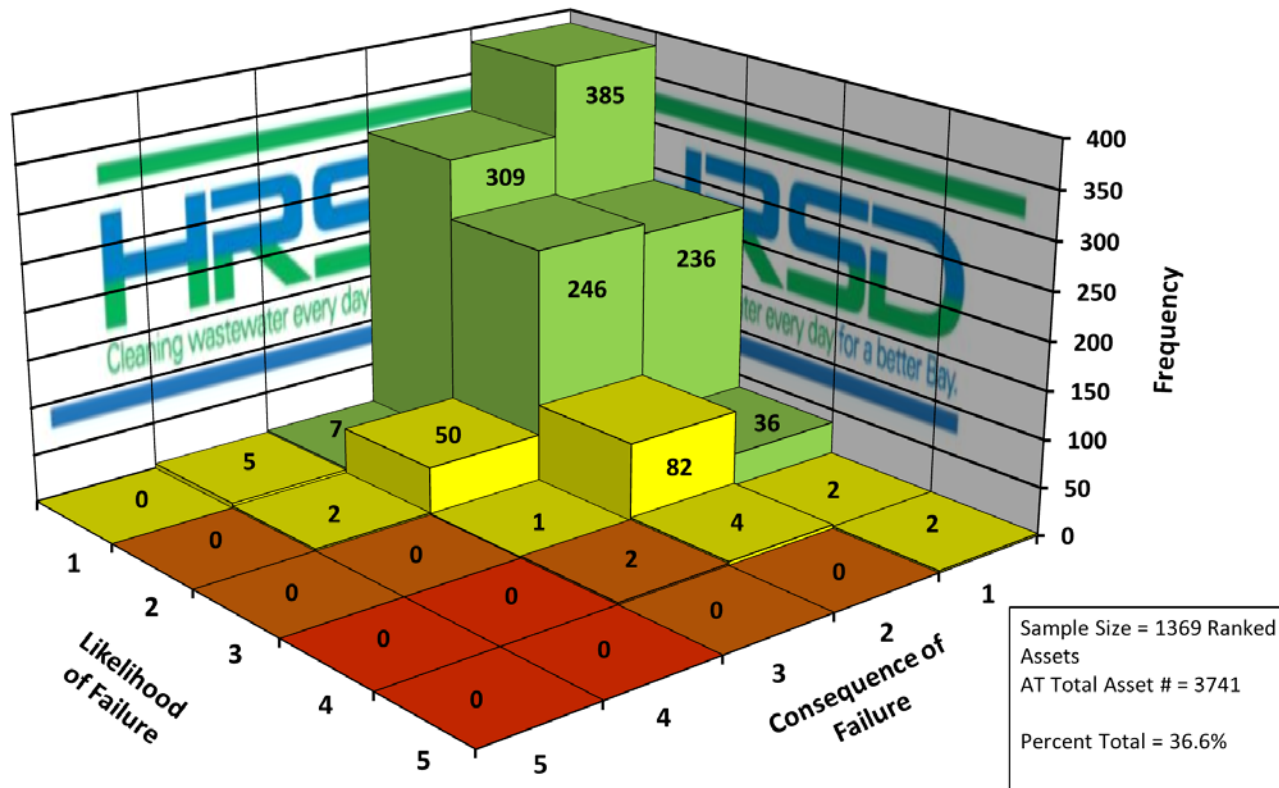
AM Framework



Atlantic Treatment Plant Risk Assessment

- **Takeaways:**

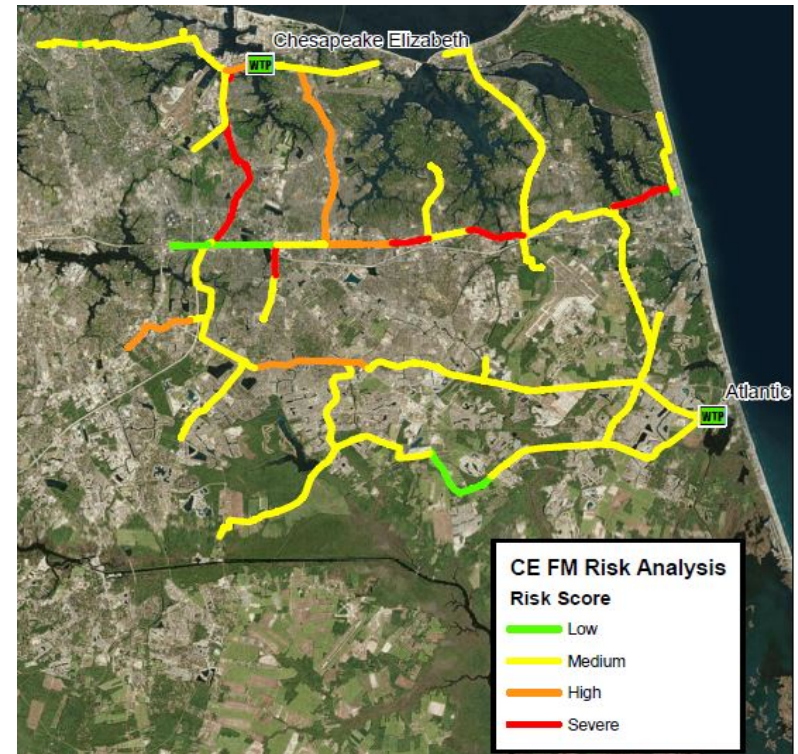
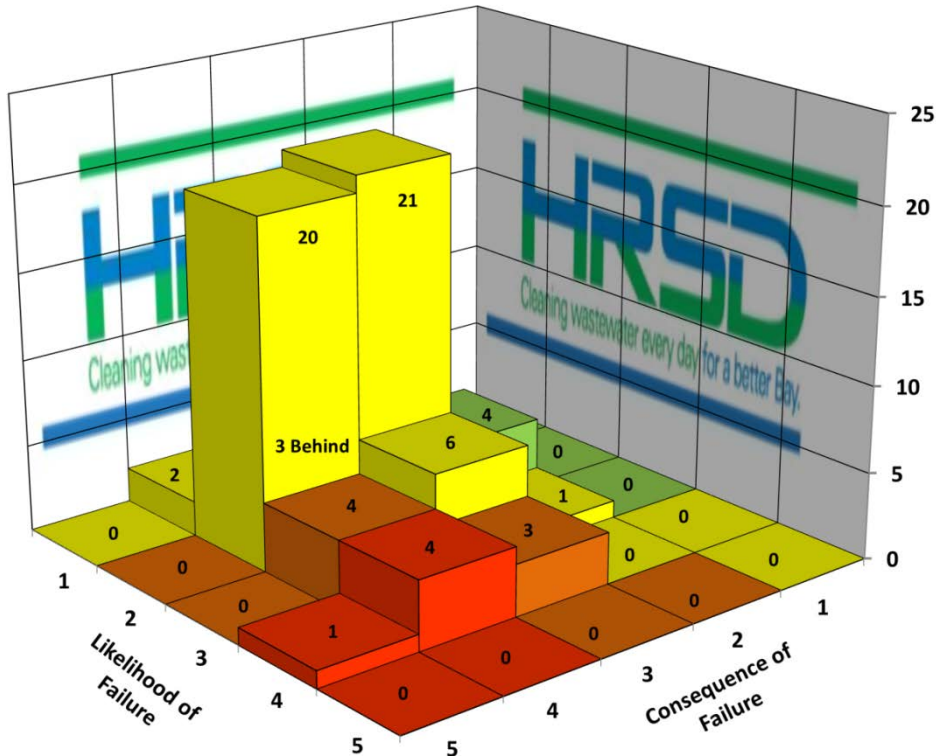
- High redundancy – reduce in future designs?
- Maintaining low risk assets – reduce?



Ches-Liz Diversion Pipeline Risk Assessment

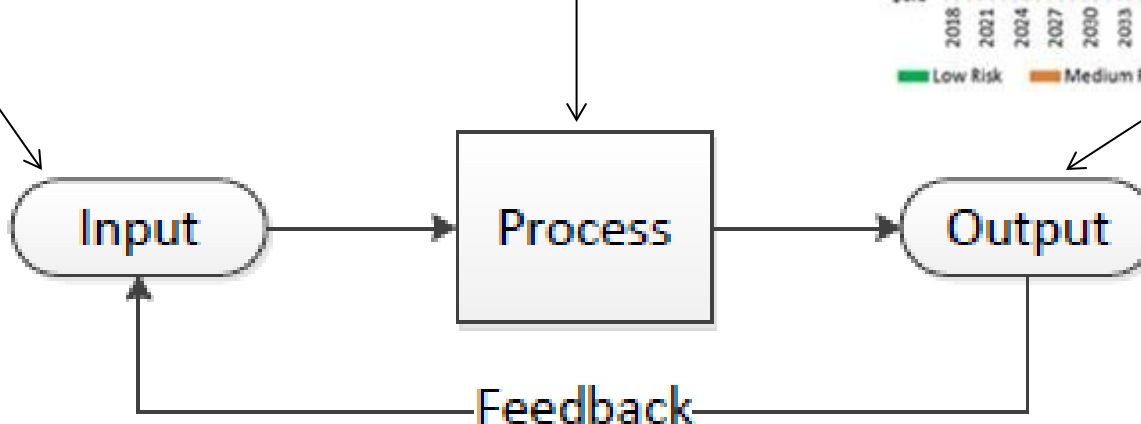
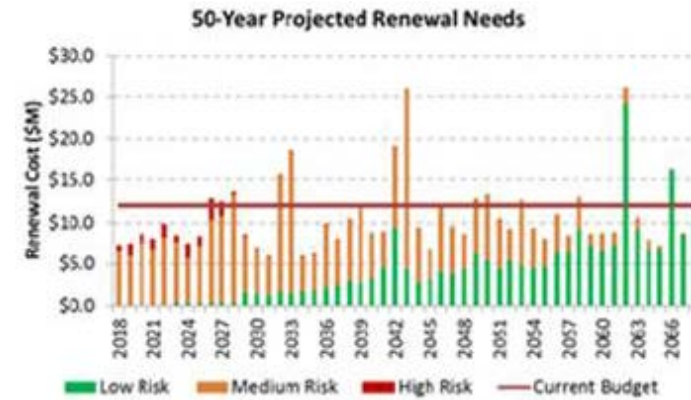
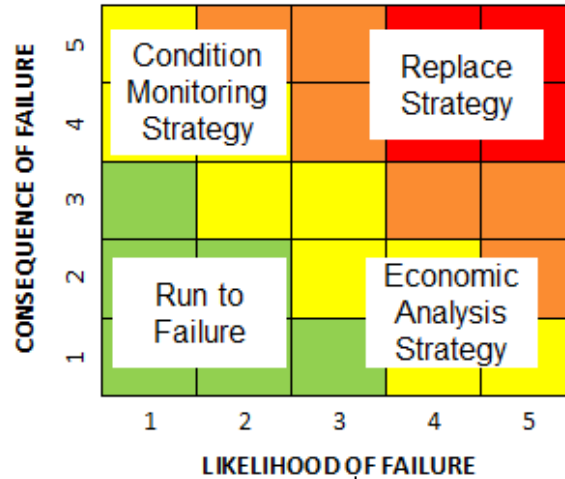
- **Takeaways:**

- Confirmed with data some concerns from Interceptors
- Valuable tool for planning and prioritizing



How it all works together

- Data
- Better Data
- More Data

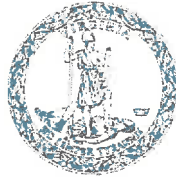


Questions/Comments

HRSD COMMISSION MEETING MINUTES
January 23, 2018

ATTACHMENT #3

AGENDA ITEM 3. – Town of Surry Amendment to Order by Consent



COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

Street address: 1111 East Main Street, Suite 1400, Richmond, Virginia 23219

Mailing address: P.O. Box 1105, Richmond, Virginia 23218

www.deq.virginia.gov

Molly Joseph Ward
Secretary of Natural Resources

David K. Paylor
Director

(804) 698-4020
1-800-592-5482

STATE WATER CONTROL BOARD ENFORCEMENT ACTION AMENDMENT TO ORDER BY CONSENT ISSUED TO HAMPTON ROADS SANITATION DISTRICT FOR ACQUISITION OF TOWN OF SURRY WASTEWATER TREATMENT PLANT VPDES Permit No. VA0061646

SECTION A: Purpose

This is an Amendment of an Order by Consent (Amendment) issued under the authority of Va. Code § 62.1-44.15, between the State Water Control Board (Board) and the Hampton Roads Sanitation District (HRSD), regarding the Town of Surry's Wastewater Treatment Plant. The purpose of this amendment is to change the name of the responsible party from the Town of Surry (the Town) to HRSD, to establish a schedule to transfer the Town's discharge and to re-establish certain interim limits of the Order by Consent (Order) issued by the Board to the Town on June 25, 2010, and amended October 3, 2013.

SECTION B: Basis for Amendment

1. On September 28, 2017, HRSD submitted change of ownership forms to the Department for the Town of Surry Wastewater Treatment Plant (Facility) in Surry, Virginia. HRSD has Permit¹ coverage which allows HRSD to discharge treated sewage and other municipal wastes from the Facility to an unnamed tributary of Dark Swamp, in strict compliance with the terms and conditions of the Permit.
2. The Board entered into the Order with the Town effective June 25, 2010, for violations of TKN, CBOD, copper, and chlorine effluent limitations as well as reporting violations.
3. The Order required the Town to raise sewer rates, identify and complete Inflow and Infiltration (I&I) work on the Plant's collection system, and to complete a corrective action plan at the Plant to meet VPDES Permit effluent limits. The Town increased the

¹ "Permit" means Virginia Pollutant Discharge Elimination (VPDES) Permit No. VA0061646, which was issued to HRSD on October 1, 2017, and which expires on November 30, 2021.

sewer rates and completed I&I work on the collection system. The work on the collection system expended all of the resources available to the Town for corrective action.


4. The Town decided it was in its best interest to transfer ownership and operation of the treatment system to HRSD, which has the resources and expertise to operate the Plant and to eliminate its discharge.
5. HRSD is a political subdivision of the Commonwealth that was established as a governmental instrumentality to provide for the public health and welfare, including for the prevention of discharges any sewage, industrial wastes or other refuse which would contribute or tend to contribute to water pollution.
6. HRSD voluntarily agreed to assume ownership and operation of the Plant from the Town and thereby assist the Board in returning the Facility to compliance with applicable regulatory requirements. Furthermore, HRSD and the Board have agreed to the course of action memorialized by this Amendment and the schedule in Appendix A hereto to collaboratively and cooperatively pursue this mutual objective.

SECTION C: Agreement and Order

Accordingly, by virtue of the authority granted it in Va. Code § 62.1-44.15, the Board orders HRSD, and HRSD agrees, as follows.

1. The parties acknowledge and agree that in accordance with Paragraph E.9. of the 2010 Order, as amended, HRSD is the Town's successor in interest and assign as to all rights and benefits of such Order.
2. HRSD shall perform the actions described in Appendix A of this Amendment, which supersedes and cancels Appendices A and B of the 2010 Order and Appendix C of the 2013 amendment.
3. The definitions (Section A) and administrative provisions (Section E) of the June 25, 2010 Order remain in effect except paragraph E.2. is hereby updated to provide that the Order addresses and resolves, as to HRSD, all past violations as of the date HRSD voluntarily assumed ownership of the Facility. The Board agrees to not take any action authorized by law regarding any additional, subsequent or subsequently discovered violations that occurred prior to HRSD assuming ownership of the Facility.
4. For the purpose of assurance and confirmation to HRSD, the Board acknowledges that no civil charges previously assessed in connection with the Facility remain outstanding as of the date of this Order.
5. In light of the voluntary nature of HRSD's role in returning the Facility to compliance, the Board will consider any request by HRSD for funding related to performance of the actions described in Appendix A of this Amendment.

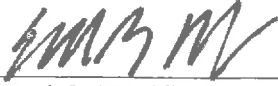
And it is so ORDERED this 28 day of March, 2018.



Jefferson D. Reynolds,
Department of Environmental Quality
Enforcement Division Director

------(Remainder of Page Intentionally Blank)-----

Hampton Roads Sanitation District voluntarily agrees to the issuance of this Order.

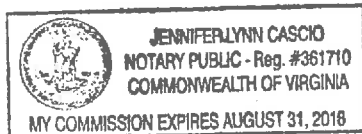
Date: 1/23/18 By: 
Edward G. Henifin, General Manager
Hampton Roads Sanitation District

Commonwealth of Virginia
City/County of Virginia Beach

The foregoing document was signed and acknowledged before me this 23rd day of January, 2018, by Edward G. Henifin who is General Manager of Hampton Roads Sanitation District.


Jennifer Lynn Cascio, Notary Public

Registration No.: 361710
My commission expires: August 31, 2018
Notary seal:



APPENDIX A SCHEDULE OF COMPLIANCE

Hampton Roads Sanitation District shall:

1. On or before April 1, 2018, submit to the Department effluent data for the calculation of interim effluent permit limits that will be effective during the Plan's implementation schedule. Sampling must be conducted as specified in the Permit at a frequency required to collect a minimum of 12 data points prior to the April 1st deadline. After analysis of the data, the Department will provide interim effluent limitations, based on the performance capability of the Facility considering the submitted data for those pollutant parameters that the Department determines require those limits. The parties acknowledge that it is the intent of this provision to provide interim effluent limitations with which the Facility is capable of compliance assuming operation in a workmanlike manner. Upon issuance the interim limits will become an enforceable part of this Order and will expire on November 1, 2020 or upon completion of the Plan whichever comes first.
2. Until the Department calculates and imposes the interim limits, both the Department and HRSD acknowledge that during the term of the Plan's implementation schedule authorized by this Order that the Facility may experience what would otherwise be considered violations of permit effluent limitations. Therefore, until the Department imposes the interim limit, in lieu of the permit effluent limitations HRSD shall operate and maintain the Town of Surry's Facility in a workmanlike manner, in order to ensure that the Facility produces the best quality effluent of which it is capable in order to minimize such additional violations and minimize potential impacts to water quality.
3. On or before May 1, 2018, submit to the Department for review a Discharge Elimination Plan and implementation schedule (the Plan) for elimination of the wastewater discharge from the Town of Surry's Facility by way of a sewage collection system connection to Surry County's Regional Wastewater Treatment Facility. The implementation schedule must include at a minimum, a date for 1) Submittal of an application, suitable for Department approval, for a Certificate to Construct (CTC) the sewage collection system, 2) Submittal of an application, suitable for Department approval, for a Certificate to Operate (CTO) the sewage collection system; and, 3) closure and proper disposal of the Town's treatment works.
4. On or before November 1, 2020, eliminate the discharge from the Town of Surry's Facility to Dark Swamp and submit a letter to the Department requesting the termination of VPDES Permit VA0061646.
5. Submit to the Department a quarterly update on the progress of the Plan. The first update shall be due on May 15, 2018, and continue quarterly until the discharge is eliminated.

DEQ Contact

Unless otherwise specified in this Order, Hampton Roads Sanitation District shall submit all requirements of Appendix A of this Order to: Frank Lupini-Enforcement Specialist
VA DEQ –Piedmont Regional Office, 4949A Cox Road, Glen Allen, Virginia 23060
Frank.Lupini@deq.virginia.gov

HRSD COMMISSION MEETING MINUTES
January 23, 2018

ATTACHMENT #4

AGENDA ITEM 4. – Town of Surry Agreement

OPERATION AND MAINTENANCE AGREEMENT

HAMPTON ROADS SANITATION DISTRICT

AND

SUSSEX SERVICE AUTHORITY

This Operation and Maintenance Agreement (“Agreement”) is made and entered effective February 1, 2018, by and between the Hampton Roads Sanitation District (“HRSD”), and the Sussex Service Authority, a body politic and corporate, (the "Authority").

RECITALS

R-1. HRSD owns a Sewer System (the "System") to provide sewer services to the residents of the Town of Surry, Virginia (the “Town”). The System is located within the Town.

R-2. HRSD hereby chooses the Authority to operate and maintain the System on its behalf.

R-3. The Authority is empowered by the Virginia Water and Waste Authorities Act (the "Act"), and by its charter to operate and maintain wastewater treatment facilities and facilities relating hereto. In furtherance of the purpose for which the Authority was created and as permitted by the Act, the Authority is willing to agree to operate and maintain the System for the mutual benefit of HRSD and the customers of HRSD, all upon the terms provided herein.

NOW, THEREFORE, in consideration of these premises, the parties do agree as follows:

AGREEMENT OBLIGATIONS OF THE AUTHORITY

1. The Authority has all necessary staff, equipment, technical and administrative expertise which will enable it to operate and to maintain the System.
2. The Authority will supply all necessary personnel, equipment and administrative experience necessary to operate the Systems in strict compliance with all applicable health and regulatory requirements, including, without limitation, the permit and regulatory requirements of the Virginia State Department of Health and the Virginia Department of Environmental Quality.
3. The Authority shall provide its services in a good and workman like manner on a full-time basis, and as necessary, in conformance with applicable regulations and within its powers under the Act.
4. The Authority will provide operation and maintenance services to HRSD as an independent contractor. The means, methods and execution of its operation and maintenance activities shall be determined by the Authority. The Authority will consult and take direction from HRSD when warranted. The personnel and equipment used in performance of its duties hereunder with respect to the System also shall be available to operate and maintain the sewer system within the Authority's service area, yet not to the detriment of HRSD.
5. The Authority shall provide monthly and annual reports providing financial and operating statistics regarding the System under this Agreement to HRSD and the books of the Authority regarding such systems shall be open to inspection by HRSD.
6. The Authority shall maintain general liability insurance with a limit of at least \$1,000,000 and workers compensation insurance.

7. The Authority is hereby authorized to expend up to \$10,000 on emergency repairs as may be needed from time to time.
8. In the event of default, HRSD will become responsible for all maintenance and operation of the System.
9. Included within the operational and maintenance responsibilities hereunder, the Authority specifically shall (a) maintain the System, to the best of their ability, to standards promulgated by the Virginia Department of Environmental Quality and Virginia Department of Health, (b) prepare and deliver all reports required by cognizant regulatory agencies; (c) ensure that maintenance, other than routine day-to-day efforts, will be accomplished on an event-by-event basis in consultation with HRSD; and (d) provide HRSD with 24-hour availability.
10. The Authority will perform the necessary treatment control testing and obtain the required samples and send samples to a contracted laboratory for all regular laboratory tests and report the results to cognizant regulatory agencies.
11. The Authority shall provide all field activity to include: meter reading, delinquent bill notifications, disconnections and reconnections.
12. The scope of services provided under this Agreement is summarized in Exhibit C attached hereto.

OBLIGATIONS OF HRSD

13. It shall be HRSD's responsibility to pursue any construction, warrant, completion or contractor and third-party claims with respect to the System as Owner of the System.
14. Provide all necessary easements, permits or rights-of-way to permit the Authority and its personnel to have operational and maintenance access to the System.

15. HRSD shall be listed as the Owner of the System and shall continue all responsibilities as an Owner under permits, licenses and approvals issued by cognizant regulatory authorities.
16. HRSD, in consultation with the Town, shall be responsible to define the Service Areas within the Town and to designate the location, nature and extent of any extensions of facilities of the System.
17. HRSD shall adopt and maintain its Industrial pre-treatment regulations as necessary.

PAYMENT FOR SERVICES

18. The Authority shall provide its operation and maintenance services on a cost, plus fixed fee basis. Pricing shown in Exhibit B are only for the existing System as shown in Exhibit A and any additional costs incurred due to expansions of any of the System will be quoted on a cost basis as agreed by both parties. Any exceptions to this pricing concept shall be set forth in writing signed by the parties. Attached hereto is Exhibit B regarding specific pricing arrangements to which the parties initially agree. The Authority shall maintain records of all personnel and equipment used to provide its services to HRSD hereunder and shall bill HRSD monthly in arrears for those services. HRSD shall pay the amount billed within 30 days of receipt of the statement from the Authority. The Authority's records shall be available during reasonable business hours for inspection by HRSD to verify cost and accounting factors with respect to sums billed to HRSD.
19. Any maintenance beyond daily maintenance to be provided by the Authority, and any construction or extension of the System's facilities, shall be subject to an estimate prepared by the Authority and approved in advance by HRSD before such

extraordinary maintenance or construction activities shall be undertaken by the Authority.

TERM

20. This Agreement shall be for a term from the effective date of this Agreement until July 1, 2018 and on that date shall be renewable automatically for one year increments thereafter. This Agreement may be terminated for any reason upon sixty days prior written notice by either party. Any increase in cost shall be justified by the Authority.

MISCELLANEOUS

21. Any and all notices shall herein be in writing and be deemed to have been sufficiently given to the HRSD by registered mail, postage prepaid addressed to:

General Manager
1434 Air Rail Avenue
Virginia Beach, VA 23455
E-mail: thenifin@hrsd.com

And to the Authority if mailed, postage prepaid to:

Executive Director
Sussex Service Authority
4385 Beef Steak Road
Waverly, VA 23890
Or by Facsimile: (804) 834-6910
E-mail: firving@ssa-va.org

22. Section and subsection headings in this Agreement are for convenience only and are not to construed as a part hereof or in any way limiting or amplifying the provisions hereof.
23. This Agreement constitutes and contains the entire Agreement of the parties hereto and supersedes any and all prior negotiations, correspondence, understanding and

agreements between the parties affecting the subject matter hereof and may not be modified, altered or changed in any manner whatsoever except by written agreement between the parties hereto.

24. This Agreement may be executed in several counterparts, each of which shall be deemed an original, as of all of which together shall constitute one and the same instrument.
25. This Agreement shall inure to the benefit of and be binding upon the successors and assigns of the parties.
26. This Agreement and the transactions contemplated thereby shall be governed by and construed in accordance with the laws of the Commonwealth of Virginia.

HAMPTON ROADS SANITATION DISTRICT

By: 

Edward G. Henifin, PE
General Manager

SUSSEX SERVICE AUTHORITY

By: 

Its: Executive Director

**Operation and Maintenance Agreement
HRSD and Sussex Service Authority**

EXHIBIT A

**HRSD SEWER SYSTEM (THE SYSTEM)
UPDATE WITH LIST OF SYSTEM ASSETS**

- 1) Wastewater Treatment Facility located at 11463 Rolfe Highway in Elberon, VA
- 2) Pump Station 06 and appurtenances located at 279 Colonial Trail East in Surry, VA
- 3) Pump Station 07 and appurtenances located at 377 Lebanon Road in Surry, VA
- 4) Any new pump stations added to the Town's Wastewater Treatment Facility service area and turned over to HRSD during the effective timeframe of this agreement.
- 5) All gravity collection systems and appurtenances in the Town Wastewater Treatment Facility service area.
- 6) All force mains and appurtenances in the Town Wastewater Treatment Facility service area.

**Operation and Maintenance Agreement
HRSD and Sussex Service Authority**

EXHIBIT B

PRICING

Operation, Maintenance and Meter Reading Fees	\$ 4,650.00
Administrative Fee	\$ 350.00
Laboratory Analyses Fees	\$ 500.00
Generator Maintenance	\$ 187.50
Lawn Maintenance	\$ 435.00
Total Monthly Management Fee	\$ 6,122.50

EMPLOYEE & EQUIPMENT RATES

EMPLOYEES ARE CHARGED PER HOUR	\$ 50.00
--------------------------------	----------

EQUIPMENT RATES ARE AS FOLLOWED

MAINT VEHICLE	\$ 25.00
EXCAVATOR	\$ 100.00
LOADER	\$ 16.00
TRACTOR	\$ 30.00
DUMP TRUCK - SMALL	\$ 40.00
DUMP TRUCK - LARGE	\$ 75.00
TRENCHER - WALK BEHIND	\$ 25.00
TRENCHER - RIDE	\$ 40.00
SEWER JET	\$ 90.00
TERRIMITE	\$ 45.00
SKIDSTER	\$ 30.00
BOOM TRUCK	\$ 50.00
CHOP SAW	\$ 20.00

MISC SERVICES ARE CHARGES AT THE FOLLOWING RATES

PUMPER TRUCK - PER LOAD	\$ 300.00
PUMPER TRUCK - SURRY SEAFOOD	\$ 350.00
MUD PUMP - PER DAY	\$ 50.00
TRAFFIC CONT EQUIP - DAILY	\$ 120.00
EXTRA LAB RUNS - PER RUN	\$ 60.00

**Operation and Maintenance Agreement
 HRSD and Sussex Service Authority
 Exhibit C – Summary of Responsibilities**

Area of Responsibility	Responsible Party	General Description	Suggested Frequency
Daily Plant Operating Reports (DPORs)	Authority	Examples include documenting RBC effluent ammonia concentrations, secondary clarifier blanket depths, filter influent and effluent turbidities, etc.	Daily
Regulatory reporting	Authority	Examples include but are not limited to spills, overflows, missed samples, permit exceedances	Daily/Monthly
Records maintenance	Authority	Maintain records of plant operations, including but not limited to flow, pH, UV/chlorine, process issues, maintenance done, etc.	Daily
DMR generation and signatories	Authority	Discharge Monitoring Reports, entered into the DEQ eDMR system monthly by the 8 th . The finalized report is due to DEQ by the 10 th of each month.	Monthly
Sample collection and courier scheduling and analysis	Authority		
Maintaining the current O&M manual	Authority		Annual review

Area of Responsibility	Responsible Party	General Description	Suggested Frequency
Customer Issues and complaints	Authority	<p>Respond to customer issues and complaints such as mechanical failures, leaks, or odors.</p> <p>For the Interceptor System Facilities, the Authority will investigate failures and/or overflows within 2 hours of being notified. Corrective action to remediate as soon as possible thereafter.</p> <p>For the Collection System Facilities, the Authority will investigate failures and/or overflows within 4 hours of being notified. Corrective action to remediate as soon as possible thereafter.</p> <p>For System Odors, the Authority will investigate failures and/or overflows within 2 days of being notified. Corrective action to remediate as soon as possible thereafter.</p> <p>For Customer Service Calls due to “backups”, the Authority will investigate backups/surcharging in the collection system main lines within 2 hours of being notified. Corrective action to remediate as soon as possible thereafter.</p> <p>For Customer Service Calls, if a customer’s plumber identifies an issue in the customer’s lateral in the public right-of-way (e.g. the roadway), the Authority will respond within 2 hours of being notified and verify the plumber’s findings. Corrective action to repair the lateral in the right-of-way as soon as possible thereafter.</p>	As required
Grounds Keeping	Authority	Provide for cutting and trimming of grass and other vegetation and the picking up of trash or other debris on wastewater system property.	Weekly

Area of Responsibility	Responsible Party	General Description	Suggested Frequency
Major Repairs and Replacements	Authority	Inform HRSD of major repairs and replacements needed on the wastewater system. By September 1 of each year, provide a list of major repairs and replacements requiring funding for the next fiscal year.	As required/ annually
Pump Station & Grinder Operations & Maintenance	Authority	Maintain, inspect, and service pump stations and grinder pumps to ensure proper operations and reliability.	As required / weekly
SSO & Emergency Response	Authority	Maintain SCADA system and emergency response notification system to respond to all SSO alarms from pump stations and citizen complaints. Response should include resolution to the following issues: SSO's, pump station alarms, grinder pump complaints, citizen calls, odor issues, lateral backups, sewer cave-ins, etc. (not full list). Provide HRSD notice within 24 hours. If any large issues arise, call for HRSD support as need.	As required
SSO Reporting	Authority	Provide notification to DEQ as required by law within the allowable time constraints. Copy HRSD on all notifications.	As required
Collection Systems Operations & Maintenance	Authority	Maintain collection system on an as needed basis to include casting adjustments, ROW clearing, line/lateral cleaning, air vent venting, valve exercising, etc.	As required / weekly
Treatment Plant General Maintenance	Authority	Schedule and conduct routine preventative and as-needed maintenance to treatment facilities, process equipment, and treatment plant infrastructure to allow continuous operations as defined in the Treatment Plant O&M manual and current standard operating procedures (SOP).	As required / daily
Maintenance of installed instrumentation	Authority	Maintain in a working condition any installed instrumentation put in place by HRSD for the purpose of process monitoring and control or regulatory compliance. Maintain calibration of installed probes and sensors as required by vendor O&M manuals and current standard operation procedures (SOP).	As required

Area of Responsibility	Responsible Party	General Description	Suggested Frequency
Treatment Plant Operations	Authority	Provide operations staff of appropriate level of licensure as required by the VPDES permit. Practice routine operational decision making and intervention to achieve compliance of the treatment process with requirements of the VPDES permit.	Daily
Maintenance of Generators	Authority	Routine maintenance on all generators.	As required
Miss Utility	Authority	Miss Utility Service to include responding to calls and marking sites within the limits required Damage Prevention Act. Manage tickets and properly update the VA811 system with proper response.	As required
Establish requirements/permit conditions of Industrial Dischargers	HRSD		
Administration of Industrial Discharge Permits	HRSD		
Meter Reading	Authority	Read customer meters and provide an electronic file to HRSD	Monthly
Delinquent Bill Notifications	Authority	Tag delinquent customers	As required
Water Service Disconnections	Authority	Disconnect water service for delinquent customers	As required
Water Restoration	Authority	Reconnect water service once outstanding payment has been made	As required
New Customers	Authority	Notify HRSD of any new proposed connections	As required

HRSD COMMISSION MEETING MINUTES
January 23, 2018

ATTACHMENT #5

AGENDA ITEM 10. – EPA Consent Decree Annual Public Meeting



EPA Consent Decree
Annual Informational Meeting
Integrated Plan/Regional Wet
Weather Management Plan

January 23, 2018

Requirements of the Consent Decree

- *“...after providing reasonable notice on its webpage and in a newspaper of general circulation”*
- *“...shall hold an annual informational meeting open to the Localities and the public”*
- *“HRSD shall convey information on the status of the Regional Wet Weather Management Plan, HRSD – Locality cooperation and steps citizens within the Localities can take to protect the receiving waters”*

Objective of the Consent Decree

- “HRSD, working in consultation with the Localities, to fulfill the objectives of the Clean Water Act with a goal of eliminating Sanitary Sewer Overflows (SSOs)”



Regionalized Approach

- Localities and HRSD agreed in Memorandum of Agreement to Regionalized Approach
- HRSD will be responsible for capacity in the regional sanitary sewer system (Localities' systems and HRSD system)

Major Change in Compliance Orders

- Special Order by Consent (SOC) modified in December 2014 focuses on Localities' Management, Operations and Maintenance (MOM) issues
 - Eliminates HRSD from SOC
 - Adds Norfolk to SOC and terminates prior Order
- Consent Decree Modification No. 4 references SWIFT and its relationship with the RWWMP. Requires that the approved RWWMP be a material modification to the CD subject to public comment and Court approval

Overall Regulatory Status

- HRSD continues to implement requirements of Federal Consent Decree, which was originally entered with the court on February 23, 2010, as modified
- All Consent Decree required submittals have been on time

Rehabilitation Action Plan

- Requires addressing specific features with condition defects identified in Consent Decree Condition Assessment Program (CAP)
- EPA/DEQ approved the plan in May 2015
- Addresses more than \$183M of required improvements in gravity mains, force mains, pump stations, and associated system components
- Implementation Plan has three phases through May 2025
- Sixteen projects complete with value more than \$42M

Interim System Improvements

- Consent Decree includes requirement to complete 45 CIP projects totaling approximately \$399M.
- 42 projects will be completed by February 23, 2018 , two projects by December 2018 and one project by June 30, 2018
- Of the 45 projects, thirty-six (36) are completed and nine (9) are in construction
- On track for completion by 2018 deadlines however, significant weather delays in early January due to blizzard may impact other remaining projects.

Management, Operations, and Maintenance (MOM) Program

- MOM Program approved by EPA/DEQ in 2011
- The MOM Program was updated in July 2015 to reflect:
 - Organizational updates
 - Current programs and updated status of initiatives
- Performance measures are continuing to be tracked to evaluate the effectiveness of the programs
- Program update scheduled for 2018

FY2017 MOM Program Performance

- 56 metrics were tracked for FY2017
- 52 met or exceeded specified goals
 - Includes 6 Consent Decree required metrics
- 2 additional measures are planned to begin tracking with the completion of the RWWMP
- 4 metrics fell short of targets
 - “Miss” Utility Responses – 5 missed out of 58,200
 - SSO Response – There were 16 SSOs that were not initially responded to within the 2-hour required window. All events were inaccessible due to high water during Tropical Storm Julia (3) and Hurricane Matthew (13).
 - SSO Release Reporting – 1 SSO Event could not be reported within the 24-hour required window due to a communication error during Hurricane Matthew.
 - Siphon Chamber Inspection – The 1 SS Siphon chamber was inspected twice during the previous fiscal year, and was not scheduled for inspection in FY2017.

Consent Decree Performance Measures Review

Year-over-Year Performance Summary

Metric	Target	FY-12 Actual	FY-13 Actual	FY-14 Actual	FY-15 Actual	FY-16 Actual	FY-17 Actual
Pump Station Annual PM	82*	84	83	83	84	85	87
Back-up Generator Annual PM	55	112	81	121	129	129	121
Force Main Air Vent PM	1,550	3,096	3,274	3,304	3,486	3,327	3,940
Non-Invasive Force Main Inspection (LF)	2,400	15,098	2,800	2,562	4,355	2,562	6,375
Gravity Sewer Inspection (LF)	39,600	72,730	98,185	81,841	89,757	71,595	94,009
Gravity Sewer Cleaning (LF)	29,400	234,463	207,724	194,838	208,059	190,160	203,206

*The Pump Station target became 86 in FY 17 due to new stations coming on line

Recent HRSD SSOs

Calendar Year	# of SSOs	Volume (gal)	# of Unknown SSO Volumes (during wet weather)	Total Inches of Rain near ORF
2011	35	1,880,086	13	55
2012	40	22,850,543*	6	52
2013	14	722,237	2	50
2014	29	2,250,915	10	45
2015	18	516,704	3	53
2016	49**	6,148,239**	23**	69**
2017	21	259,057	4	42

*Included single SSO at Wilroy Road of 18,352,000 gallons. Remaining volume ~4,500,000 gallons for 2012

**Included two major weather events in Hurricane Matthew and Tropical Storm Hermine

Capacity Related SSOs

Calendar Year	Total # of SSOs	Total Volume Of SSOs (gal)	Volume for Capacity (Gals)	# of Capacity SSOs	Named Storm
2011	35	1,880,086	1,409,796	16	Hurricane Irene
2012	40	22,850,543	4,249,483	31	Hurricane Sandy
2013	14	722,237	584,784	5	Remnants of Hurricane Andrea (1)
2014	29	2,250,915	681,392	15	None
2015	18	516,704	207,177	15	None
2016	49	6,148,239	2,133,775	35	TS Julia & Hurricane Matthew
2017	21	259,057	145,221	13	None

Regional Wet Weather Management Plan (RWWMP)

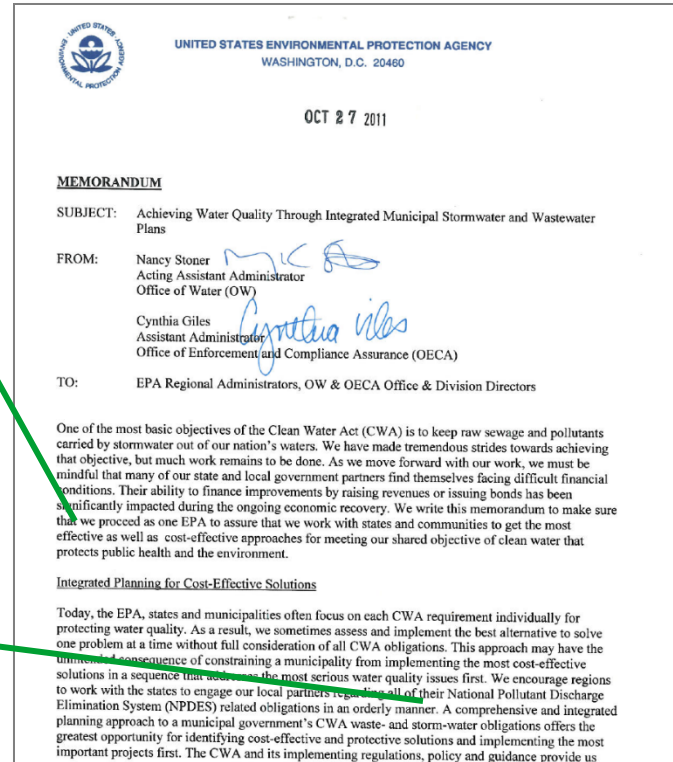
- Integrated Plan/RWWMP submitted to EPA/DEQ on September 28, 2017

- Added reference to SWIFT
- May reference the Integrated Plan as necessary to explain the sequencing or schedules in the RWWMP
- Schedule in the RWWMP shall accommodate expenditures on and revenues from SWIFT **provided that** HRSD demonstrates that greater human health or environmental benefits will be gained through SWIFT before completion of the RWWMP and HRSD provides a schedule for both SWIFT and RWWMP that is as expeditious as possible as determined through an acceptable Financial Capability Assessment and good engineering practice
- Identify and list high priority projects to be implemented concurrently with SWIFT

EPA's Approach to Integrated Planning

"... we proceed as one EPA to assure that we work with states and communities to get the most effective as well as cost-effective approaches for meeting our shared objective of clean water that protects public health and the environment"

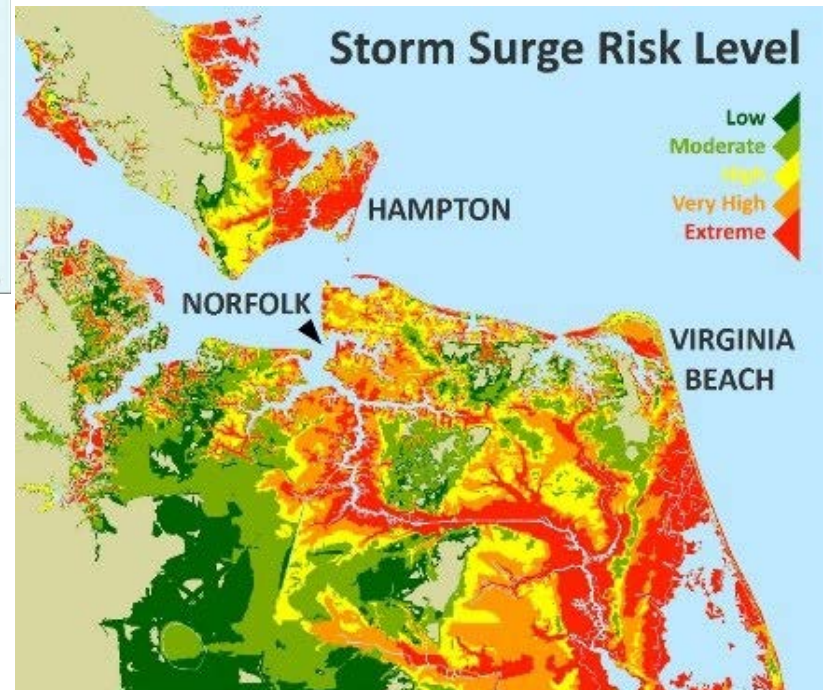
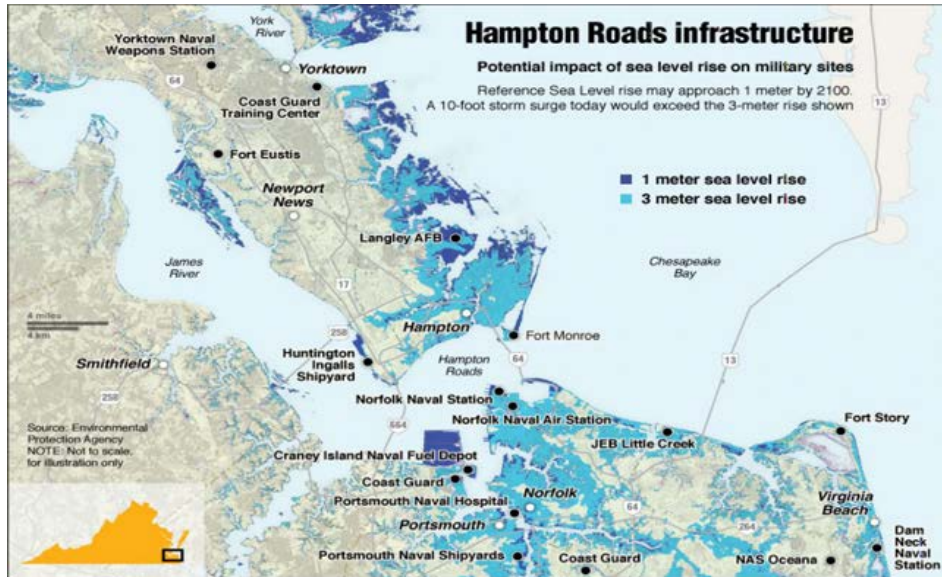
"A comprehensive and integrated planning approach ... offers the greatest opportunity for identifying cost effective and protective solutions and implementing the most important projects first"



Water Issues Challenging Virginia and Hampton Roads

- Restoration of the Chesapeake Bay
 - Harmful Algal Blooms
 - Localized bacteria impairments
 - Urban stormwater retrofits (cost and complexity)
- Depletion of groundwater resources
 - Including protection from saltwater contamination
- Adaptation to sea level rise
 - Recurrent flooding
- Wet weather sewer overflows
 - Compliance with Federal enforcement action

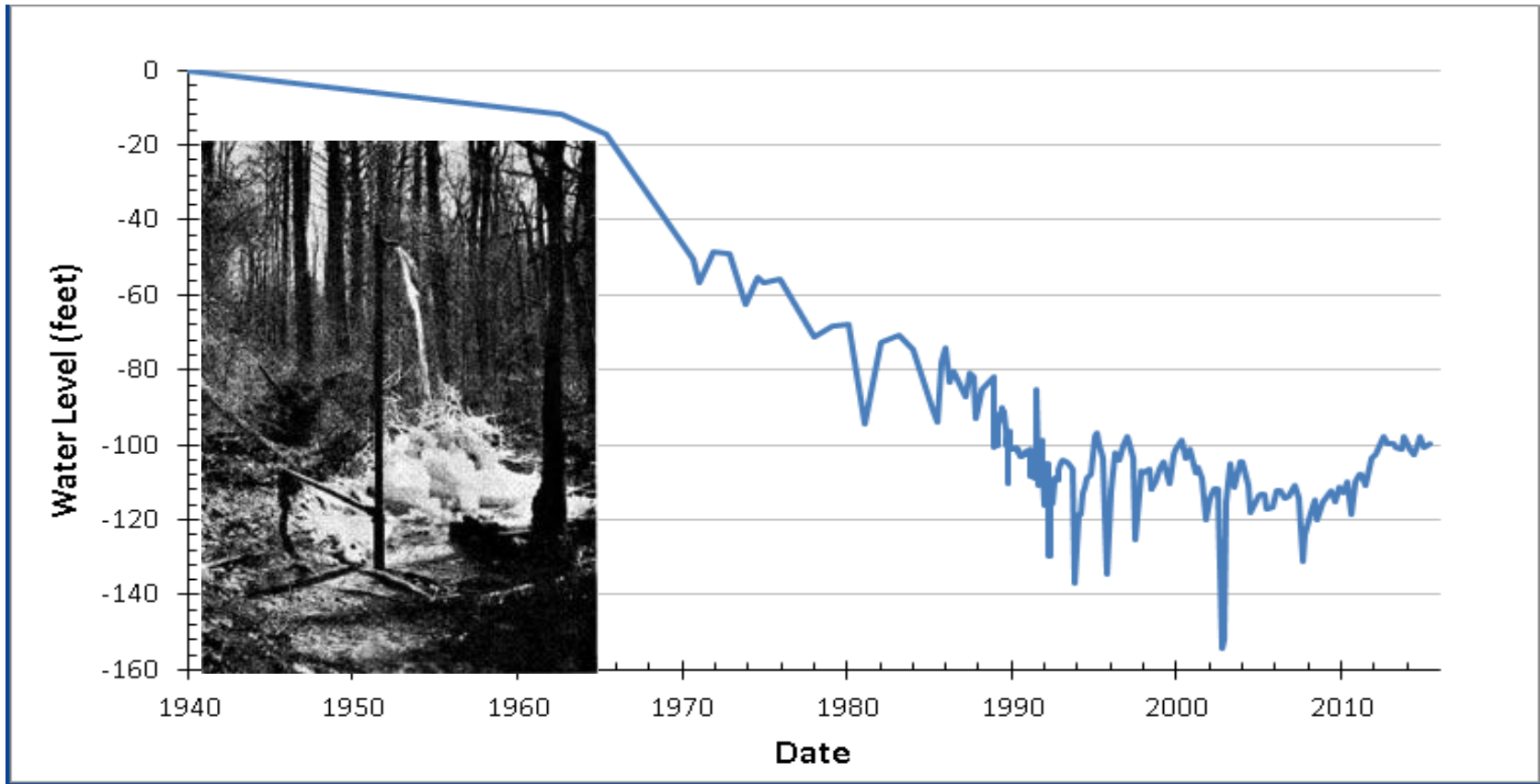
Sea Level Rise Threats to Hampton Roads are Significant



Recurrent Flooding is a Real and Current Problem

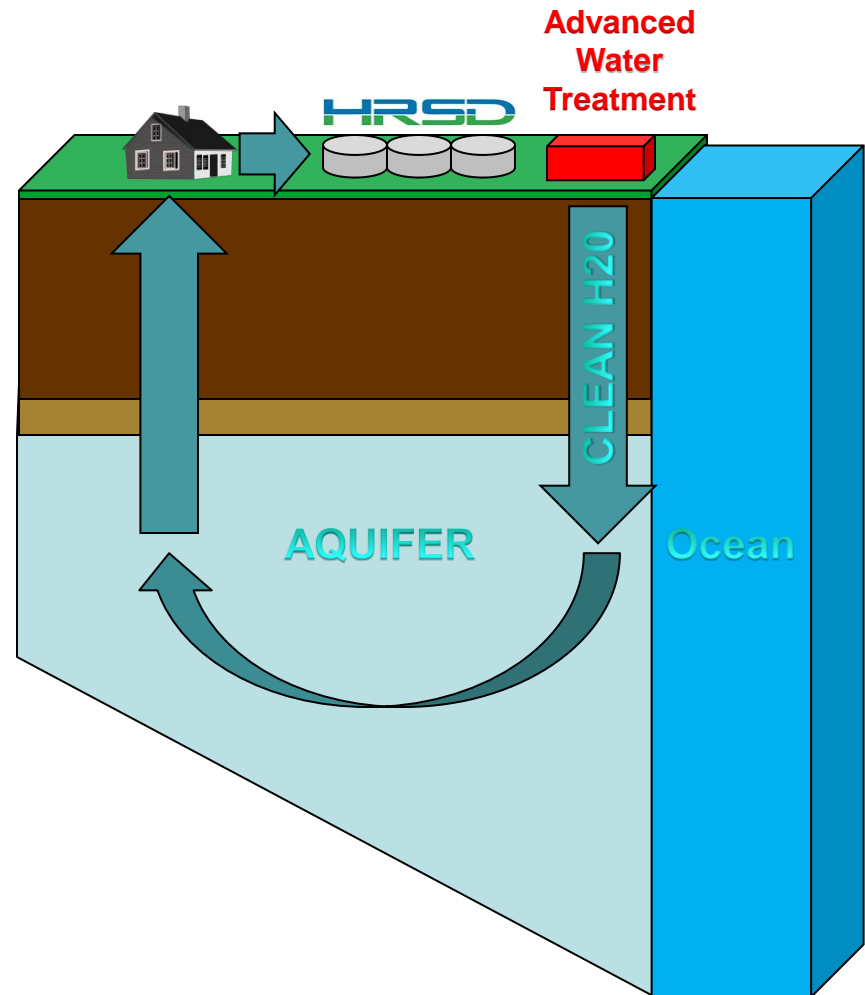


Overpumping Has Led to Major Declines in the Potomac Aquifer



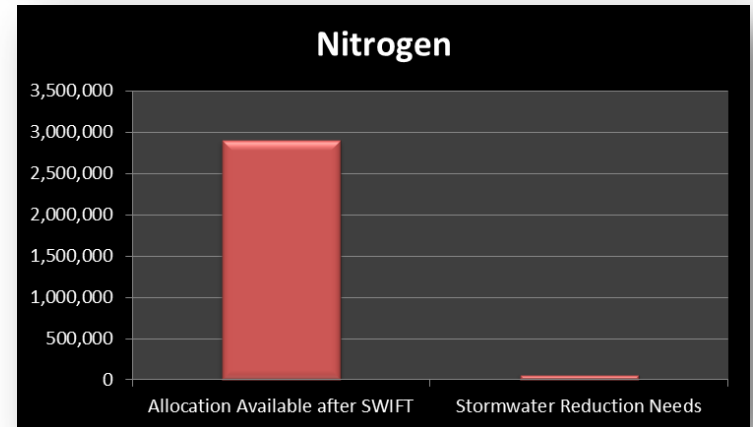
SWIFT – Sustainable Water Initiative for Tomorrow

- Treat water to meet drinking water standards and replenish the aquifer with clean water to:
 - Provide regulatory stability for wastewater treatment
 - Reduce nutrient discharges to the Bay
 - Reduce the rate of land subsidence
 - Provide a sustainable supply of groundwater
 - Protect the groundwater from saltwater contamination



Hampton Roads' Localities Stormwater Nutrient & Sediment Reductions

- Required in Virginia's Watershed Implementation Plan (WIP)
- Localities expected to spend \$2.0B (proposed IP reduces to \$500M)
- SWIFT will essentially eliminate HRSD's dry weather discharges
- Virginia has required laws, regulations and infrastructure to facilitate trading
- Draft agreements provided to Localities
- Term credits used to meet TMDL schedule
- Permanent credits offset once SWIFT is in place



Potential to Offset Stormwater Reductions

	HRSD Bay TMDL Allocations	HRSD Post SWIFT Loads (2030)	Available for other needs	Stormwater Reduction Needs*
Nitrogen				
James	3,400,000	500,000	2,900,000	63,039
York	275,927	25,000	250,927	19,114
Phosphorus				
James	300,009	50,000	250,009	13,088
York	18,395	2,000	16,395	3,887
Sediment				
James	14,000,000	700,000	13,300,000	5,269,142
York	1,400,000	98,000	1,302,000	1,413,762

* DEQ Regulated Stormwater w/o federal lands

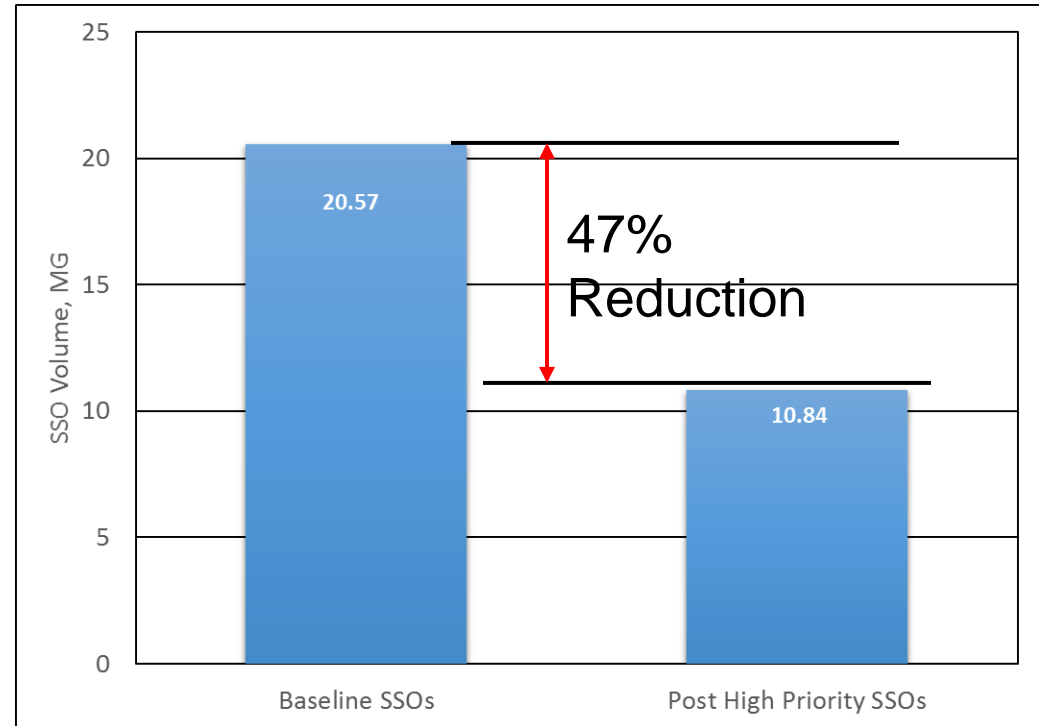
High Priority Project Selection Criteria and Weightings

- Modeled SSO Load Reduction (50%)
- Modeled Location (30%)
 - Proximity to public beaches(VDH)
 - Proximity to public surface drinking water sources
 - Proximity to open shellfish grounds
 - Proximity to high priority waters
 - Drains to bacteriologically impaired water
 - Reduces I/I to SWIFT plant proximate to open shellfish grounds
- I/I Reduction (20%)

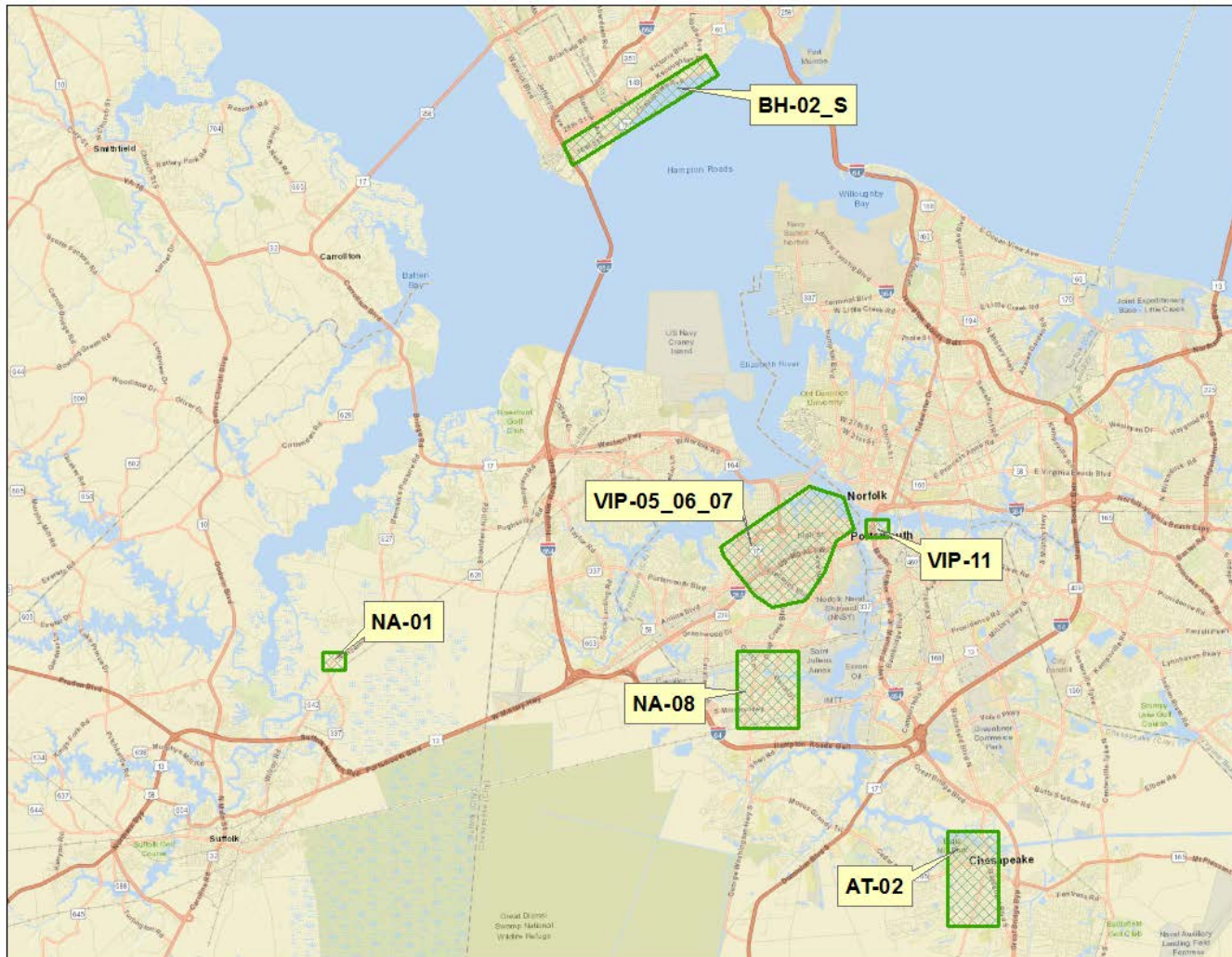
Potential High Priority Project Impact

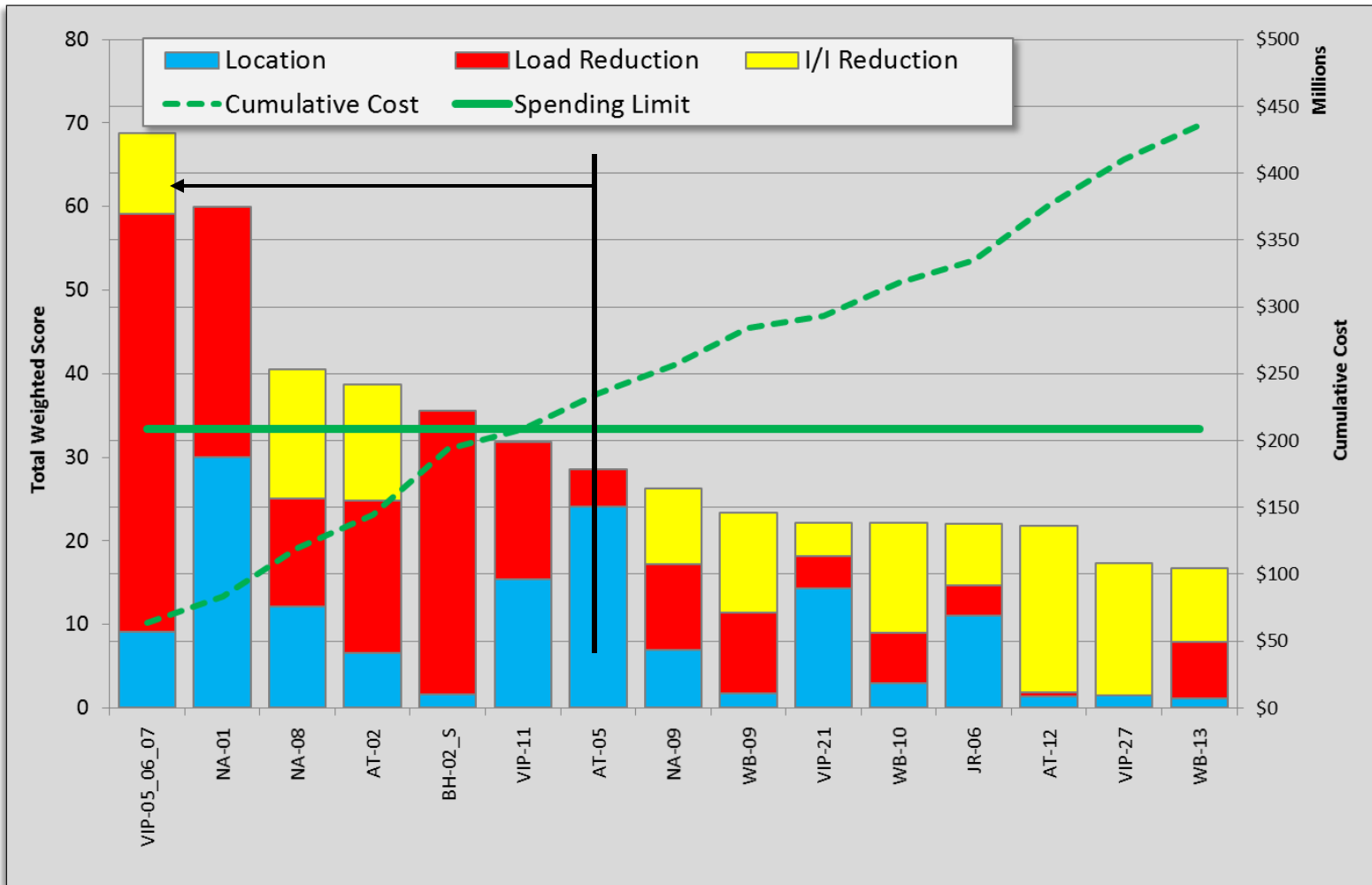
Load reduction as compared to RHM baseline simulation

- Volume Eliminated 9.73MG
- 47% Reduction to modeled baseline



High Priority Project Areas



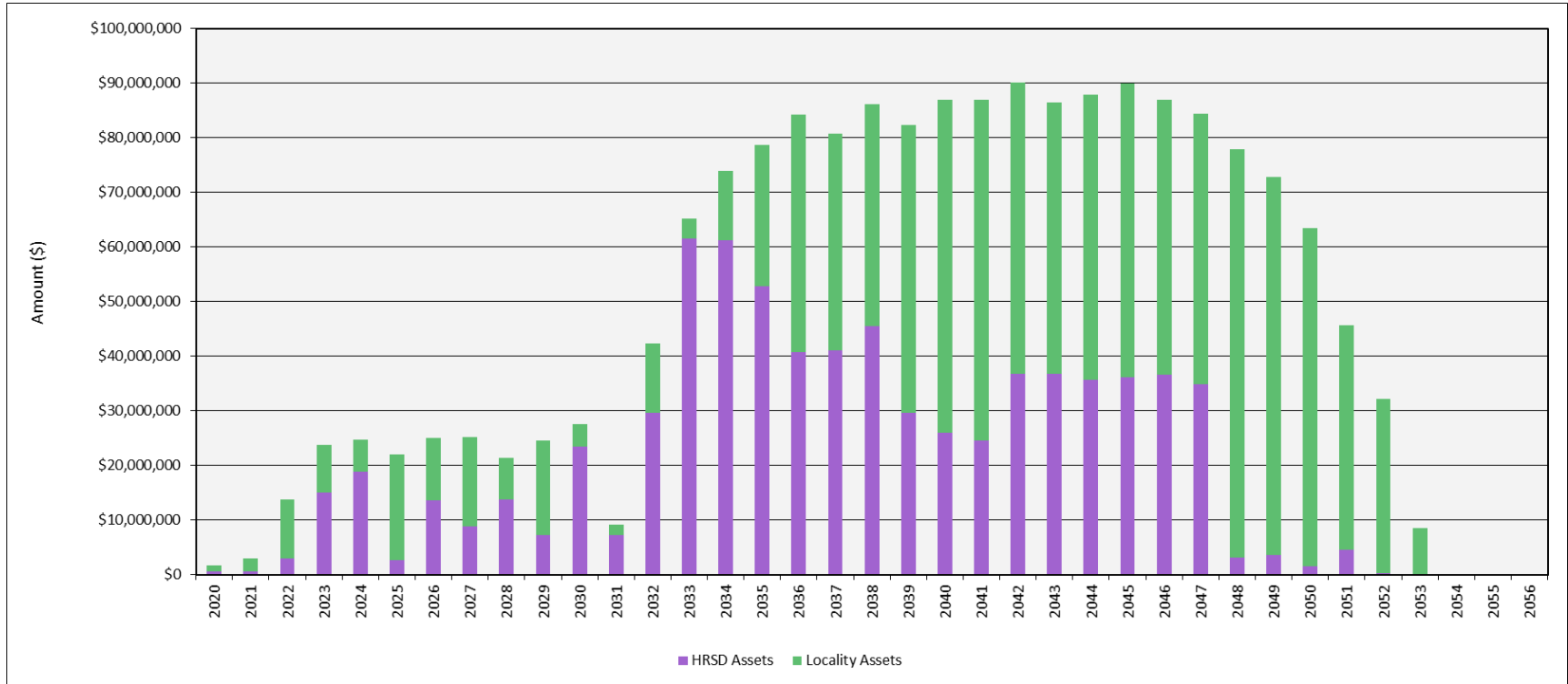


Overall RWWMP Costs

Regional Wet Weather Management Plan

- Overall = \$1.816B
 - Wet Weather Capacity Improvements = \$963.7M
 - I/I Reduction Program = \$852.3M
- Scheduled 176 Projects
 - 532 Elements grouped and sequenced w/ hydraulic considerations
- Implementation Timeframe
 - 2020-2030 High Priority (6 Projects)
 - 2030-2053 Remaining RWWMP Projects

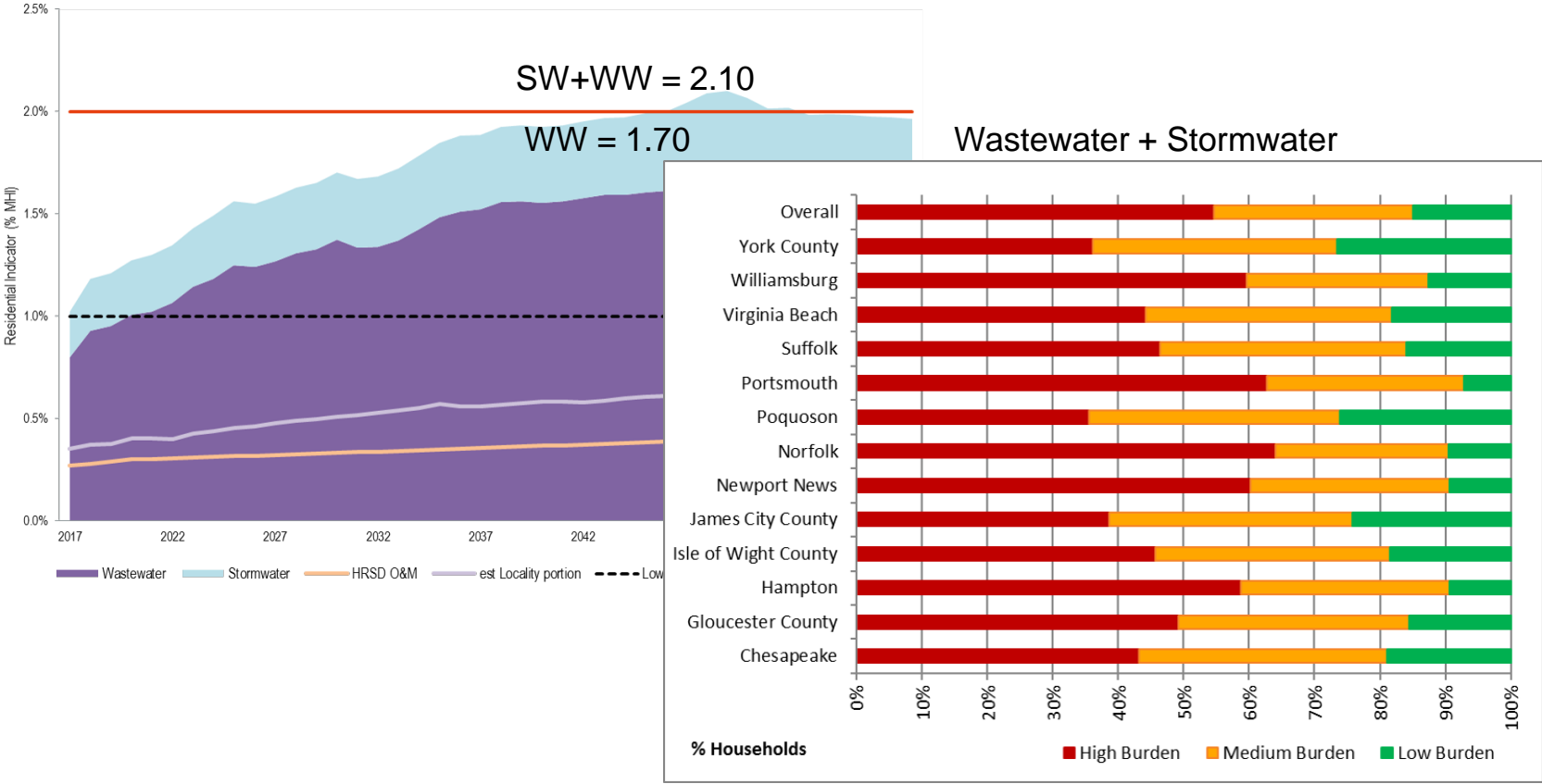
Program Cash Flow by Spending Type



Affordability Review

High Burden Preliminary Impact

Peak Residential Indicator Year: 2049



Income Quintiles

Quintile	Average Income	Upper Limit	Peak RI, Integrated Plan/RWWMP
Lowest	\$14,183	\$26,219	9.2%
Second	\$36,722	\$47,510	3.5%
Third	\$59,118	\$72,168	2.2%
Fourth	\$89,292	\$109,998	1.5%
Highest	\$176,797	N/A	0.7%
Top 5 Percent	\$185,056	N/A	0.7%

Quintile brackets from ACS 5-Year 2015; MSA: Virginia Beach-Norfolk-Newport News, VA-NC Metro Area (part); Virginia

\$1,302 Peak CPH WW+SW

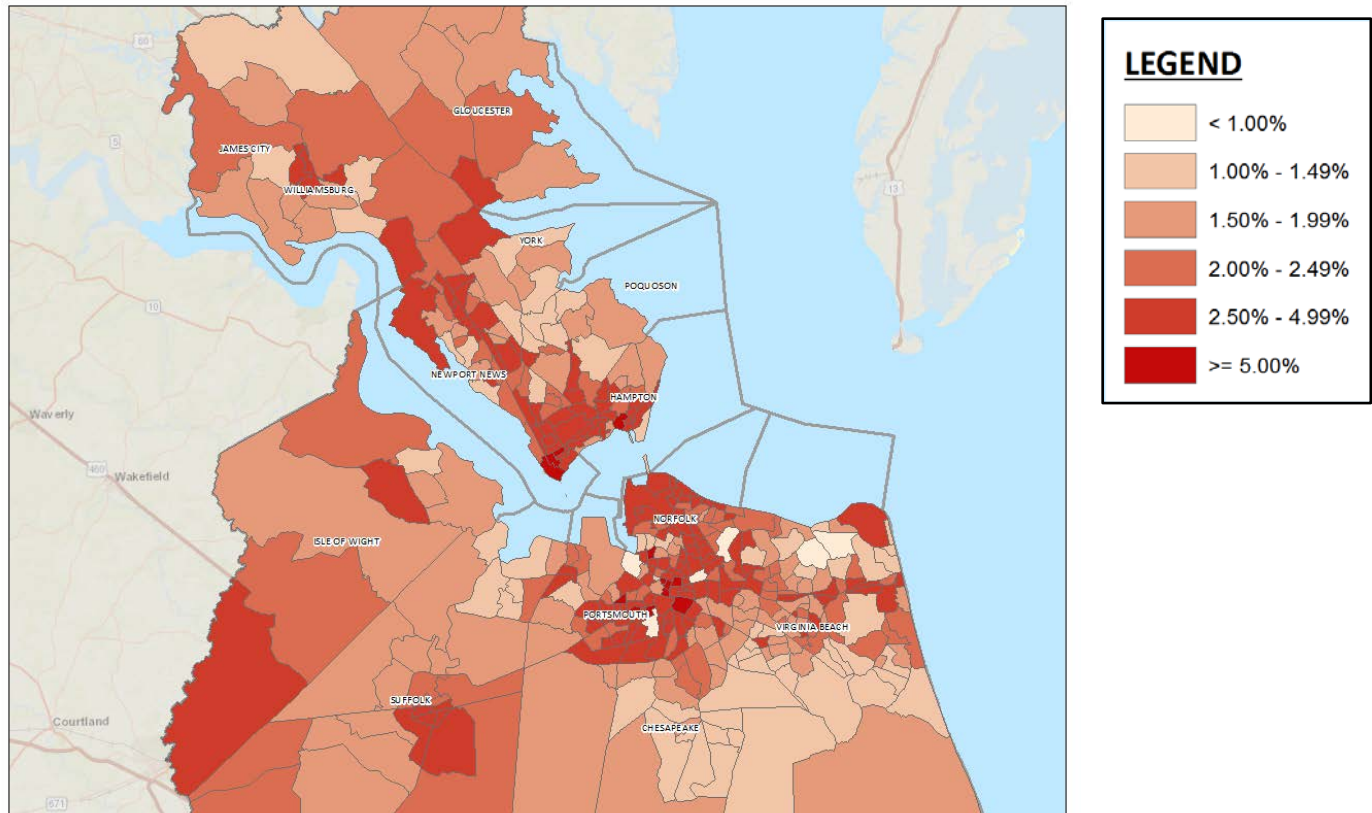
@ Regional MHI: 2.10%

@ Lowest Quintile: 9.18%

Census Tract Household Utility Cost Burden

- Costs are already high burden for some
- Much broader impact at implementation peak

Peak CPH Wastewater + Stormwater



Adaptive Management Approach

- Applying iterative decision-making in the face of multiple uncertainties and adjusting the course of solutions in the future to adapt to changing conditions

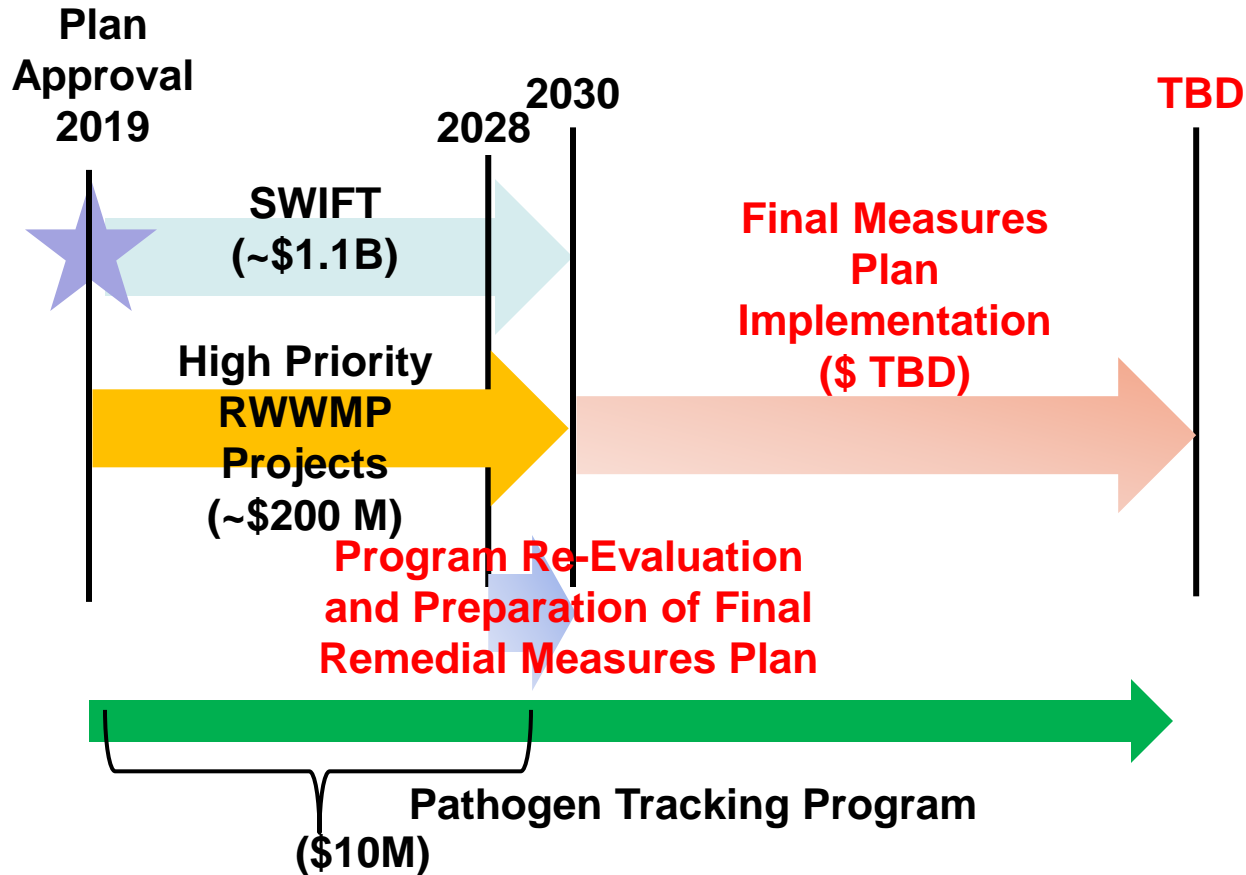
- Sea level rise and recurrent flooding
- Magnitude and spatial patterns of growth
- Future of numerous major DoD facilities
- Long term trend in I/I
- Regional economic vitality and household income and employment levels
- Regional environmental and public health priorities

- HRSD and Localities have entered into nutrient trading agreements to apply SWIFT reductions to stormwater requirements
- Prioritize the projects that provide the highest benefit to human health and the environment
- Allows for appropriate sequencing of projects/programs
- Provides for adaptive management strategies to adjust programs based on results and changing circumstances

Regional Adaptive Plan

Phase	Activities	Cost, \$M	Schedule
1	Planning, Condition Assessment, Prompt Repairs, Interim System Improvements, Rehab Action Plan	\$700	2008 - 2025
2	SWIFT and High Priority Projects	\$1,308	2020 - 2030
3	Re-Evaluation and Development of Final Remedial Measures Plan for Priority Capacity Related SSOs	\$2	2028 - 2030
4	Implementation of Final Remedial Measures Plan	TBD	TBD

Sequence Places the Greatest Water Quality Benefits First



Coordination with Localities

- Meetings with individual Localities to review capacity enhancements in their systems
- Periodic meetings of Capacity Team
- Monthly Directors of Utilities meetings
- HRSD providing GIS, flow, pressure and rainfall data to Localities

- Annual newsletter (due out before February 23, 2018)
- Annual public informational meeting with public notice (January 23, 2018)

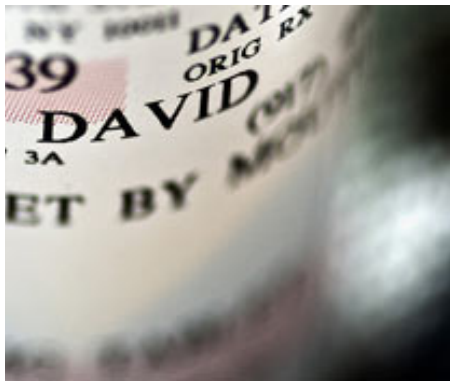
Steps Citizens Can Take to Protect Receiving Waters

- Report Sanitary Sewer Overflows – Call your local utility department
- Inspect home, yard and sewer service pipes to ensure separation between storm and sanitary systems
- Reduce storm water runoff by using rain barrels, rain gardens and establishing a buffer



Steps Citizens Can Take to Protect Receiving Waters (Cont.)

- Practice proper disposal of pharmaceuticals, household chemicals, food wastes and kitchen grease – minimize use of or eliminate garbage disposal



Steps Citizens Can Take to Protect Receiving Waters (Cont.)

- Improve water quality by raising oysters
- Limit synthetic fertilizer and other lawn chemical applications – use natural products like compost



Steps Citizens Can Take to Protect Receiving Waters (Cont.)

- Pick up animal waste
- Avoid feeding wildlife
- Support “No Dumping” and use boater pump out facilities



Questions?

HRSD COMMISSION MEETING MINUTES
January 23, 2018

ATTACHMENT #6

AGENDA ITEM 12. – Informational Items

- a. Management Reports
 - (1) [General Manager](#)
 - (2) [Communications](#)
 - (3) [Engineering](#)
 - (4) [Finance](#)
 - (5) [Information Technology](#)
 - (6) [Operations](#)
 - (7) [Special Assistant for Compliance Assurance](#)
 - (8) [Talent Management](#)
 - (9) [Water Quality](#)
 - (10) [Report of Internal Audit Activities](#)
- b. [Strategic Planning Metrics Summary](#)
- c. [Effluent Summary \(Monthly and Annual\)](#)
- d. [Air Summary \(Monthly and Annual\)](#)



January 17, 2018

Re: General Manager's Report

Dear Commissioners:

Looking back at 2017, a few key events stand out: assuming ownership and operation of the Town of Surry and Surry County facilities; submittal of the Regional Wet Weather Management Plan integrated with SWIFT; and the groundbreaking for the SWIFT Research Center. These three events were possible only as the result of the significant efforts of a large number of HRSD staff that began long before 2017. With each of these milestone events, 2017 marks only the beginning of a commitment that will transcend the tenure of the majority of people currently working for HRSD. And while major events tend to stand out, it is the daily commitment of our staff to protecting public health and the environment that makes these memorable events possible.

December's activities are detailed in the attached monthly reports with the compliance overview and a summary of my activities listed below.

- A. **Treatment Compliance and System Operations:** All plants met all Virginia Pollutant Discharge Elimination System (VPDES) and air permit requirements during the month with the exception of the Town of Surry Treatment Plant, which experienced a number of permit issues and the Surry County Treatment Plant. Details of these and other minor issues are included in the Operations Director's report.
- B. **Internal Communications:** I participated in the following meetings/activities with HRSD personnel:
1. A meeting to discuss the vision for the new Water Quality building
 2. A meeting to kick off planning for the SWIFT Research Center dedication ceremony on April 20, 2018
 3. A meeting to review right-of-entry requirements for HRSD personnel and their agents

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

Commissioners: Frederick N. Elofson, CPA, Chair • Maurice P. Lynch, PhD, Vice-Chair • Vishnu K. Lakdawala, PhD
Michael E. Glenn • Stephen C. Rodriguez • Willie Levenston, Jr. • Ann W. Templeman • Elizabeth A. Taraski, PhD
www.hrsd.com

4. A conference call to discuss easement options in Surry County
5. Welcomed new employees at one orientation session
6. Two length of service celebration breakfasts
7. Hosted 4 tours and SWIFT update briefings for HRSD employees held at the SWIFT Research Center at the Nansemond Treatment Plant
8. An interview for the annual internal audit risk assessment update

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

1. A meeting with the City of Norfolk senior staff to discuss SWIFT-related issues
2. Multiple calls with US Water Alliance to discuss the Value of Water Campaign and the national study of strengthening small utilities
3. A call with the Middlesex County Administrator to discuss expansion plans and study requests
4. A meeting with Brown and Caldwell to discuss transition from current contract at the end of FY 2018
5. Hosted a SWIFT briefing and tour of the SWIFT Research Center for American Water Works Association/Water Environment Federation (AWWA/WEF) Young Professionals
6. Presented a SWIFT update briefing to the Rappahannock River Basin Commission
7. Attended the Virginia Association of Municipal Wastewater Agencies (VAMWA) quarterly membership meeting
8. Attended the Virginiaforever quarterly board meeting and annual state budget briefing
9. Attended the Governor's announcement of the groundwater permit reductions at which he highlighted SWIFT as a needed long-term solution to Virginia's groundwater crisis
10. Two calls with DEQ to discuss terms of the Town of Surry treatment plant consent order
11. A meeting with New Kent County officials

We continue to experience challenges in our call center related to the conversion to the new billing vendor. While we do get the occasional thank you email highlighting the improved functionality and ease of the new system, the majority of calls we are getting are from customers challenged by the new system. I found the new system to be easy to understand and easy to use. I am not sure we could have done any better with our communication regarding the new system and am confident once we get past these initial billing cycles, things will settle out in the call center and our customers will come to appreciate the new system.

Thanks for your continued dedicated service to HRSD, the Hampton Roads region, the Commonwealth and the environment. **I look forward to seeing you on Tuesday, January 23 in Newport News.**

Respectfully submitted,

Ted Henifin

Ted Henifin, P.E.
General Manager

TO: General Manager
FROM: Director of Communications
SUBJECT: Monthly Report for December 2017
DATE: January 8, 2018

A. Publicity and Promotion

1. **“The Ambitious Plan to Stop the Ground from Sinking”** | December 1, 2017 | BBC.com <http://www.bbc.com/future/story/20171130-the-ambitious-plan-to-stop-the-ground-from-sinking> (same article was also shared on author’s personal blog, “Critical Thinking,” <http://diaryofamadinvalid.blogspot.com/>)
2. **“VIMS to purchase six lots to provide neighborhood buffer”** | December 13, 2017 | Gloucester-Mathews Gazette-Journal http://www.gazettejournal.net/index.php/news/news_article/vims_to_purchase_six_lots_to_provide_neighborhood_buffer
3. **“First HRSD bills arrived in Surry”** | December 27, 2017 | Smithfield Times <https://smithfieldtimes.com/index.php/news/all-news/2500-first-hrsd-bills-arrived-in-surry>

B. Social Media and Online Engagement

1. Facebook Reach: 1,240
2. Twitter: 5,592 impressions
3. SWIFT website visits: 486
4. LinkedIn: 793
5. Construction Project Page Hits: 7,458

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

1. News Releases/Advisories: 0
2. Advertisements: 0
3. Project Notices: 4
 - a. [Kecoughtan Road Gravity Sewer Pipeline Replacement](#) (2) (Hampton)
 - b. [Chesapeake Avenue Force Main Replacement](#) (Hampton and Newport News)
 - c. [Elm Avenue Force Main Replacement \(Portsmouth\)](#)
4. New Project Web Pages/Blogs/Videos: 1
 - a. Blog post: ["The 12 Days of Christmas: Water Edition"](#)

D. Special Projects and Highlights

1. The Director of Communications continues working with the General Manager to coordinate a well water testing clinic in partnership with Virginia Tech and the Virginia Cooperative Extension office. The clinic will serve to educate well users on the Sustainable Water Initiative for Tomorrow (SWIFT) and allow HRSD to supplement its research with baseline information derived from the water sample testing of on participating well users within the region ahead of aquifer augmentation at the SWIFT Research Center.
2. Director participated in the NACWA Communications and Public Affairs committee meeting.
3. Director attended the Hampton Roads Chamber Annual Meeting.
4. Director and staff attended the STARBASE Victory volunteer and donor recognition breakfast in Portsmouth.

E. Internal Communications

1. The Director of Communications and staff continue meeting weekly with web designers, advancing the redesign of the HRSD.com website. New website launch is tentatively expected for April 2018.
2. Director also participated in the following internal meetings:
 - a. Public meeting planning for upcoming projects in Chesapeake and Portsmouth
 - b. Uniform committee meeting
 - c. Meeting to discuss Rights of Entry (ROE) usage
 - d. Preliminary planning meeting for SWIFT Research Center Dedication Ceremony
3. Director participated in another round of design review for SWIFT Research Center interpretive educational elements.
4. Director conducted bi-weekly communications department status meetings, monthly social media content development and strategy meetings and project update meetings with staff.
5. Staff participated in the Virginia Water Environment Association (VWEA) subcommittee monthly call.
6. Staff attended the following askHRgreen.org meetings:
 - a. All Hands Meeting
 - b. Mini-Grants Conference Call
 - c. Green Learning Group Meeting

F. Metrics

1. Educational and Outreach Activities: 1
 - a. Sullivan House, Proper Medication Disposal, Virginia Beach, 12/8
2. Number of Community Partners: 1
 - a. Sullivan House

3. Additional Activities Coordinated by Department:

- a. SWIFT materials coordinated for seven planned Virginia Beach public forums about sea level rise/flooding, 12/4
- b. Deep Creek High school Combo Tour, 12/5

4. Metrics Summary

Item #	Strategic Planning Measure	Unit	December 2017
M-1.4a	Total Training Hours per Full Time Employee (2) - Current Month	Hours / #FTE	6.5
M-1.4b	Total Training Hours per Full Time Employee (2) - Cumulative Fiscal Year-to-Date	Hours / #FTE	42
M-5.2	Educational and Outreach Events	Number	1
M-5.3	Number of Community Partners	Number	1

Respectfully,

Leila Rice, APR

Director of Communications

TO: General Manager

FROM: Director of Engineering

SUBJECT: Engineering Monthly Report for December 2017

DATE: January 10, 2018

A. General

1. Capital Improvement Program (CIP) spending for the fifth month of Fiscal Year 2018 continues to lag behind planned spending. CIP project spending has increased in recent months and should continue to increase through the rest of the fiscal year.

CIP Spending (\$M):

	Current Period	FYTD
Actual	5.72	43.38
Plan	13.61	76.95

A Water Quality Improvement Fund (WQIF) Grant reimbursement in the amount of \$2,174,011 was received in December for the Virginia Initiative Plant (VIP) Nutrient Reduction Improvement Contract B project.

2. Construction costs in 2017 rose by 3.3 percent as the economy continues to show signs of improvement as documented by the Engineering News Record (ENR) Construction Cost Index. Construction starts are expected to increase by 22 percent in the Mid-Atlantic Region and the overall outlook for construction in 2018 shows signs of improvement. The ENR also predicts a 3.1 percent increase in their Construction Cost Index in 2018 due to modest increases for materials and labor. Many of HRSD's projects, including smaller plant, pump station and pipeline work, had numerous bidders in the past year. These bidders continue to be competitive in their pricing and as a result HRSD continues to see stable costs for many of our CIP projects. Large plant projects, which are more sensitive to national trends in both materials and labor, could have measurable increases in the coming years. Capital spending in both the public and private sectors has picked up, but with a limited backlog of work by the contractors in our region, we expect a continued competitive bidding environment in 2018. These issues should help to control costs for many of HRSD's CIP projects to be bid and constructed in 2018.

B. Asset Management Division

1. The Asset Management Implementation Project continues. This is a three-year, \$1.7 million effort to enhance the planning process for repair and replacement of capital assets using a risk-based and data-driven methodology. An Asset Management Policy has recently been prepared and reviewed with the HRSD Senior Leadership Team. This policy and an accompanying presentation on Asset Management will be submitted to the Commission for approval in January.
2. Condition assessment work continues with inspections of the portions of the Laskin Road and Shore Drive Force Mains located in Virginia Beach. Ground Penetrating Radar (GPR) studies are underway to assist in the location of unvented high spots in the pipe profile. After the GPR studies are completed, pipe samples or “coupons” will be removed from the pipe to determine the condition and if any deterioration is evident. If high spots are found in these pipe segments, new air release valves will be installed to limit the chance of air building up at these locations and potentially causing corrosion.

C. North Shore and South Shore Design & Construction Divisions

1. Design efforts continue for the Providence Road Off-Line Storage Facility Project. This 5-million gallon tank will be located at Woodstock Park and will include a skate board park integrated into the design. The project will also include a close collaboration with the City of Virginia Beach Parks and Recreation Department to include a renovation of the entire park. The Design Engineer is currently finalizing a Preliminary Engineering Report (PER) to be used in the Request for Proposals (RFP) as part of a Design-Build Project Delivery. Issuance of the RFP is planned for March 2018 with a final selection of the Design-Build Team later this year.
2. Design efforts continue to prepare the PER for the Town of Surry Pump Station and Discharge Force Main Project. This project will facilitate the future closing of the Town’s existing treatment plant and direct flow to the County Treatment Plant. The draft PER should be completed in the next month. Staff is working to determine an appropriate project schedule for this work so it can be added to a regulatory document to address concerns with permit compliance at the Town of Surry Treatment Plant.

D. Planning & Analysis Division

1. Staff continues to assist with implementation of the SWIFT Program. An alternatives analysis effort is underway to determine the best way to address SWIFT at the Boat Harbor, Nansemond, VIP and Army Base Treatment Plants. Staff recently presented an alternatives evaluation and business case analysis for numerous options to address the SWIFT Program on the south side of Hampton Roads. A process capacity analysis of the Nansemond Treatment Plant is underway to determine the maximum treatment capacity of this plant. This is an important factor when considering moving additional flow to this location.
2. Staff is working with the City of Norfolk to prepare a joint study of the sanitary sewer system in the Larchmont Service Area. This study will determine which City/HRSD assets should be improved and the best long-term solution for ownership of these assets in this area. Much of the existing sewer infrastructure in this area is quite old and is subject to flooding on a regular basis.

E. Strategic Planning Metrics Summary

1. Educational and Outreach Events: 4
 - a. Staff provided a tour of the VIP Treatment Plant to students from the American Society of Civil Engineers (ASCE) Student Chapter at Old Dominion University on December 1.
 - b. Staff participated in a water reuse discussion with students at Randolph Macon College on December 5.
 - c. Staff met with Aqua Virginia Inc. to discuss future business opportunities and review the role of HRSD on December 12.
 - d. Staff provided a tour of the SWIFT Pilot Project and the SWIFT Demonstration Project to staff from the Mount Pleasant Waterworks on December 20.
2. Number of Community Partners: 4
 - a. ASCE Student Chapter
 - b. Randolph Macon College

- c. Aqua Virginia Inc.
 - d. Mount Pleasant Waterworks
3. Number of Research Partners: 0
 4. Metrics Summary

Item #	Strategic Planning Measure	Unit	December 2017
M-1.4a	Total Training Hours per Full Time Employee (39) - Current Month	Hours / #FTE	1.07
M-1.4b	Total Training Hours per Full Time Employee (39) - Cumulative Fiscal Year-to-Date	Hours / #FTE	16.10
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, P.E.

Bruce W. Husselbee, P.E.

TO: General Manager
FROM: Director of Finance
SUBJECT: Monthly Report for December 2017
DATE: January 10, 2018

A. General

1. HRSD accelerated our planned advanced refunding to Monday, December 4 as market conditions improved with significant investor demand. This was surprising because the projected weekly supply was the highest in the municipal bond market's history. The main catalyst was that Investors were seeing projections that year 2018 supply would be approximately 20 percent less without advanced refundings. By the end of the sale period, HRSD ended up with some maturities fifteen times oversubscribed, which means that there were fifteen times more requests to buy our bonds than we had available. We had 28 new investors placing bids on our bonds. As a result of the oversubscription, we were able to renegotiate much lower yields and increase the principal amount we were refunding from \$58 million up to \$83 million. By the end of the sale, our net savings improved to \$6 million, net of all fees, or seven percent of refunded par. The weighted average efficiency, assuming advanced refundings are eliminated, was 83 percent. In addition, the senior debt outstanding declined from 51 percent down to 42 percent since the new bonds were issued at the subordinate lien. HRSD was one of the first political subdivisions in Virginia to do an advanced refunding since the Tax Reform bill was announced.
2. The Federal Reserve raised the target range for the Federal Funds rate from 1.25 percent to 1.50 percent as expected, which impacts HRSD in two ways. First, we are now earning 1.45 percent in the Commonwealth's Local Government Investment Pool (LGIP). Interest Income is 76 percent higher than budget after the first half of the fiscal year. On the downside, the interest rate on our Variable Rate Demand Bonds (VRDBs) has increased to 1.63 percent in the last week of December. The VRDBs are impacted by historical year-end weakness and the record new municipal issue amount as advanced refundings are eliminated. Investors are selling VRDBs to pay for the new issues. The jump in VRDBs rates is expected to be temporary, but staff is analyzing VRDBs to ensure that they still make sense in the current flat yield curve environment.
3. Revenues continue to be slightly higher than budget and in-line with last year as a percentage of budget. Water consumption is tracking slightly higher than estimated. Interest income is much higher than budget as interest rates continue to rise. Operating expenses are lower than budget, but we expect to be closer towards the end of the fiscal year. Capital Assets expense is higher with the purchase of real estate this month. Cost of Issuance had expenses due to the

advanced refunding and there should be additional expenses incurred with the next new money bond sale.

4. In December, the volume in our Call Center still remained high even with reduced Field Activity and the service level remained unchanged at 45 percent. The volume continued to be a challenge for our team and resources were utilized throughout Customer Care to maintain the current service level. We expect service levels to improve as more customers receive their new bill and are registered for our new online services. The majority of the initial bills with our new vendor should be completed by the end of January. The enrollment for our new online services is easy and convenient for our customers. Over 65,000 customers have registered for the new online services and over 9000 customers have signed up for our new text to pay service.
5. Quarterly investment reports for [HRSD's Operating Funds](#) and the [Retiree Health Plan Trust](#) are attached.

B. Interim Financial Report

1. Operating Budget for the Period Ended December 31, 2017

	Amended Budget	Current YTD	Current YTD as % of Budget (50% Budget to Date)	Prior YTD as % of Prior Year Budget
Wastewater	\$ 265,662,693	\$ 136,261,960	51%	52%
Surcharge	1,900,000	763,559	40%	63%
Indirect Discharge	2,500,000	1,383,434	55%	54%
Norfolk Sludge	90,000	33,914	38%	38%
Fees	2,935,000	1,406,047	48%	53%
Municipal Assistance	700,000	366,542	52%	33%
Miscellaneous	720,000	590,438	82%	73%
Total Operating Revenue	274,507,693	140,805,894	51%	52%
Non Operating Revenues				
Facility Charge	6,000,000	3,186,660	53%	51%
Interest Income	1,800,000	1,366,391	76%	12%
Build America Bond Subsidy	2,400,000	1,168,524	49%	50%
Other	845,000	799,872	95%	36%
Total Non Operating Revenue	11,045,000	6,521,447	59%	44%
Total Revenues	285,552,693	147,327,341	52%	52%
Transfers from Reserves	9,760,286	4,880,143	50%	50%
Total Revenues and Transfers	\$ 295,312,979	\$ 152,207,484	52%	52%
Operating Expenses				
Personal Services	\$ 53,773,327	\$ 27,238,805	51%	50%
Fringe Benefits	24,700,569	12,538,436	51%	50%
Materials & Supplies	7,399,704	3,694,594	50%	46%
Transportation	1,423,974	557,435	39%	44%
Utilities	11,973,115	5,123,980	43%	40%
Chemical Purchases	10,620,594	3,972,178	37%	41%
Contractual Services	36,900,038	13,840,735	38%	38%
Major Repairs	10,429,168	2,722,059	26%	34%
Capital Assets	1,716,528	997,608	58%	18%
Miscellaneous Expense	2,396,234	1,259,092	53%	44%
Total Operating Expenses	161,333,251	71,944,922	45%	44%
Debt Service and Transfers				
Debt Service	59,949,120	28,923,154	48%	51%
Cost of Issuance Bonds	900,000	360,882	40%	0%
Transfer to CIP	58,802,000	29,401,000	50%	50%
Transfer to General Reserve	14,068,608	7,034,304	50%	0%
Transfer to Risk management	260,000	130,005	50%	50%
Total Debt Service and Transfers	133,979,728	65,849,345	49%	50%
Total Expenses and Transfers	\$ 295,312,979	\$ 137,794,267	47%	46%

2. Notes to Interim Financial Report

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

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

Transfers represent certain budgetary policy designations as follows:

- a. Transfer to CIP: represents current period's cash and investments that are designated to partially fund HRSD's capital improvement program.
- b. Transfers to Reserves: represents the current period's cash and investments that have been set aside to meet HRSD's cash and investments policy objectives.

3. Reserves and Capital Resources (Cash and Investments Activity) for the Period Ended December 31, 2017

	General	Risk Management	Reserve	Capital
Beginning of Period - July 1, 2017	\$ 169,127,728	\$ 3,000,520	\$ 30,760,330	\$ 37,452,225
Add: Current Year Sources of Funds				
Cash Receipts	147,589,833			
Capital Grants				2,946,740
Line of Credit				-
Bond Proceeds (includes interest)				273,602
Transfers In	494,006	130,005		29,401,000
Sources of Funds	<u>148,083,839</u>	<u>130,005</u>	<u>-</u>	<u>32,621,342</u>
Total Funds Available	<u>\$ 317,211,567</u>	<u>\$ 3,130,525</u>	<u>\$ 30,760,330</u>	<u>\$ 70,073,567</u>
Deduct: Current Year Uses of Funds				
Cash Disbursements	106,844,538			53,695,056
Transfers Out	29,531,005		494,006	-
Uses of Funds	<u>136,375,543</u>	<u>-</u>	<u>494,006</u>	<u>53,695,056</u>
End of Period - December 31, 2017	<u>\$ 180,836,024</u>	<u>\$ 3,130,525</u>	<u>\$ 30,266,324</u>	<u>\$ 16,378,511</u>

4. Capital Improvements Budget and Activity Summary for Active Projects for the Period Ended December 31, 2017

Classification/ Treatment Service Area	Expenditures		Year to Date		Total Expenditures	Outstanding Encumbrances	Available Balance
	Budget	prior to June 30, 2017	FY 2018 Expenditures				
Administration	\$ 55,245,711	\$ 39,641,464	\$ 234,583	\$ 39,876,047	\$ 947,891	\$ 14,421,773	
Army Base	158,584,000	120,527,300	1,287,671	121,814,971	4,959,038	31,809,991	
Atlantic	119,731,914	42,154,292	3,152,350	45,306,642	57,568,001	16,857,271	
Boat Harbor	102,484,447	42,142,558	4,233,021	46,375,579	9,756,793	46,352,075	
Ches-Eliz	148,955,317	6,729,890	1,429,390	8,159,280	2,913,183	137,882,854	
James River	75,114,256	50,821,444	2,554,720	53,376,164	4,666,005	17,072,087	
Middle Peninsul:	48,482,269	6,398,032	707,931	7,105,963	4,143,581	37,232,725	
Nansemond	78,546,570	33,846,838	1,759,533	35,606,371	4,960,817	37,979,382	
Surry	3,236,000	-	32,303	32,303	38,880	3,164,817	
VIP	272,689,561	229,739,637	10,151,870	239,891,507	14,553,650	18,244,404	
Williamsburg	16,156,843	8,937,934	(257,945)	8,679,989	887,338	6,589,516	
York River	45,537,761	39,366,402	222,861	39,589,263	2,861,176	3,087,322	
General	244,958,797	166,626,066	18,215,234	184,841,300	28,472,835	31,644,662	
	<u>\$1,369,723,446</u>	<u>\$ 786,931,857</u>	<u>\$ 43,723,522</u>	<u>\$ 830,655,380</u>	<u>\$ 136,729,188</u>	<u>\$402,338,878</u>	

5. Debt Management Overview

	Debt Outstanding (\$000's)					
	Principal Nov 2017	Principal Payments	Principal Draws	Principal Adj FY18 Bonds	Principal Dec 2017	Interest Payments
Fixed Rate						
Senior	\$ 421,463	\$ -	\$ -	\$ (78,645)	\$ 342,818	\$ -
Subordinate	296,269	(1,048)	-	76,055	371,276	(243)
Variable Rate						
Subordinate	50,000	-	-	-	50,000	(38)
Line of Credit	-	-	-	-	-	-
Total	<u>\$ 767,732</u>	<u>\$ (1,048)</u>	<u>\$ -</u>	<u>\$ (2,590)</u>	<u>\$ 764,094</u>	<u>\$ (281)</u>

Series 2016 Variable Rate Interest Summary - Variable Rate Debt Benchmark (SIFMA) as of 12/29/17

	SIFMA Index	HRSD	Spread to SIFMA
Maximum	1.71%	1.63%	-0.08%
Average	0.26%	0.25%	-0.01%
Minimum	0.01%	0.01%	0.00%
As of 12/29/17	1.40%	1.63%	0.23%

* Since October 20, 2011 HRSD has averaged 25 basis points on Variable Rate Debt

6. Financial Performance Metrics for the Period Ended December 31, 2017

	Current YTD	Policy Minimum
Capital % Cash Funded	42%	15%
General Reserve as % of Operations	112%	75-100%
Risk Management Reserve as % of Projected Claims Costs	25%	25%

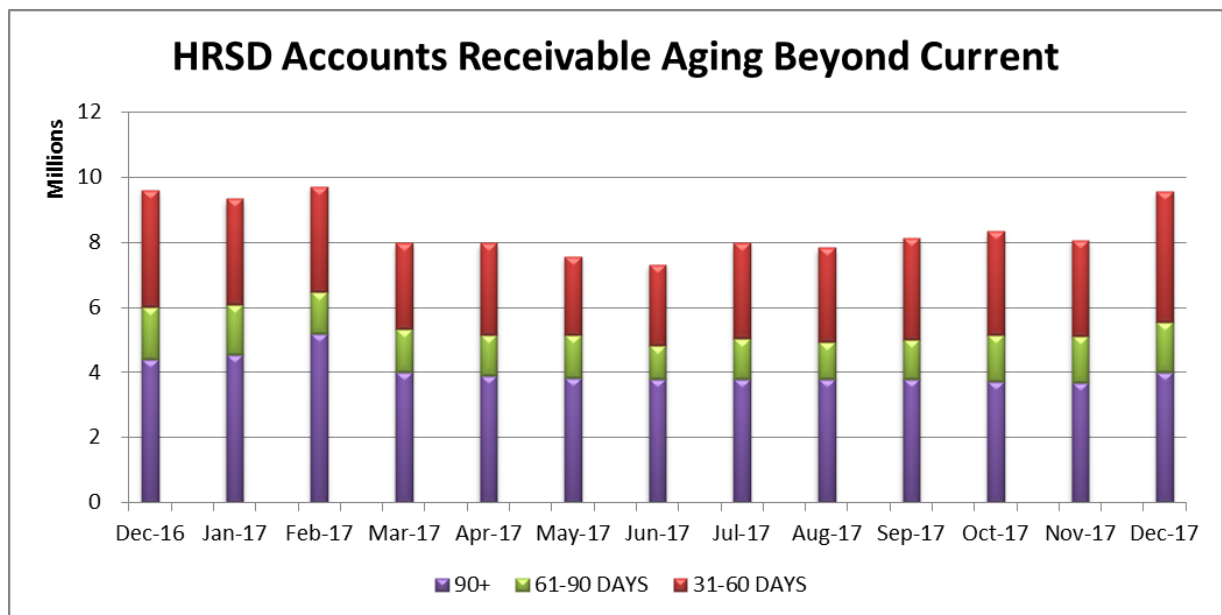
Total Return Strategy						
	Market Value June 30, 2017	YTD Buy/Sell	YTD Change in Market Value	YTD Adjustments	Market Value December 31, 2017	
Investment Activity	\$ 123,687,020	\$ 852,316	\$ (716,786)	\$ -	\$ 123,822,550	
Investment Cash	\$ 157,418	\$ 46,906			\$ 204,324	
Unrestricted Reserve Fund	30,760,330			(494,006)	30,266,324	
	\$ 154,604,768	\$ 899,221	\$ (716,786)	\$ (494,006)	\$ 154,293,197	

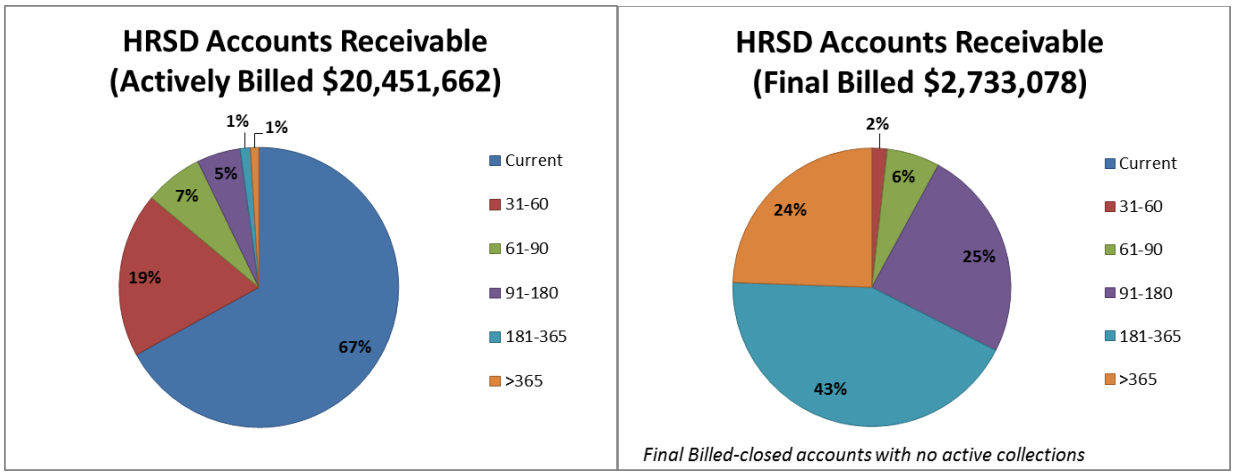
7. Summary of Billed Consumption

Summary of Billed Consumption (,000s ccf)							
Month	2018 Cumulative Budget Estimate	2018 Cumulative Actual	% Difference		% Difference		% Difference
			From Budget	Cumulative 2017 Actual	From 2017	Cumulative 3 Year Average	From 3 Year Average
July	4,427	4,869	10.0%	4,776	1.9%	4,798	1.5%
Aug	8,850	9,939	12.3%	9,275	7.2%	9,525	4.3%
Sept	13,271	14,632	10.3%	14,227	2.8%	14,215	2.9%
Oct	17,689	19,006	7.4%	19,017	-0.1%	18,999	0.0%
Nov	22,104	23,305	5.4%	23,282	0.1%	23,223	0.4%
Dec	26,516	27,462	3.6%	27,761	-1.1%	27,583	-0.4%
Jan	30,925	-	N/A	32,036	N/A	31,959	N/A
Feb	35,331	-	N/A	36,263	N/A	35,878	N/A
March	39,734	-	N/A	40,516	N/A	40,678	N/A
Apr	44,135	-	N/A	44,383	N/A	44,834	N/A
May	48,532	-	N/A	48,553	N/A	49,058	N/A
June	52,927	-	N/A	53,373	N/A	53,644	N/A

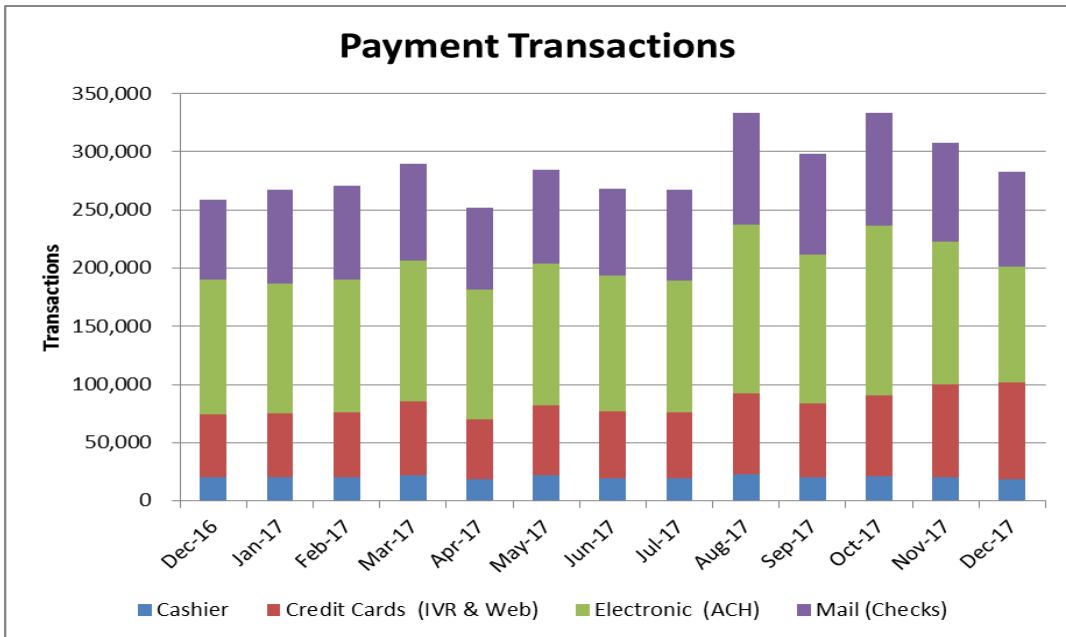
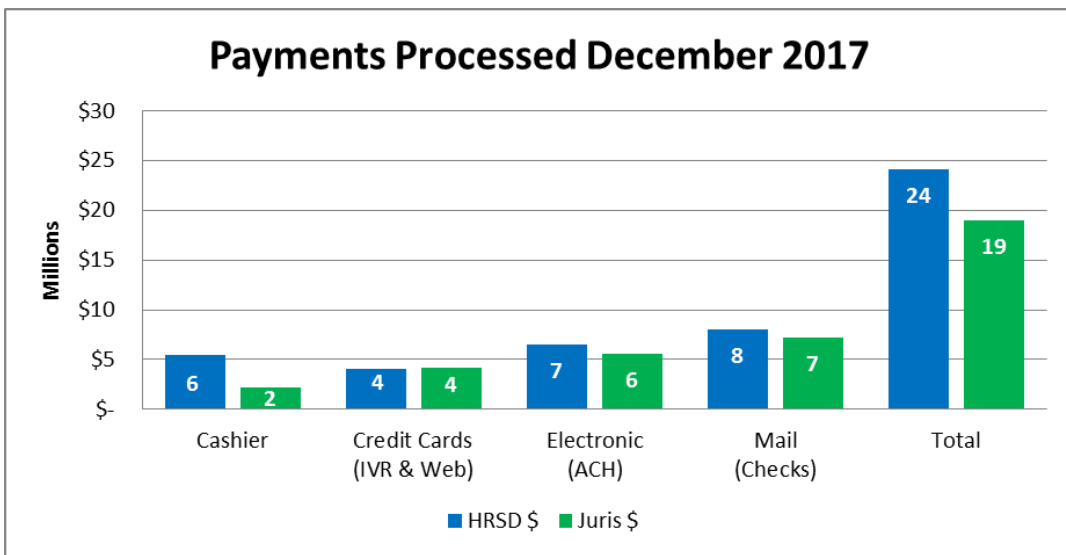
C. Customer Care Center

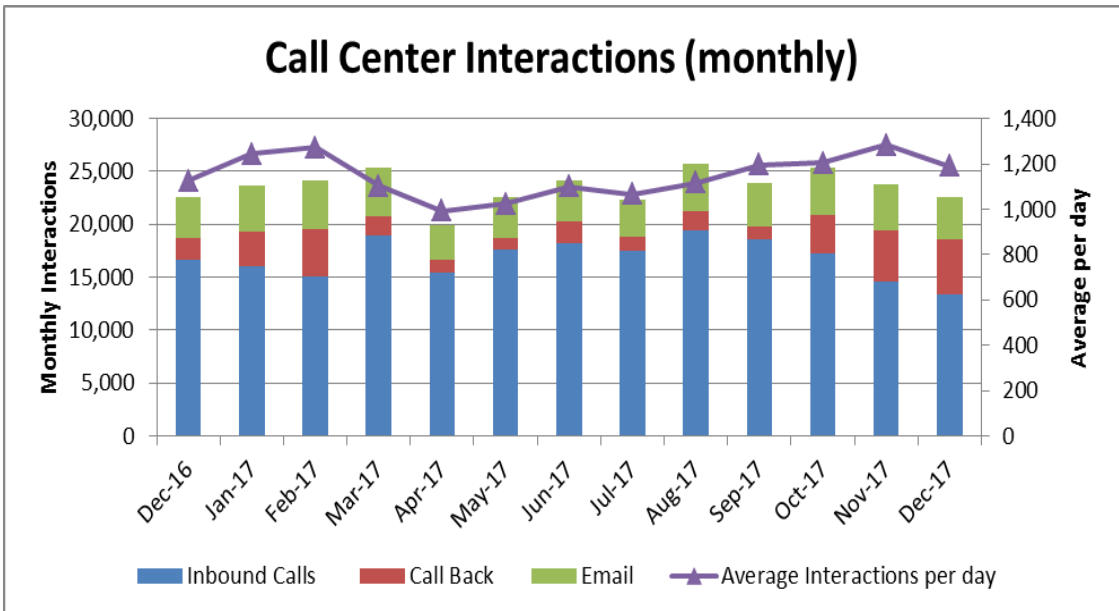
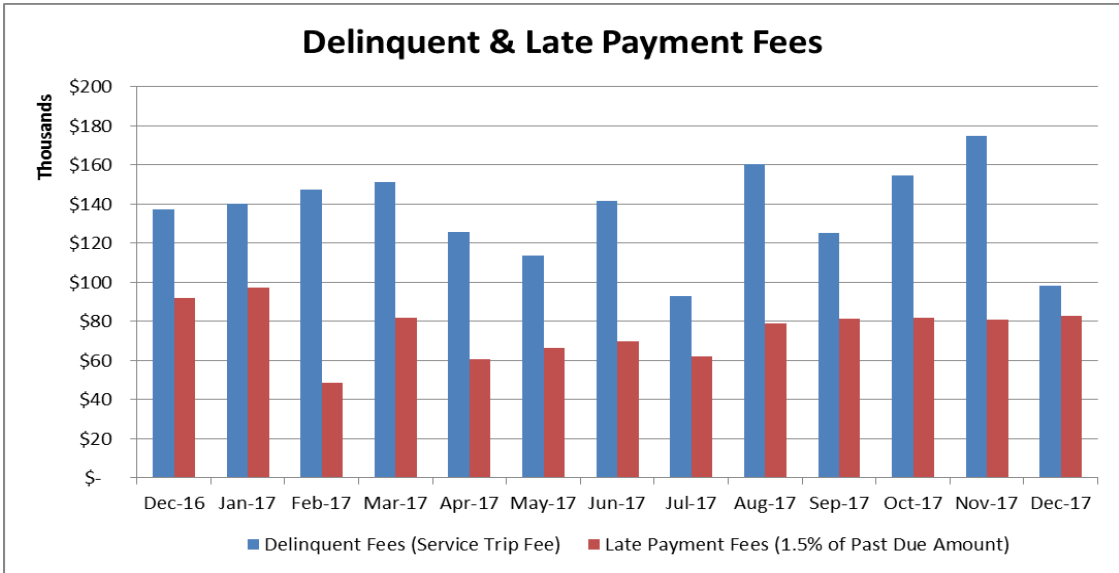
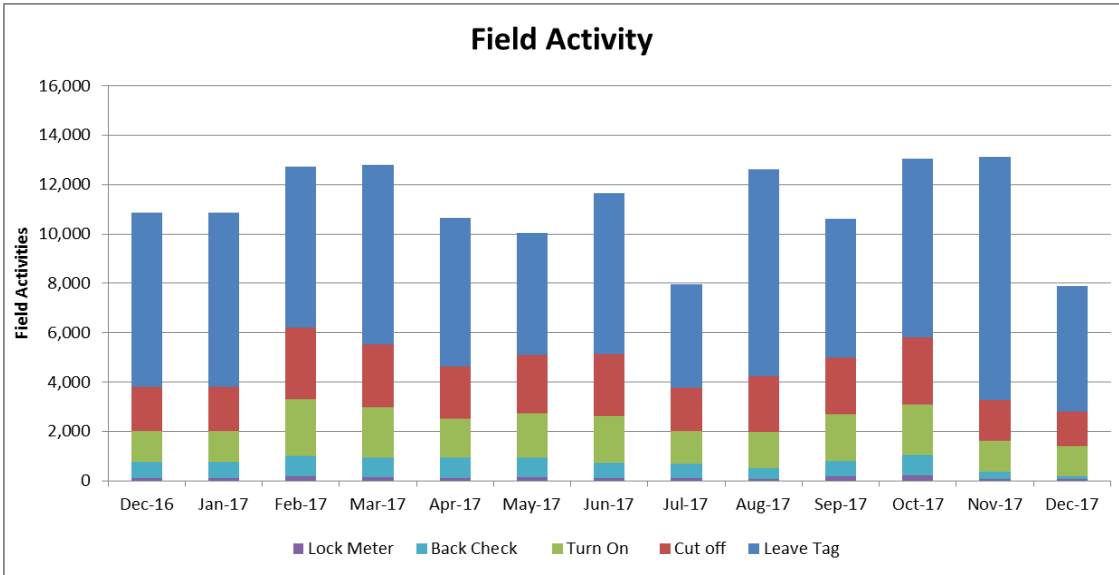
1. Accounts Receivable Overview

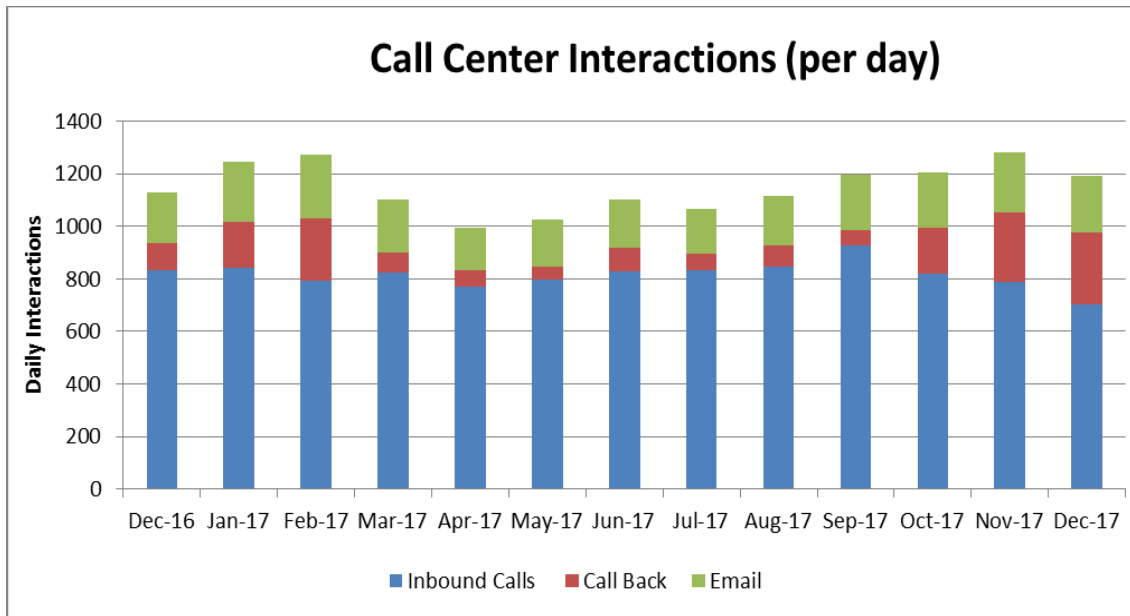




2. Customer Care Center Statistics







Customer Interaction Statistics	Jul	Aug	Sep	Oct	Nov	Dec
Calls Answered within 3 minutes	78%	75%	81%	58%	45%	45%
Average Wait Time (minutes)	1:46	2:04	1:33	3:51	5:50	6:39
Calls Abandoned	8%	8%	7%	13%	18%	18%

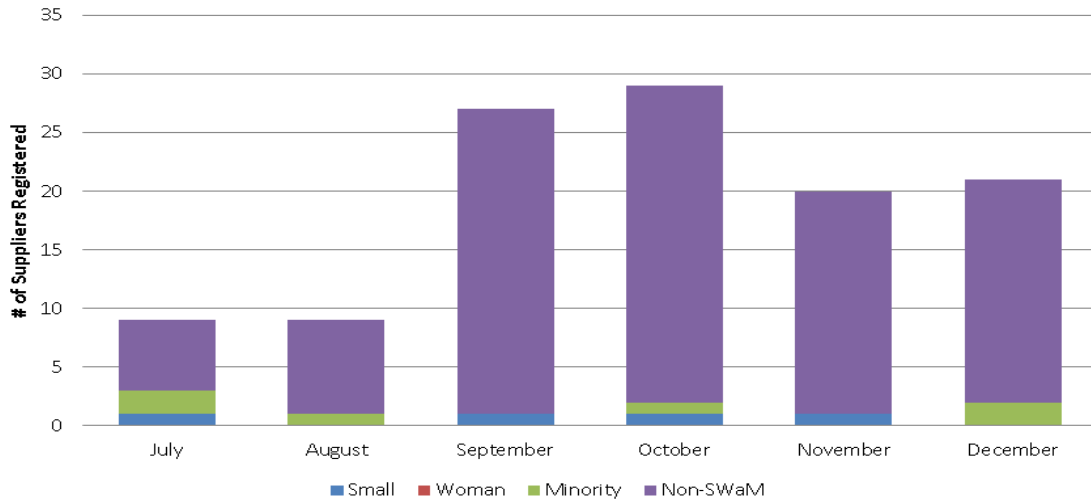
D. Procurement Statistics

Savings	Current Period	FYTD
Competitive Savings ¹	\$218,738	\$652,815
Negotiated Savings ²	\$1,343,736	\$1,977,256
Salvage Revenues	\$2,257	\$32,066
Corporate VISA Card - Estimated Rebate	\$15,672	\$112,933

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.

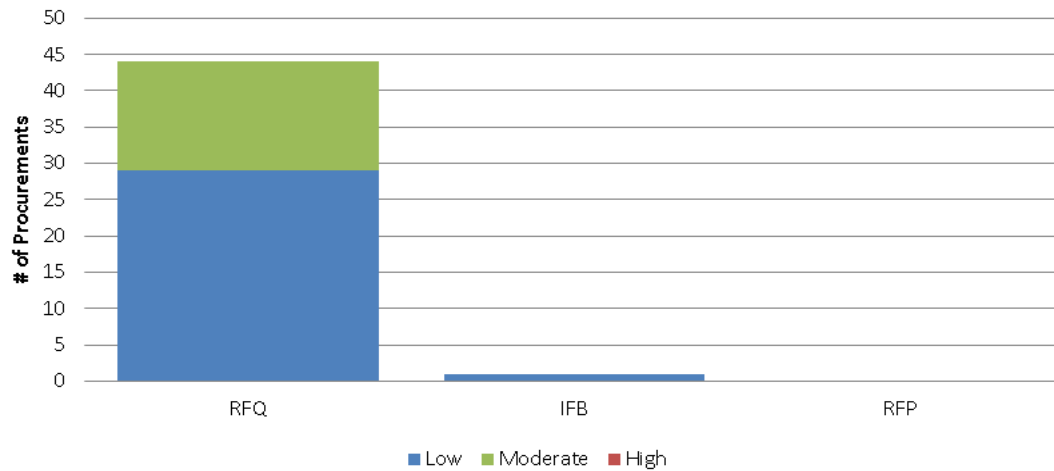
² Negotiated savings are savings obtained during a Request for Proposal process, or if all bids received exceed the budgeted amount, or if only one bid is received.

New Suppliers Registered in ERP

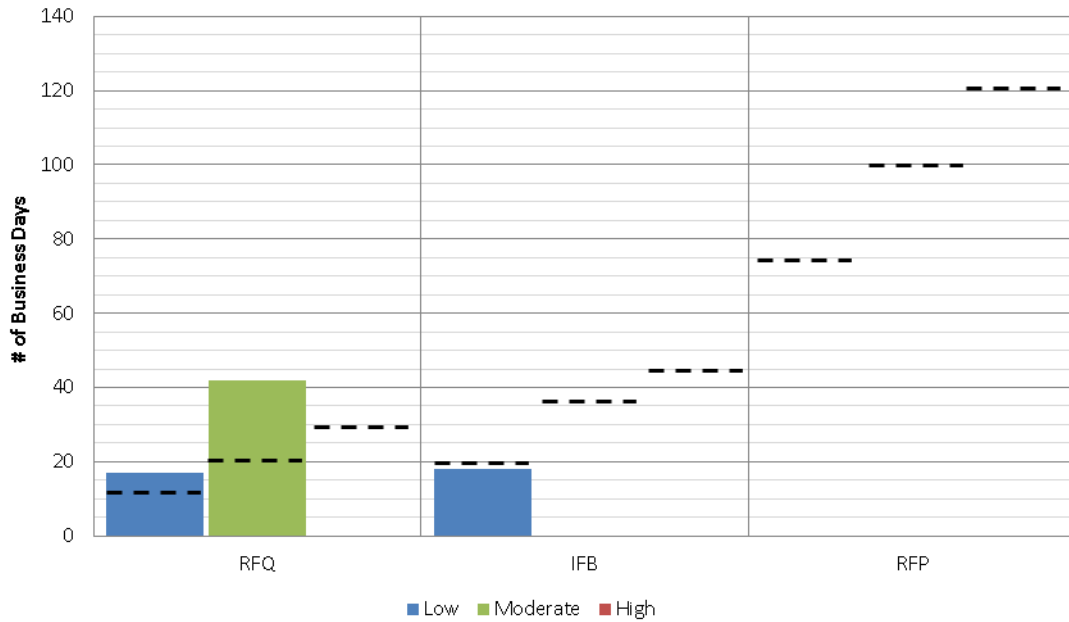


**Increased supplier registration due to supplier outreach at NIGP Forum 8/29/17, Water Jam 9/13/17, VASCUPP® SWaMFest 10/4/17, City of Richmond OMBD and CVMSSDC, Procure Your Business Conference 10/18/17, Virginia Beach Minority Business Council Conference and Expo 11/2/17, CNU SWaM Fair 11/9/17, DGS Forum 11/14/17*

Procurements Completed Based on Complexity



Cycle Time per Method of Procurement and Complexity

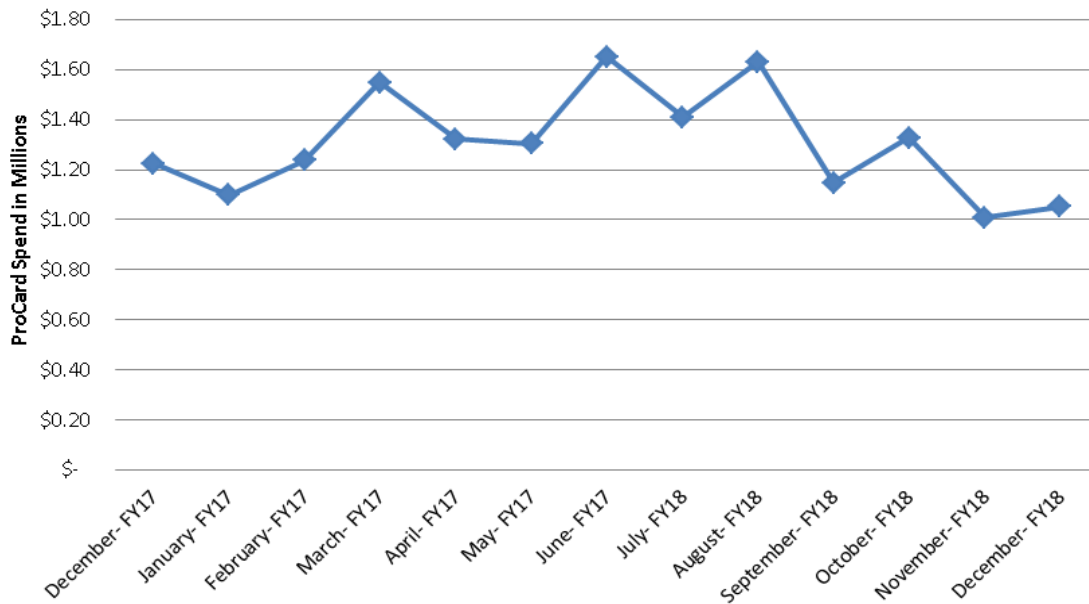


Dashed Line: Target Service Level Cycle Time

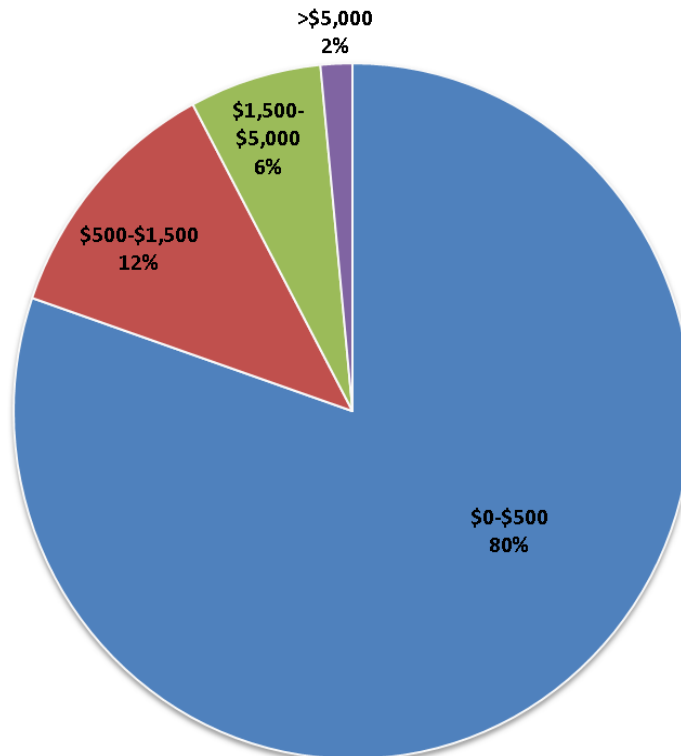
	High	Moderate	Low
RFQ	30	20	12
IFB	45	35	20
RFP	120	100	75

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

ProCard Spend



December ProCard Transaction Dollar Amounts



ProCard Fraud	External Fraud Transactions *	Comments
July	4	Caught by Bank immediately
August	6	Caught by Bank immediately
September	2	One caught by cardholder immediately, one caught by Bank immediately
October	0	
November	0	
December	4	Three caught by cardholders immediately, one caught by Bank immediately
Total	16	

***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% of December's ProCard transactions.

Procurement Client Training		
	Current Period	YTD
ProCard Policy and Process	12	30
Procurement Cycle	0	10
Additional Training Provided	0	0
Total	12	40

E. Business Intelligence – Enterprise Resource Planning (ERP)

1. ERP Helpdesk currently has 323 open work orders in the following statuses: 6 escalated, 78 in progress, 16 on hold, 219 open, 4 waiting on user. ERP Helpdesk received 180 work orders in December. In December, 136 work orders were closed and 33 were closed within one hour.
2. ERP refresher training is in progress for all work centers.
3. ERP staff continues to work with consultants on functionality and improvements to the system.

F. Strategic Planning Metrics Summary

1. Educational and Outreach Events: 0
2. Community Partners: 0
3. Monthly Metrics

Item #	Strategic Planning Measure	Unit	December 2017
M-1.4a	Training During Work Hours Per Full Time Employee (101) – Current Month	Hours / #FTE	1.60
M-1.4b	Total Training During Work Hours Per Full Time Employee (101) – Cumulative Fiscal Year-to-Date	Hours / #FTE	27.05
M-5.2	Educational and Outreach Events	Number	0
M-5.3	Number of Community Partners	Number	0
	Wastewater Revenue	Percentage of budgeted	102%
	General Reserves	Percentage of Operating Budget less Depreciation	112%
	Accounts Receivable (HRSD)	Dollars	\$23,184,740
	Aging Accounts Receivable	Percentage of receivables greater than 90 days	17%

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

Attachments:

[HRSD Operating Funds Quarterly Investment Report](#)

[Retiree Health Plan Trust Quarterly Investment Report](#)

Hampton Roads Sanitation District – Operating Funds

Investment Report – Quarter Ended December 31, 2017

Portfolio Summary

	Market Value	
	December 31, 2017	September 30, 2017
Operating Liquidity Strategy	\$ 59,528,285	\$ 49,608,648
Total Return Strategy	\$ 154,704,589	\$ 154,935,563
Capital Investment Strategy	\$ 16,378,510	\$ 27,564,226
Total Portfolio	\$ 230,611,384	\$ 232,108,437

Investment Recap and Strategies

- The **Operating Liquidity Strategy** is managed to provide liquidity for day-to-day cash needs and unforeseen events. Currently, the Operating Liquidity Strategy funds are held in an account meeting the requirements of the Security for Public Deposits Act (SPDA) and a local government investment pool (LGIP).
- The **Total Return Strategy** consists of operating funds that will not be a major source of day-to-day disbursement requirements and operational needs. The strategy includes a portfolio invested in longer-term securities in order to generate a higher investment rate of return. The strategy also includes funds designated as a reserve that are invested in an LGIP.
- The **Capital Investment Strategy** is managed to provide liquidity for capital projects. Currently, the Capital Investment Strategy funds are held in an LGIP.

Portfolio Performance Summary

- HRSD maintains sizeable balances in overnight investment vehicles, such as bank deposits and LGIPs. These allocations are carefully managed to allow HRSD to generate the highest rate of return while preserving daily liquidity and operational efficiency. As of December 31, 2017, \$83.3 million was held in the Virginia LGIP, earning 1.34%, compared to \$22.9 million in bank deposits, earning 0.13%. The yield on overnight investments is compared to the Merrill Lynch 3-month Treasury Bill's yield, which was 1.32% as of December 31, 2017.
- Performance for the Total Return Strategy is measured on a total return basis, which captures interest income, realized gains/losses, and unrealized gains/losses. This performance calculation methodology is most appropriate for investment portfolios that have longer-term investment horizons. During the quarter, the Total Return Strategy Managed Portfolio generated a total return of -0.19% (-0.74% annualized) outperforming the Merrill Lynch 1 - 3 Year U.S. Treasury Index's return of -0.25% (-0.99% annualized).

Hampton Roads Sanitation District – Operating Funds

Investment Report – Quarter Ended December 31, 2017

Portfolio Summary *(continued)*

Total Return Strategy Portfolio

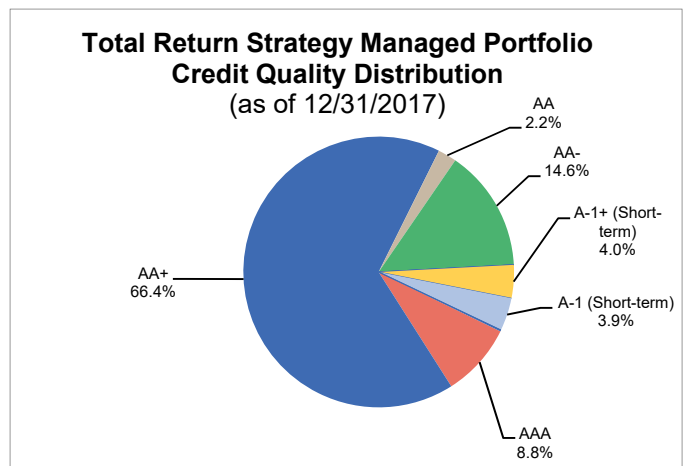
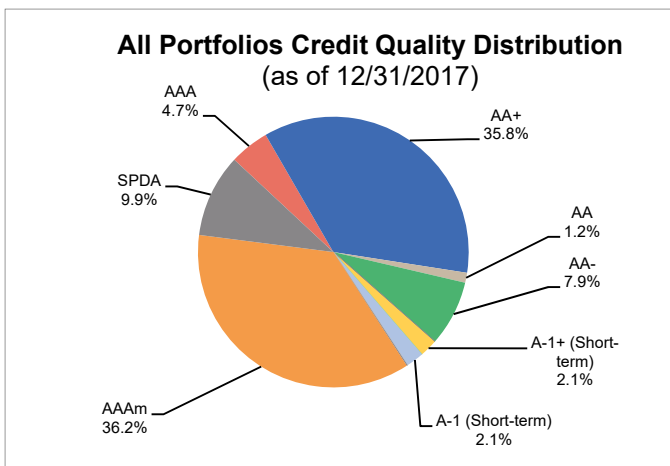
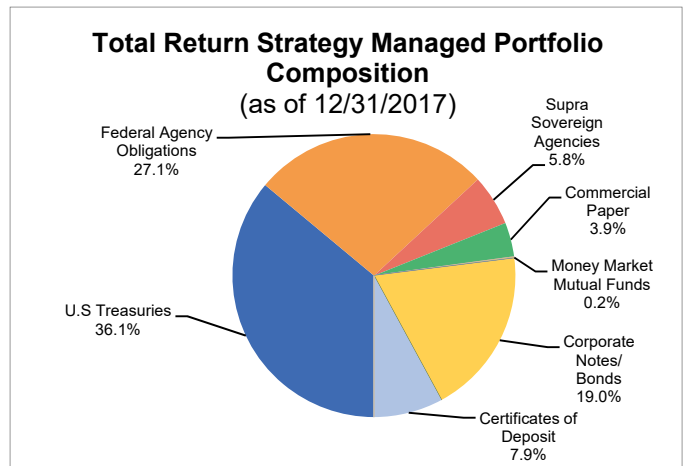
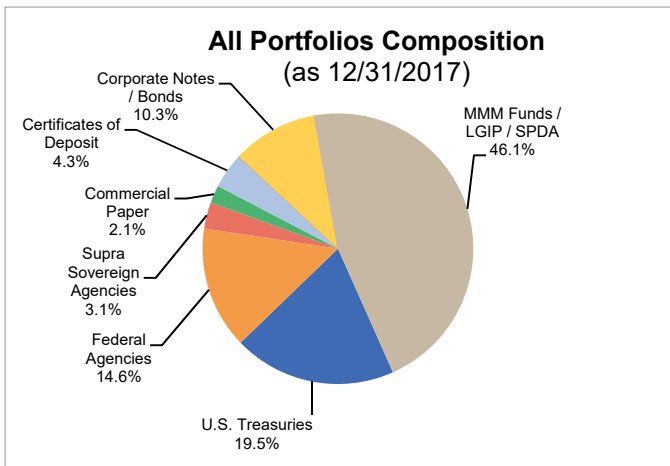
- The Total Return Strategy includes \$124 million invested in the Total Return Strategy Managed Portfolio (the “Managed Portfolio”), an actively-managed diversified portfolio of securities. In addition to this Managed Portfolio, the Total Return Strategy includes \$30.3 million that has been set aside as a reserve available in case HRSD is required to establish a Debt Service Reserve Fund. This reserve is expected to decline annually. The reserve has been invested in the Virginia LGIP in order to protect the funds from any potential market value fluctuations and to provide liquidity if needed.
- The Total Return Strategy Managed Portfolio is well diversified among U.S. Treasury securities, federal agency securities, supra sovereign agencies, certificates of deposit, corporate notes, commercial paper, and high quality money market mutual funds. The Portfolio’s average credit quality is AA+.
- In the fourth quarter of 2017, the Total Return Strategy Managed Portfolio generated a total return of -0.19% (-0.74% annualized), outperforming the Merrill Lynch 1 - 3 Year U.S. Treasury Index’s return of -0.25% (-0.99% annualized). The one-year trailing return for the Total Return Strategy Managed Portfolio was 0.76% compared to the benchmark’s return of 0.42%.
- Following three rate hikes in 2017, the projections released at the December 2017 Federal Open Market (“FOMC”) meeting indicated an expectation for three more hikes in 2018. As of year-end, the market-implied probability of a Fed rate hike at the March 2018 FOMC meeting was 70%.
- Generally, the economic themes that brought 2017 to a close are expected to carry forward into 2018, including: moderate growth and job production, healthy personal consumption, and strong corporate fundamentals.
- Federal agencies performed in line with similar maturity Treasuries, as the sector’s narrow yield spreads provided little to no incremental income benefit and relatively unchanged spreads over the quarter muted any additional excess return. Federal agency spreads remain tight; however, the best value relative to US Treasuries is in the two to three year area of the curve.
- Narrow credit spreads and a flat yield curve created sensitivity to being too long or too short relative to the benchmark during the quarter. As a result, a duration-neutral stance relative to benchmark was employed. As of December 31, 2017 the Managed Portfolio’s duration was 1.77 years compared to the benchmark’s duration of 1.80.
- Corporate yield spreads are expected to remain stable, with incremental income being supportive of continued expected outperformance. Careful issuer due diligence will drive selection in the Managed Portfolio.

Hampton Roads Sanitation District – Operating Funds

Investment Report – Quarter Ended December 31, 2017

Portfolio Composition

Security Type	December 31, 2017	% of Portfolio	September 30, 2017	% of Portfolio	Permitted by Policy
U.S. Treasuries	\$44,869,656	19.5%	\$45,062,422	19.4%	100%
Federal Agencies	33,671,243	14.6%	33,774,724	14.6%	100%
Supra Sovereign Agencies	7,244,619	3.1%	8,508,580	3.7%	15%
Commercial Paper	4,905,389	2.1%	2,433,661	1.0%	25%
Certificates of Deposit	9,848,631	4.3%	9,953,812	4.3%	25%
Municipal Obligations	0	0.0%	2,178,501	0.9%	15%
Corporate Notes / Bonds	23,694,404	10.3%	22,575,234	9.7%	25%
Money Market Mutual Funds / LGIP / Cash	106,377,443	46.1%	107,621,502	46.4%	100%
Totals	\$230,611,384	100.0%	\$232,108,437	100.0%	

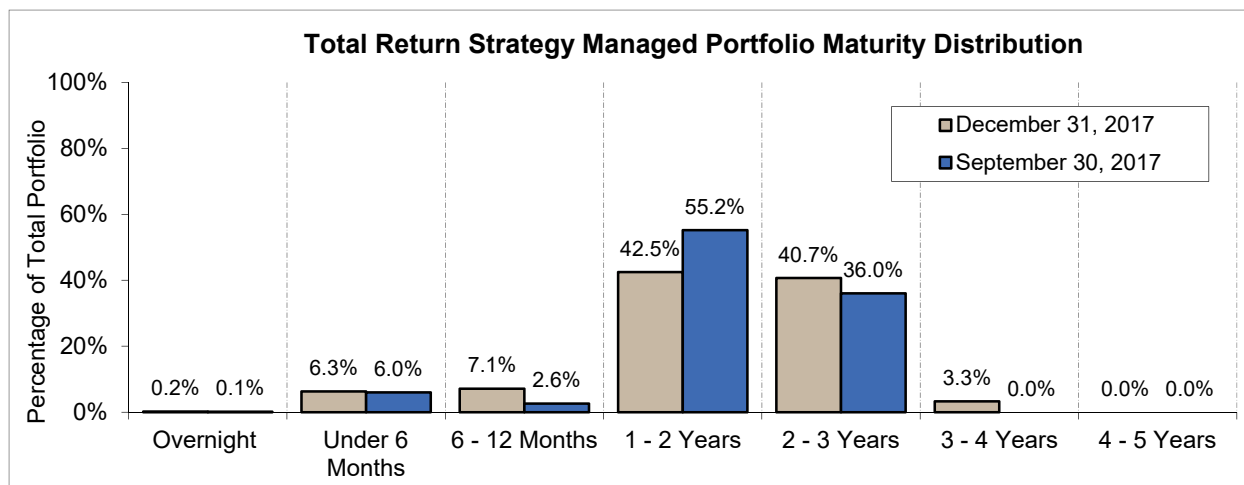
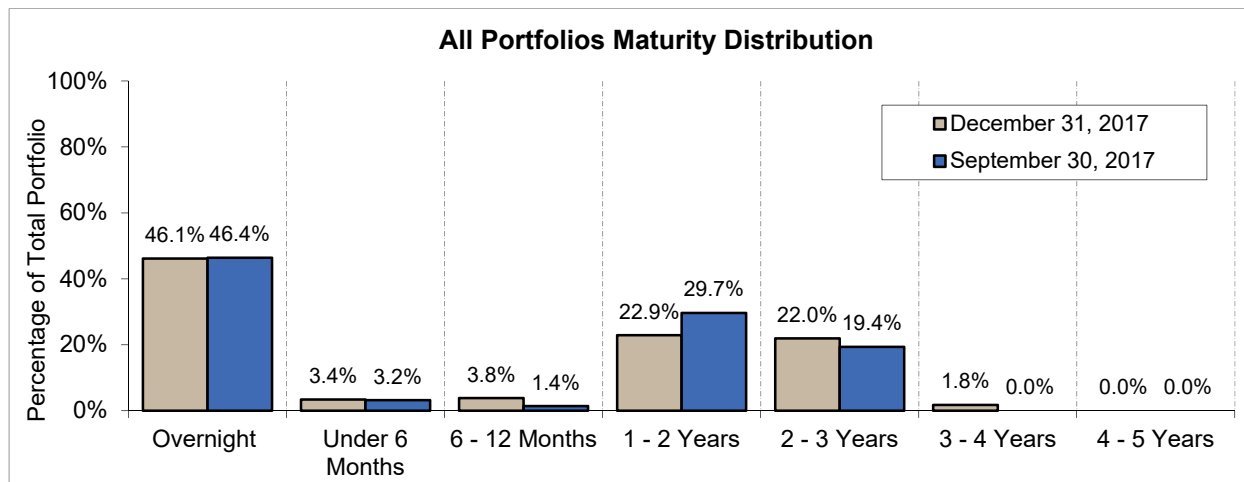


Hampton Roads Sanitation District – Operating Funds

Investment Report – Quarter Ended December 31, 2017

Portfolio Maturity Distribution

Maturity Distribution	December 31, 2017	September 30, 2017
Overnight	106,377,443	107,621,502
Under 6 Months	7,843,495	7,463,620
6 - 12 Months	8,834,103	3,250,219
1 - 2 Years	52,857,594	68,850,481
2 - 3 Years	50,627,058	44,922,614
3 - 4 Years	4,071,691	0
4 - 5 Years	0	0
5 Years and Over	0	0
Totals	\$230,611,384	\$232,108,437



Hampton Roads Sanitation District – Operating Funds

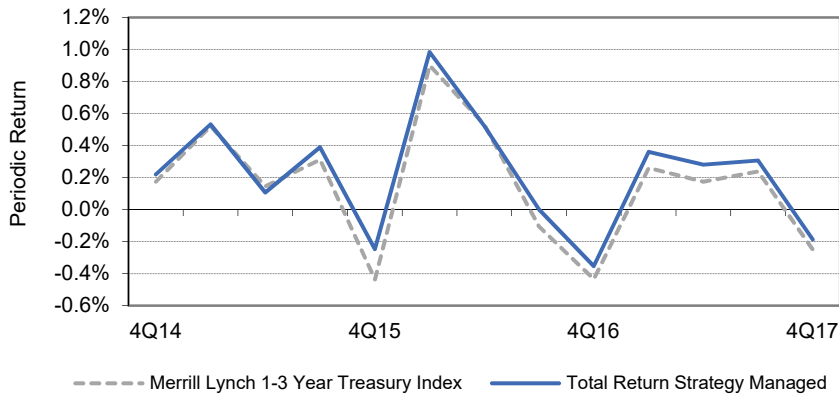
Investment Report

Portfolio Performance

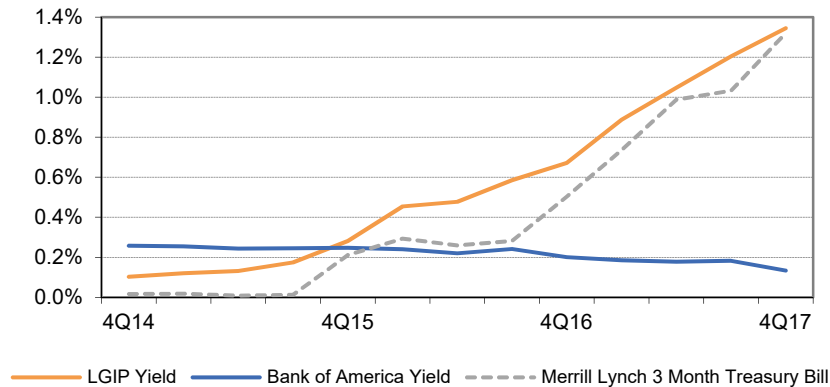
	Quarter Ended December 31, 2017	Annualized Quarterly Return	Last 24 Months	Last 36 Months	Annualized Since Inception*
Total Return Performance					
Total Return Strategy Managed	-0.19%	-0.74%	0.95%	0.90%	1.06%
Merrill Lynch 1-3 Year Treasury Index	-0.25%	-0.99%	0.65%	0.62%	0.87%

	Balance as of December 31, 2017	Yield as of December 31, 2017	Balance as of September 30, 2017	Yield as of September 30, 2017
Other Funds				
Virginia LGIP	\$ 83,280,004.25	1.34%	\$ 87,987,556.41	1.21%
Bank of America	\$ 22,893,114.96	0.13%	\$ 19,451,641.22	0.18%
Merrill Lynch 3-Month Treasury Bill		1.32%		1.03%

Performance Comparison



Historical Yield Comparison



*Since inception returns are calculated since September 30, 2009 to present. Performance for the Total Return Strategy Managed Portfolio is calculated as the total return, which captures interest income, realized gains/losses, and unrealized gains/losses, on the managed portfolio of short-term fixed income securities. Calculations are based on provided information and are believed to be accurate based upon available data. The yield for the Virginia LGIP is the average monthly yield. The yield for Bank of America is the weighted average yield between the earnings credit rate less a balance based fee assessed by Bank of America and the hard-dollar interest rate at Bank of America, less the balance based fee.

Portfolio Summary

Total Portfolio Value

	<u>December 31, 2017</u>	<u>September 30, 2017</u>
Investment Assets	\$ 46,393,513	\$ 44,133,457
Combined Assets	\$ 46,510,305	\$ 44,364,706

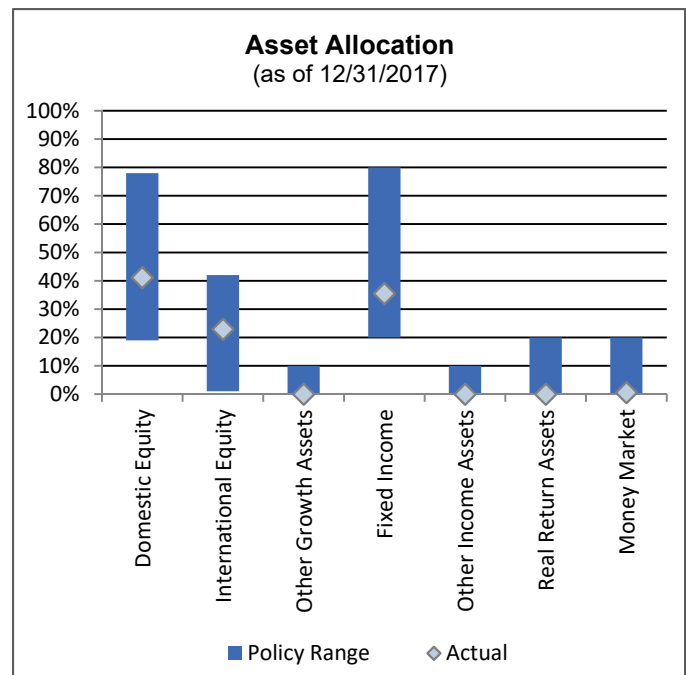
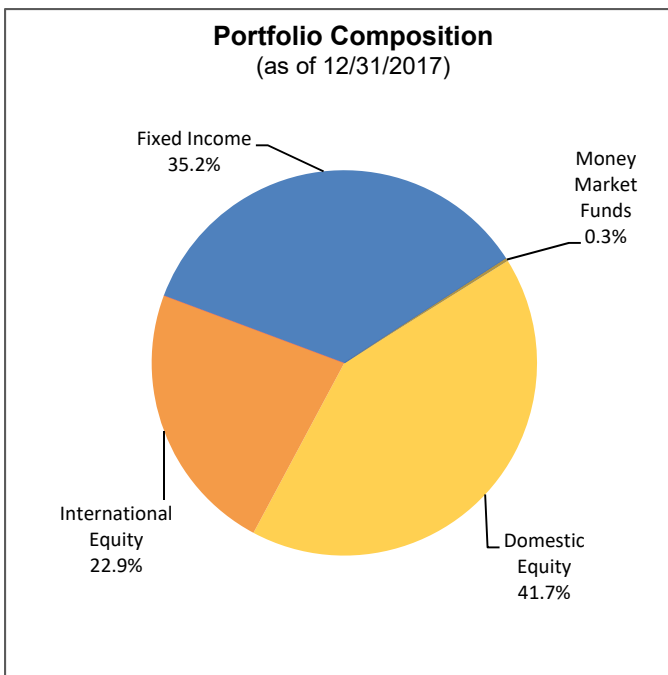
Portfolio Recap & Strategy

- The Retiree Health Plan Trust portfolio returned 3.85% (combined assets) for the quarter ended December 31, 2017, above the 3.66% return of the Blended Benchmark.* The one-year trailing return for the Retiree Health Plan Trust portfolio was 15.72% compared to the Blended Benchmark return of 14.33%. The weighted average credit quality of fixed income holdings for the Retiree Health Plan Trust portfolio is A.
- Domestic Equity markets, as represented by the S&P 500 Index (S&P), rose 6.6% in the fourth quarter, with positive returns across all sectors. This continued the rally this year with the 2017 return reaching 21.8% driven by stronger corporate earnings and tax reform. Market volatility was near all time lows and valuations continued to rise. Large-cap stocks, as represented by the Russell 1000 Index, finished the fourth quarter strong, outperforming mid-cap (Russell Mid Cap Index) and small-cap (Russell 2000 Index) stocks on the quarter and for the year. Large-caps rose 6.6% on the quarter, pushing their 2017 return up to 21.7%. Mid-caps finished closely behind at 6.1% for the quarter while small-caps finished up 3.3%. As has been a theme thus far in 2017, growth-oriented indices continued to outpace value-oriented indices across all market capitalizations over the course of the year. The difference was greatest within large caps as growth stocks returned 30.21% vs. 13.64% for value stocks.
- Developed markets outside of North America, as measured by the MSCI EAFE Index, increased 4.2% during the fourth quarter, ending 2017 strong and pushing the Year to Date return to 25%. Performance throughout the year was consistently strong as returns were positive for 10 months and relatively flat the other 2 months. Singapore was the strongest performer for the quarter rising 10.1% while Sweden was the worst performer, down 3.8%.
- Emerging markets (EM), as measured by the MSCI Emerging Markets Index, continued its strong performance during the third quarter, rising 7.4%, pushing the year-to-date return up to 37.3%. The weakening dollar during the year was one of the key factors driving the rally in emerging markets. South Africa was the top performer, rising 21.4%. Mexico was the worst performing region within EM, down 8.1%.
- During the quarter, yields across all U.S. Treasury tenors increased except for the 30 year. The increases were greater for the shorter term as yields between the 3 month and 12 month tenors rose 33 to 44 basis points. Longer term yields increased at a lower rate and the 30 year fell 12 basis points. This movement further flattened the curve, continuing the trend on the year. As many expected, the Federal Reserve raised the federal funds target range in December and are now targeting a range of 1.25% to 1.5%. Investment grade fixed income returns were positive despite the Treasury yield increases. The Bloomberg Barclays U.S. Aggregate Index rose 0.39% on the quarter while the Bloomberg Barclays U.S. Universal Bond Index, which includes high yield and other allocations, rose a slightly higher 0.41%. Investment-grade credit within the Aggregate rose 1.1% and returns were tilted towards lower-quality with BBB rising 1.2%. A-rated bonds rose 1.1%, with AA (0.8%) and AAA (0.1%) lagging behind.

*Performance is unreconciled. See page 3 for detailed information about the Blended Benchmark.

Portfolio Composition

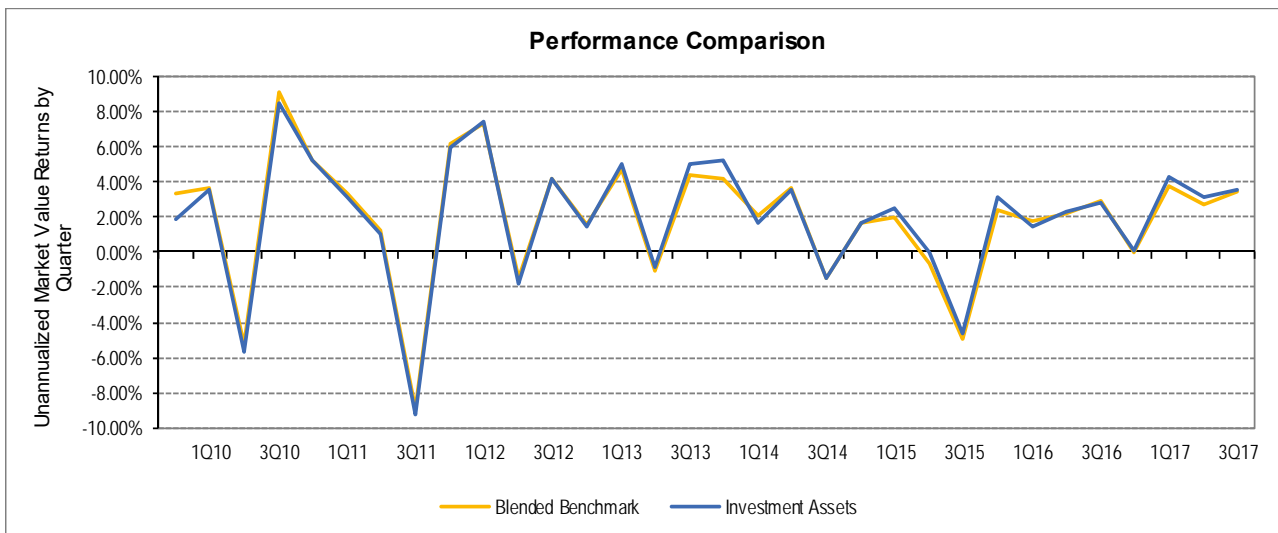
Security Type	December 31, 2017	% of Portfolio	September 30, 2017	% of Portfolio	Permitted by Policy
Domestic Equity	\$ 19,396,579	41.7%	\$ 18,246,884	41.1%	19% - 59%
International Equity	\$ 10,641,061	22.9%	\$ 10,147,817	22.9%	1% - 41%
Other Growth Assets	\$ 0	0.0%	\$ 0	0.0%	0% - 10%
Fixed Income	\$ 16,355,872	35.2%	\$ 15,734,762	35.5%	20% - 60%
Other Income Assets	\$ -	0.0%	\$ -	0.0%	0% - 10%
Real Return Assets	\$ -	0.0%	\$ -	0.0%	0% - 20%
Money Market Funds	\$ 116,792	0.3%	\$ 235,243	0.5%	0% - 20%
Totals	\$ 46,510,305	100.0%	\$ 44,364,706	100.0%	



Portfolio Performance – Investment Assets

Quarter Ended September 30, 2017

Index	Market Values	%	1 Quarter	Year to Date	Trailing 1 Year	Trailing 3 Years	Trailing 5 Years	Apr 2013 to Sep 2017*	Since Inception	Inception Date
Domestic Equity										
Vanguard Total Stock Market Index	\$ 16,780,218	38.0%	4.54%	13.95%	18.63%	10.69%	14.18%	13.16%	14.31%	9/1/2009
<i>Russell 3000 Index</i>			4.57%	13.91%	18.71%	10.74%	14.23%	13.19%	14.29%	9/1/2009
T. Rowe Price Dividend Growth	\$ 1,466,665	3.3%	3.04%	12.75%	15.24%	11.09%	13.67%	12.63%	14.19%	12/1/2016
<i>S&P 500</i>			4.48%	14.24%	18.61%	10.81%	14.22%	13.45%	16.50%	12/1/2016
International Equity										
Vanguard Total International Stock Index Fund	\$ 3,280,977	7.4%	5.95%	21.62%	19.27%	5.31%	7.49%	6.13%	19.27%	10/1/2016
<i>MSCI AC World ex USA (Net)</i>			6.16%	21.13%	19.61%	4.70%	6.97%	5.69%	19.61%	10/1/2016
Vanguard International Value	\$ 2,450,147	5.6%	6.72%	21.98%	20.63%	3.99%	8.03%	6.55%	17.01%	5/1/2016
<i>MSCI AC World ex USA (Net)</i>			6.16%	21.13%	19.61%	4.70%	6.97%	5.69%	16.26%	5/1/2016
J. O. Hambro International Select	\$ 2,859,737	6.5%	5.74%	18.10%	10.72%	6.26%	12.27%	10.14%	13.20%	1/1/2016
<i>MSCI AC World ex USA (Net)</i>			6.16%	21.13%	19.61%	4.70%	6.97%	5.69%	14.42%	1/1/2016
Oppenheimer International Small Company	\$ 1,556,955	3.5%	6.44%	30.17%	23.29%	14.63%	18.27%	16.55%	14.53%	4/1/2015
<i>MSCI AC World ex USA Small Cap (Net)</i>			6.51%	22.89%	18.70%	7.44%	8.97%	7.57%	8.59%	4/1/2015
Fixed Income										
Baird Core Plus	\$ 5,208,691	11.8%	1.05%	4.07%	1.60%	3.50%	2.98%	3.04%	3.55%	5/1/2014
<i>Bloomberg Barclays U.S. Aggregate</i>			0.85%	3.14%	0.07%	2.71%	2.06%	2.28%	2.78%	5/1/2014
DoubleLine Core Fixed Income	\$ 2,348,383	5.3%	1.11%	4.18%	1.72%	3.40%	3.06%	3.10%	0.50%	8/1/2017
<i>Bloomberg Barclays U.S. Aggregate</i>			0.85%	3.14%	0.07%	2.71%	2.06%	2.28%	0.42%	8/1/2017
Prudential Total Return Bond Fund	\$ 1,567,707	3.6%	1.39%	5.52%	2.36%	4.11%	3.64%	3.57%	0.73%	8/1/2017
<i>Bloomberg Barclays U.S. Aggregate</i>			0.85%	3.14%	0.07%	2.71%	2.06%	2.28%	0.42%	8/1/2017
Vanguard Intermediate-Term Investment Grade	\$ 5,191,772	11.8%	1.11%	4.06%	0.97%	3.64%	3.01%	3.06%	3.06%	4/1/2013
<i>Bloomberg Barclays Capital U.S. Credit: 5 - 10 Yr</i>			1.40%	5.11%	1.66%	4.16%	3.50%	3.49%	3.49%	4/1/2013
Vanguard High Yield Corporate	\$ 1,418,209	3.2%	2.04%	7.01%	7.84%	5.92%	5.83%	5.36%	10.66%	4/1/2016
<i>Bloomberg Barclays US Corp: High Yield</i>			1.98%	7.00%	8.88%	5.83%	6.36%	5.66%	13.72%	4/1/2016
Aggregate										
Retiree Health Plan Trust	\$ 44,133,457		3.59%	11.43%	11.57%	6.81%	8.14%	7.54%	8.52%	9/1/2009
<i>Blended Benchmark*</i>			3.41%	10.30%	10.23%	5.80%	7.16%	6.52%	8.24%	9/1/2009



*Active Strategy implemented April 1, 2013. Since inception to June 30, 2017, the Blended Benchmark was 33% Russell 3000 / 21% MSCI ACWI ex USA net) / 3% FTSE NAREIT Equity REITs / 3% Bloomberg Commodity TR / 40% Bloomberg Barclays Aggregate. From July 1, 2017 to present, the Blended Benchmark was 39% Russell 3000 / 21% MSCI ACWI ex USA net) / 40% Bloomberg Barclays Aggregate.

TO: General Manager

FROM: Director of Information Technology (IT)

SUBJECT: Information Technology Department Report for December 2017

DATE: January 10, 2018

A. General

1. Phase II of the mobile workforce project is complete. The primary focus was the evaluation of vehicle fleet management software and associated costs and benefits. The software provides real-time data for location, speed, idle time, maintenance schedules, and various other facets of vehicle performance. Use of such applications facilitates reduction of fleet operations and maintenance costs, reduces overall carbon footprint, and generally enhances driver safety and awareness. Members of the project team will present their results and recommendations to the QST for action.
2. Staff completed a variety of software updates and patches to the HRSD storage platform, network management utilities, and the enterprise resource planning applications.
3. Following go live last month, staff continues to monitor and respond to minor issues with the new e-Bill and online payment services applications. This is a standard part of any system implementation, and is often referred to as platform stabilization.
4. The HRSD web site redesign project is progressing smoothly. The new site is expected to be completed in April.

B. Strategic Planning Metrics Summary

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

C. Monthly Metrics

Item #	Strategic Planning Measure	Unit	December 2017
M-1.4a	Training During Work Hours Per Full Time Employee (50) – Current Month	Total Training Hours / # FTE	.28
M-1.4b	Total Training During Work Hours Per Full Time Employee (50) – Cumulative Fiscal Year-to-Date	Total Training Hours / # FTE	15.12
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 December 2017
DATE: January 8, 2018

A. Interceptor Systems

1. North Shore (NS) Interceptor Systems

- a. A Sanitary Sewer Overflow (SSO) occurred at the Bridge Street tide gate due to an employee's improper operation of the Pump Station (PS) during preventative maintenance activities. The total overflow volume was estimated at 15,825 gallons.
- b. There was one interceptor complaint and four system alarms during the month. These alarms and the complaint have been fully resolved.
- c. Staff installed emergency pump connections and set up standby Godwin Pumps for the Town of Surry PS's.
- d. Staff performed two pump and haul operations of the Lawnes Point Treatment Plant and two pump and haul operations for the Town of Surry WTP.

2. South Shore (SS) Interceptor Systems

- a. On December 11, staff found a leak from a four-inch hole in the six-inch cast iron force main near Cambridge Place in Norfolk. Staff replaced the visibly corroded section. Additional condition assessment uncovered additional heavily corroded pipe. Staff plans to replace the additional pipe in January 2018. The leak released approximately 6,000 gallons.
- b. There was one Miss Utility No Show reported this month. Staff attempted to mark a line on Railroad Avenue in the Norfolk International Terminals but was denied access at the gate.
- c. Staff conducted a variety of training at the Washington District Plant Pump Station for HRSD staff and utility staff from Cities of Suffolk and Chesapeake and Isle of Wight County. The training included

excavating, installing emergency generators, repairing live pressure pipe, and cutting pipe.

- d. Staff removed all of the South Shore Interceptor's equipment and materials from the Meekins building to facilitate the future construction project. Staff stored and organized the items in the existing bays and pipe yard adjacent to the South Shore Operations building.
- e. Staff performed condition assessment on the Nansemond Treatment Plant (NTP) influent force main as part of the Nansemond Land Acquisition – Land Stabilization CIP project. Staff found that all of the pile supports and joints were in good condition.

B. Major Treatment Plant Operations

1. Army Base Treatment Plant (ABTP)

- a. Air Regulation Deviations
 - 1) On December 11, the outlet valve on the compressor was left closed while switching air compressors. This caused the induced draft fan to shut down and the use of the emergency bypass.
 - 2) On December 20, the air compressor unexpectedly shut down resulting in the use of the emergency bypass stack.
 - 3) On December 23, low air pressure resulted in the use of the emergency bypass stack.
 - 4) A contractor is scheduled in January 2018 to diagnose issues with the instrument air compressors.
- b. Staff completed renovations of the new men's locker room and administrative offices in the administration building.
- c. Staff completed repairs and modifications to a biosolids receiving hopper.
- d. Staff installed new hand rails around the access hatches on top of #1 Aeration Tank, thereby eliminating the need for temporary barricade set up during entry.

2. Atlantic Treatment Plant (ATP)

- a. Construction of the Thermal Hydrolysis Process (THP) is well underway. Contractors are in the process of removing equipment in the dissolved air flotation room in order to make room for new equipment for the THP.
- b. Under the guidance of an arborist, contractors worked to trim, prune and remove dead trees in the North Progress Farm along property adjacent to Ocean Lakes subdivision.
- c. Construction of the new administration building continues. The metal framework and roof sheathing is nearly complete.
- d. Cleaning of the #6 Digester is complete. Staff successfully inflated the digester's cover and returned it to service.
- e. Staff continues to work on recovering and replacing equipment that flooded in the September final effluent basement flooding, which reached ten feet. Fortunately, the flooding did not reach the gear for the final effluent pumps, so all pumps are available should they be needed. As of the end of December: one of the two automatic strainers is currently run manually; one of two fuel pumps to the boilers is working; staff completed installation of a sump pump and controller unit; and staff replaced the lighting and receptacle power. All equipment should be back to full operation by the end of January. The failed piping responsible for the flood will be replaced as well as the actuator for the valve.

3. Boat Harbor Treatment Plant (BHTP)

- a. On December 11, there was one air permit deviation when the Induced Draft failed and the bypass stack was used for one minute.
- b. Staff continues to optimize nitrification efforts in order to support the lower James River bubble permit, despite seasonally low temperatures.
- c. Staff completed rehabilitation of the # 2 Grit Removal Tank. This project included replacement of upper and lower tracks, wear strips, buckets and chain.
- d. Staff completed installation of new air control butterfly valves in the Primary Clarifier influent channels, which included fabrication of new

pipings spool pieces. These valves control air flow to the diffusers for mixing purposes to improve chemically enhanced primary treatment performance, which is critical for BHTPs ability to nitrify.

4. Chesapeake-Elizabeth Treatment Plant (CETP)

- a. On December 4, there was one air permit deviation when there was a less than minimum average pressure drop due to a break in the venturi water line.
- b. Under the guidance of an arborist from the City of Virginia Beach, contractors removed trees that were leaning on and over the Shore Drive fence line and close to power lines; indigenous trees and shrubs were planted as replacements.

5. James River Treatment Plant (JRTP)

- a. There was one reportable wastewater event when approximately 100 gallons of non-potable water leaked onto the ground from a cracked polyvinyl chloride (PVC) pipe used as spray water for a tank. The PVC pipe may have cracked due to cold temperatures. The non-potable water was not recovered.
- b. Staff completed converting Integrated Fixed Film Activated Solids (IFAS) tank #1 from its use as a centrate equalization tank back to use as an IFAS tank. Staff filled the tank with media and installed mixers.
- c. A contractor completed installation and activated a bypass pipe line from the influent of the grit tanks to the influent of the primary clarifiers. The pipe line allows screened raw influent flow to bypass the grit tanks while the contractor performs coating work.
- d. Testing of a HydroFLOW unit to prevent struvite accumulation on the centrate pipeline transporting centrate from the centrate wet well to the two centrate equalization tanks continued. The rate of struvite accumulation on the centrate transfer pump remains unchanged as plant staff continues to remove struvite from the pump. There is no noticeable struvite accumulation in the pipeline.
- e. A contractor completed repairs to an outside digester boiler. During cold temperatures, both the inside and outside boilers are needed to maintain digester temperatures at about 96 degrees Fahrenheit.

Problems with the outside boiler allowed temperatures to drop below 90 degrees Fahrenheit. Temperatures are now on the rise.

- f. A contractor tuned the thickening building boiler used to heat the building.

6. Nansemond Treatment Plant (NTP)

- a. On December 15, an underground $\frac{3}{4}$ inch chemical hose within a 2-inch PVC containment pipe carrying sodium hydroxide broke. Approximately 1,020 gallons of sodium hydroxide was released, with virtually all of the volume recovered. Potentially contaminated soil was removed from the ground and placed in the Regional Residuals Facility (RRF) for testing and proper disposal.
- b. Staff continues to make improvements throughout the plant. This includes replacing the corroded grit line in the headworks building, which drastically improved the odors and aesthetics within the building. Staff also replaced sodium hypochlorite pumps and completely re-designed the lines within the building to improve the overall system.
- c. Staff continues to attempt to optimize nitrification and denitrification, while achieving the low final effluent total nitrogen (TN) target of 3 mg/L
- d. The Administration Building lunch room renovation is nearly complete.

7. Virginia Initiative Plant (VIP)

- a. There was one air permit deviation when the bypass damper was used due to a low non-potable water pressure signal.
- b. Contractors replaced deteriorated sluice gates at the anaerobic/anoxic reactors as part of the Nutrient Reduction Improvement project. The original gates leaked badly, requiring extra labor to close when removing reactors from service.
- c. Contractors completed repair work on Incinerator #1 ceiling, burner ports and furnace shell. The repairs were necessary to correct damage caused by high operating temperatures necessary for air permit compliance.

- d. Staff reconfigured the Versatile Bioreactor (VBR) to create equal aerobic and anoxic volumes to maximize nitrification while still denitrifying in the anoxic zone during cold weather. Staff relocated the VBR ammonia and dissolved oxygen probes for better process control.

8. Williamsburg Treatment Plant (WBTP)

- a. There was one reportable air permit event when the incinerator-induced draft fan was off line for about five minutes due to a power outage.
- b. Staff continued work on modifying aeration tank #1 for improved nutrient removal. Work in December focused on installing two nitrified recycle pipe lines from the second aerobic effluent to the first aerobic zone effluent. The modifications will provide for additional removal of nitrogen from nitrate by optimizing carbon usage in the first anoxic zone.

9. York River Treatment Plant (YRTP)

- a. There was one reportable wastewater event and one odor deviation. There was a low chlorine residual of 0.03 mg/L which occurred while switching from one hypochlorite feed line to another. During that short period of time, there was not enough hypochlorite in the line to maintain normal chlorine residuals. There was one odor scrubber deviation which occurred due to problems with the caustic feed pump.
- b. A contractor performed semiannual maintenance on the generators.
- c. Warranty inspections of the hypochlorite and caustic tanks were performed by the engineer and contractor of the Chemical Storage Improvement Project.
- d. York River Treatment Plant (YRTP) staff performed routine maintenance and repair.

C. Small Communities

1. Small Communities Division – Middle Peninsula

a. SC Treatment:

- 1) West Point Treatment Plant (WPTP)
Design work continues on the tertiary filter project.

- 2) Urbanna Treatment Plant (UBTP)
Process Train 1 installation of the fine bubble diffuser aeration system, A2O process piping upgrades and additional mixer for possible extended anoxic zone was completed. Process Train 2 installation will begin the second week of January and continue through to the end of the month. Additionally, the new lab is progressing well and taking shape. This construction work is being done internally by staff, and will be a substantial and necessary improvement to the reliability of the biological process at the plant.

b. SC Collections:

- 1) West Point System
The Kirby Street project is progressing well and construction should commence in the spring and finish sometime during the Summer/Fall of 2018.
- 2) King William System
Condition assessment work is planned to begin mid-January pending weather conditions. Bush-hogging continues with the majority of the system completed
- 3) Urbanna System
The Cross St. Pump Station rehabilitation project continues to progress through submittal reviews. Work is anticipated to begin in February or March timeframe.
- 4) Mathews System
A substantial completion walk thru for Phase V has been completed. Phase VI of this project is nearing design completion and is anticipated to be bid out in January.

c. Operations Center:

Staff began renovation work at the SCD Operations Center. This work will create a larger, new space for the Lead Operators as well as an additional office for the administrative coordinator and a permanent location for the administrative clerk.

2. Surry

a. Town of Surry Treatment Plant

- 1) Nitrification performance improved at the Town of Surry WWTP this month, likely due to a reduction in the influent TKN loading.
- 2) Staff coordinated a residential connection to sewer in the Town of Surry, the first one since HRSD assumed ownership of Town of Surry facilities.
- 3) Staff installed bypass pumps at Town of Surry PSs 6 and 7. The bypass pumps are not only serving as the redundant pump in both cases, but they are also providing additional pumping capacity during wet weather.
- 4) Staff disassembled and pulled the Town of Surry WWTP #2 micro screen for repairs.
- 5) Staff pulled the covers from the rotating biological contactors (RBCs) to take measurements for the new air piping and diffusers.

b. Town of Surry Permit Data

The following exceedances for the month of December were reported:

	Limit Type	Unit	Permit Limit	Reported Value	Number of Exceedances
TSS	Monthly average	MG/L	10	16	1
		G/Day	2300	2714	1
	Weekly average	MG/L	15	17	3
Total Copper	Monthly average	UG/L	3.8	6.7	1
	Weekly average	UG/L	3.8	6.7	1
				Total	7

c. County of Surry

- 1) Staff conducted a meeting with Sussex Service Authority to change the Polymer feed rate to address the previous month's high copper reading. The Polymer feed rate time was increased from 15 min to 20 min and flush time decreased from 5 min to 2 min.
- 2) Staff installed crush and run and netting around the contact tank.
- 3) Staff met with the Sussex Service Authority to discuss drilling a well for the plant.

D. Support Systems

1. Automotive

Staff performed load bank tests at 33rd Street, Colonial Williamsburg, Elmhurst, Granby Street, Park Avenue Pump Stations (PSs) and on portable generator #321. All generators operated as designed and were returned to service.

2. Condition Assessment (including Coatings and Concrete)

- a. Condition Assessment (CA), through use of Closed-Circuit Television (CCTV), inspected 655 LF of gravity force main.
- b. Staff performed daily inspection assessments on coatings projects occurring at ATP, BHTP, JRTP, NTP, YRTP. Staff inspected the condition of several assets at WPTP and UBTP.
- c. Coating of the rake arm assemblies in ATP Secondary Clarifiers #1-4 is complete. Work in secondary clarifier #5 continues.
- d. Rehabilitation of the odor control piping throughout BHTP continues.
- e. Rehabilitation of JRTP's grit tanks, rake arm assemblies, and channels began.
- f. A Contractor completed coating work on cells B-F of the #4 Aeration Tank at NTP. Restoration of NTP's #1 and 2 digester tanks continues. The attic space and roof of digester tank #2 is complete.
- g. Contract work on piping in the headworks building at YRTP began.

3. Facilities Maintenance

- a. Staff repaired toilet drains in the women's locker room at the Air Rail Avenue complex. Staff replaced a high purity water system, repaired glassware dishwashers, and relocated and re-piped reverse osmosis (RO) pumps at the Central Environmental Laboratory (CEL).
- b. Staff began construction of a new office area within the main office building for the Small Communities Division (SCD) and began relocating a new lab at UBTP. Staff installed posts for interpretive signage about Meadow Management located at the main entrance of the Air Rail Avenue Complex and completed 17 pump station inspections and 18 pump station roof inspections.
- c. Staff rebuilt three pumps, one for NS and two for SS, and repaired an impellor on a submersible pump for State Street PS. The Machine Shop fabricated valve stem guides for JRTP's Nitrified Recycle (NRCY) pump, four jack shafts for ATP, 24 shear pins for CETP, a gear shear hub for VIP, and parts for FM's waterless urinal system to clean the urinal drains and minimize odors.

E. Electrical and Energy Management (EEM)

1. Staff coordinated a meeting with a contractor, consultant and Dominion Energy (DE) at the new Bridge Street Pump Station (PS) to discuss requirements for new electrical utility service and easement for the pump station.
2. Staff continues to support the Engineering Department with the projects to replace the switchgear for the BHTP and WTP.
3. Staff met with Dominion Energy to begin replacing the electrical utility ground station at WBTP. The ground station was designed for loads four to five times the current load of the plant. Replacing the ground station with a smaller pad-mounted transformer provides for the plant's electrical load, anticipated Sustainable Water Initiative for Tomorrow (SWIFT) load and reduces the footprint of the ground station.
4. Staff coordinated work with a contractor at ABTP to replace four underground electrical feeders (approximately 600 feet each) from the North substation to the secondary clarifier motor control center (MCC). Replacing the feeders was a complex effort that required coordination to shut down equipment connected to side A of the MCC and then side B two weeks later while maintaining the treatment processes. Phasing of this

work allowed the systematic removal of the feeders, cleaning conduits, installing new feeders, testing the new feeders and placing the system back into operation.

5. Staff began work on several lighting projects at the ATP. We are installing new light emitting diode (LED) fixtures where lighting is deficient and replacing some of the existing fixtures with new LED fixtures. The distributed control system (DCS) will be used to control some of the lighting.
6. Staff began replacing damaged lighting, receptacles and control panels in the Effluent Building basement at ATP, which were compromised when the basement flooded.
7. Staff continues to restore functionality of equipment at Town of Surry Treatment Plant and pump stations. The scope of work this month included removal of obsolete and inoperable equipment, installation of a variable frequency drive (VFD) on the effluent filter system, installation of a timer on the secondary clarifier sludge pump, connection of the ultraviolet (UV) system alarms to Telog and repairs to the heating system.
8. Staff completed the installation of paperless chart recorders at Central Middlesex TP, King William TP and West Point TP. The chart recorders replaced the old ink and paper chart recorders.

F. Water Technology and Research

Last month, staff provided an overview of wastewater treatment process modeling and the computer simulation tools used to execute those models. A significant process modeling effort has preceded every major and most minor plant upgrades performed at HRSD over roughly the last 20 years. It is impossible to estimate the capital cost savings that have been recognized at HRSD as a result of more aggressive process designs that would not be possible without the availability of these process models. From a treatment plant standpoint, this is arguably one of our most important risk mitigation tools. Process models enhance our understanding of these ever more complex treatment technologies, and so they have also become an important training tool. There are currently several process modeling efforts ongoing that are the initial step of major plant upgrades being considered as part of SWIFT-related projects. These include Williamsburg, York River, James River, and Nansemond treatment plants.

Williamsburg: The current modeling effort is targeted at developing a calibrated model of the plant since upgraded recently to quasi 5-stage Bardenpho process

by plant staff. This work is being done to confirm the capability of the plant to meet SWIFT-required nitrogen removal requirements and to determine the need for a supplemental carbon system for enhanced denitrification. The work will also assess the performance of the plant under various brewery loading and oxidation tower operation scenarios. CH2M is assisting HRSD with the modeling effort using the SUMO simulation package (Dynamita).

York River: We are conducting a model calibration study for York River plant to try to better simulate nitrification performance in the existing plug flow/step feed aeration tanks. The last plant modeling effort was done with the nutrient upgrade work in the 2009 timeframe, and the existing Biowin model does not simulate recent nitrification performance well, particularly when the plant is operating in step feed mode. The current calibration effort is targeted at developing a good model that can be used to evaluate various alternatives for a nutrient removal upgrade related to SWIFT. Dynamita staff are helping HRSD with this work using the SUMO simulation package.

James River: The current modeling effort is targeted at refining a previous modeling effort that was done to assess plant capacity, but now the objective is evaluating alternatives for improving nitrogen removal for SWIFT. This modeling effort includes new approaches for simulating sulfur species and the integrated fixed film activated sludge (IFAS) process. CH2M is assisting HRSD with the modeling effort using the SUMO simulation package (Dynamita).

Nansemond: Hazen & Sawyer is assisting HRSD with an evaluation of Nansemond plant capacity considering the transfer of flow from Boat Harbor to Nansemond and considering nitrogen removal performance required by SWIFT. This work requires a careful evaluation of nitrification kinetics, as the original 5-stage Bardenpho upgrade design provided a winter A2O operating mode that does not produce a low nitrogen effluent required for SWIFT, and the design included depressed nitrifier maximum specific growth rates that was/is presumably caused by the input of industrial waste streams. This modeling effort, including calibration, capacity analysis, and Boat Harbor flow scenario analysis, is being performed using Biowin, but will be verified with SUMO, and Hazen will deliver calibrated models in both simulation packages.

For each of these modeling projects, electronic model files are submitted to staff such that we are able to verify and check consultant work and to evaluate other scenarios and address future questions ourselves. Water Technology and Research staff maintains calibrated models on behalf of all of the treatment plants. Staff also provides considerable input to the consultants regarding how the modeling work should be performed, assumptions that should be made, and interpretation of model output.

G. MOM Reporting numbers

MOM Reporting #	Measure Name	July	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June
2.7	# of PS Annual PMs Performed (NS)	2	4	4	2	2	1						
2.7	# of PS Annual PMs Performed (SS)	5	5	6	5	3	2						
2.7	# of Backup Generator PMs Performed (Target is 4.6)	9	10	10	12	7	9						
2.8	# of FM Air Release Valve PMs Performed (NS)	108	36	186	204	256	203						
2.8	# of FM Air Release Valve PMs Performed (SS)	79	153	115	409	140	210						
2.9	# of Linear Feet of Gravity Clean (Contractor)	0	0	0	0	0	0						
2.9	# of Linear Feet of Gravity Clean (NS) (Target is 2,417 for HRSD)	11,560	5,608	3,872	3,807	1,837	4,294						
2.9	# of Linear Feet of Gravity Clean (SS) (Target is 2,417 for HRSD)	5,838	8,330	3,354	0	12,580	5,071						
2.9	# of Linear Feet of Gravity CCTV Inspection (HRSD Target 3,300 LF)	9,186	5,796	4,017	2,717	2,019	655						

H. Strategic Measurement Data

1. Education and Outreach Events: 6

- a. Chesapeake Bay Foundation oyster cage maintenance for oyster gardening program at Boat Harbor Treatment Plant
- b. CETP tour for Deep Creek High School Students
- c. NTP Tour for Virginia Water Environment Association (VWEA) Young Professionals (YPs)
- d. Water Technology and Research Staff gave BNR Research Workshop presentations at DCWater
- e. The NS Electrical Manager was the guest speaker at the Susie Keele Community Cooperating Hampton Roads Organization for Minorities in Engineering Club (CHROME) on December 16 in which he spoke about different career paths in Engineering to club students.
- f. SS Interceptors Operations System Manager taught an Emergency Operations course for the Hampton Roads Public Works Academy

2. Community Partners: 6

- a. Virginia Institute of Marine Science
- b. Old Dominion University
- c. Chesapeake Bay Foundation
- d. Deep Creek High School
- e. Hampton Roads Public Works Academy
- f. CHROME

Item #	Strategic Planning Measure	Unit	December 2017
M-1.4a	Training During Work Hours per Full Time Employee (FTE) (510) – Current Month-	Hours / FTE	4.51
M-1.4b	Total Training During Work Hours per FTE (510) – Cumulative Year-to-Date	Hours / FTE	19.68
M-2.3a	Planned Maintenance Total Maintenance Hours	Total Recorded Maintenance Labor Hours	24,202.75
M-2.3b	Planned Maintenance – Preventive and Condition Based	% of Total Maintenance Hours	40.68

Item #	Strategic Planning Measure	Unit	December 2017
M-2.3c	Planned Maintenance - Corrective Maintenance	% of Total Maintenance Hours	25.67
M-2.3d	Planned Maintenance-Projects	% of Total Maintenance Hours	33.65
M- 4.1a	Energy Use: Treatment *reported for November 2017	kWh/MG	2,549
M-4.1b	Energy Use: Pump Stations *reported for November 2017	kWh/MG	180
M-4.1c	Energy Use: Office Building *reported for November 2017	kWh/MG	105
M-5.2	Educational and Outreach Events	Number	6
M-5.3	Number of Community Partners	Number	6

Respectfully submitted,

Steve de Mik
Director of Operations

TO: General Manager
FROM: Special Assistant for Compliance Assurance
SUBJECT: Monthly Report for December 2017
DATE: January 9, 2018

A. Submittals Completed in December 2017 – None

B. Activities

1. **Phase 6 – Rehabilitation Plan.** Ongoing system rehabilitation work, associated with Prompt Repairs or other items in the Sewer Repair (SR) contract is as follows:
 - SR 037 – Bayshore Lane: Addressing manhole repair issues prior to closing out project.
 - SR 040 – Woodland Avenue: Construction underway to replace sections of gravity sewer and rehabilitate manholes.
2. **Phase 7 – Regional Wet Weather Management Plan.** Comments and a request for additional information were received from the USEPA on the Integrated Plan/Regional Wet Weather Management Plan. A response was provided on **December 16**.
3. **Phase 8 – EPA Consent Decree Services.** HRSD continues sharing information with the localities through the regional SharePoint site and flow, pressure and rainfall data portal. A Capacity Team Meeting was held on **December 18** that focused on upcoming model data request, flow/pressure data availability on new HRSD historian, revisions to the Memorandum of Agreement between HRSD and the Localities, and an update on the status of the Integrated Plan.
4. **Phase 9 – Supplemental Services.** A quarterly status update was held on **December 14** to review the Interim System Improvement (ISI) projects and the Rehab Action Plan projects. A letter was sent to the USEPA on **December 20** requesting an extension to the Bridge Street Pump Station ISI project.

Management, Operations and Maintenance (MOM) Program elements are ongoing, including the Hydrogen Sulfide (H₂S) Monitoring Program and implementation of a Business Intelligence (BI) system for the Small Communities Division (SCD). This includes a MOM update manual guidance document for use on the next major update, expected in 2018.

The Flow, Pressure and Rainfall (FPR) monitoring program continued in December with data collection and analysis being performed as part of the MOM Program.

Condition assessment work under Phase II of the Force Main Condition Assessment (FMP2) program progressed in December. Force main inspection work order status is as follows:

- FMP2 039 Bowers Hill: Work is in progress to inspect the force main.
- FMP2 043 Kempsville Road: Project complete. The corrosion report is under review by HRSD.
- FMP2 049 Shore Dr. (Reservoir Group): Work order under development.
- FMP2 050 Laskin Rd: Ground Penetrating Radar (GPR) survey was performed on SF-134 for 800 ft. east of Birdneck Rd. to confirm the location of the true high point for air vent installation. Results are expected in January 2018.
- FMP2 051 Independence Blvd: GPR survey is being planned along SF-119 on Independence Blvd between Broad St. and Jeanne St. to confirm the location of the true high point for air vent installation. Survey and results are expected in January 2018.

Field work planning continued in December under the Gravity Sewer Inspection Phase II Program. The gravity inspection work order status is as follows:

- Draft Work Order GMP2 056 Jefferson Avenue Closed Circuit Television (CCTV) is under development.
- The following Small Communities Division (SCD) work orders in King William have been signed and work in this area is scheduled to start in January:
 - GMP2 SCD 026 Main Pump Station
 - GMP2 SCD 027 Commerce Pump Station
 - GMP2 SCD 028 Central Crossing
 - GMP2 SCD 029 McCauley Park Pump Station
 - GMP2 SCD 030 Kennington Pump Station
 - GMP2 SCD 033 School Pump Station

- Additional SCD work orders are under development
 - GMP2 SCD 031 Urbanna Manholes
 - GMP2 SCD 032 King William Manholes
 - GMP2 SCD 034 Matthews

Work continued on the Fiscal Year 2017 Condition Assessment Annual Report.

C. Next Submittals

1. Annual Public Meeting – January 2018
2. Annual Newsletter – February 2018

D. Program Budget Status

The overall program budget is \$130,151,133, excluding the Master Metering Program. A summary of appropriations and expenses is attached.

E. Strategic Planning Metrics Summary

1. Educational and Outreach Events: 1
 - a. Monthly calls continue with the three other co-chairs coordinating the national WEF Collections Specialty Conference, which will be at the Virginia Beach Convention Center, April 8-11, 2018.
2. Number of Community Partners: 0

Item #	Strategic Planning Measure	Unit	December 2017
M-1.4a	Total Training Hours Per Full Time Employee (1) – Current Month	Total Training Hours / # FTE	0
M-1.4b	Total Training Hours Per Full Time Employee (1) – Cumulative Fiscal Year to Date	Total Training Hours / # FTE	40
M-5.2	Educational and Outreach Events	Number	1
M-5.3	Number of Community Partners	Number	0

Respectfully submitted,

Phil Hubbard, P.E.

Attachments: [Consent Order State & EPA Expenditures](#)

Consent Order State & EPA Expenditures

	Total Appropriation	December 2017 Obligations	Available Balance
Regional Consent Order and Other Consent Order Requirements			
Regional Hydraulic Model	\$108,931,987	\$108,551,629	\$380,358
Locality System Monitoring and Condition Assessment	\$21,219,146	\$20,287,625	\$931,521
Subtotal - In progress	\$130,151,133	\$128,839,254	\$1,311,879

Completed Work

Regional Consent Order and Other Consent Order Requirements	(Included in subtotal above)
Master Metering Program III	\$2,005,140
Master Metering Program IV	\$13,628,635
Total	\$144,473,029

TO: General Manager
FROM: Director of Talent Management
SUBJECT: Monthly Report for December 2017
DATE: January 10, 2018

A. Human Resources (HR)

1. Recruitment Summary

New Recruitment Campaigns	7
Job Offers Accepted – Internal Selections	7
Job Offers Accepted – External Selections	8
Internal Applications	19
External Applications	112
Average Days to Fill Position	58

2. Enterprise Resource Planning (ERP)

a. HRSD worked with the Managed Services consultant on:

- (1) Benefit program setup
- (2) Benefit interface updates

b. Staff worked with Oracle Support on appraisal functionality.

c. Staff worked with Information Technology on plans to decommission the legacy Human Resources Information System.

d. ERP Refresher training was conducted at several Operations work centers and for Customer Care Center and Procurement.

3. Benefits and Compensation

a. Retiree Supplemental Health Plan open enrollment was completed.

b. The procurement process for Benefits Consulting services continued.

c. HR continued work with Finance on administrative issues with the long-term disability benefits provider.

d. Staff worked with HRSD's internal auditors on follow-up of action items for the Employee Benefits Internal Audit.

- e. Staff met with the Retirement Savings Plan provider to review available services.
- f. Communication and administrative procedures were clarified with the Employee Assistance Program provider.

4. Wellness

a. Participation Activities

Year 3 Participation Activities	Unit	December 2017	Year to Date (March 2017–February 2018)
Biometric Screenings	Number	9	39
Preventive Health Exams	Number	13	73
Preventive Health Assessments	Number	42	312
Coaching Calls	Number	0	0
On-Line Health Improvement Programs	Number	136	697
Web-MD Online Health Tracking	Number	128	1435
Challenges Completed	Number	0	0
Fit-Bit Promotion	Number	12	98

- b. The Wellness Specialist completed five biometric screenings for employees to meet medical loan requirements.
- c. “Healthy Holiday Eating” was presented to South Shore Interceptors.
- d. Preparations were made for upcoming biometric screenings.

5. Workers Compensation

- a. One new case was opened with 13 cases remaining active.

6. Employee Relations

- a. Staff continued to partner with work center supervisors and employees to support employee relations, address HR issues, and assist with job descriptions and interview processes.
- b. Bi-weekly meetings with HR, Accounting and Payroll staff continued to identify roles and outline HR and Payroll procedures.

7. General

A storage and record inventory was completed to identify salvage items and future storage requirements.

B. Organization Development and Training (OD&T)

1. The HRSD University team completed work with consultants on two pilot e-learning modules and finalized a QST presentation.
2. Two sessions of an expanded *Emotional Intelligence* course were added to the Supervisor and Leadership training program.
3. A *Refresh, Renew and Remember* workshop was developed for Supervision and Leadership alumni. The format incorporates discussion, networking and micro- learning. Mike Chapman, Operations Plant Manager and Craig Segall, Williamsburg TP Lead Operator, will deliver part of the training, providing an opportunity to share their knowledge and experience with fellow supervisors.
4. The OD&T Manager continued working with Operations on an abridged Supervisor Workshop for Lead Operators.
5. Work continued with Engineering on development of an *Effective Collaborative Meeting* workshop. A Pilot Class was scheduled.
6. The Project Management Team completed a framework and a training manual template for the project management skills workshop.
7. Apprenticeship Program
 - a. Several Apprenticeship Manual updates were drafted for proposal to the Apprenticeship Committee.
 - b. An Apprentice Representatives meeting was held to address questions and solicit feedback for improvement. A summary and recommendations were provided to the Apprenticeship Committee.
 - c. Staff continued to add historical training and apprenticeship program information into the ERP Learning Management system.
 - d. Recruitment of instructors for Math and Disinfection courses began.
 - e. The Training Superintendent performed the following in relation to Apprenticeship courses:

- (1) Evaluated *Wastewater Analysis and Wastewater Laboratory* course for conversion to an online format and revision of the laboratory component to align with Plant Operator functions
 - (2) Revisions to *Disinfection* curriculum
 - (3) Revisions to *Collection System Maintenance* curriculum
8. The Training Superintendent continued online wastewater treatment training provided by Sacramento State Office of Water Programs.

C. Safety

1. Mishaps and Work Related Injuries

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

	<u>2016</u>	<u>2017</u>
Mishaps	42	42
Lost Time Mishaps	8	10
<i>Numbers subject to change pending HR review of each case.</i>		

b. MOM Program Year Performance Measure Work Related Injuries

December 2017 Injuries For Operations	December 2017 Injuries for Other HRSD Departments	Total Lost Time Injuries Since July 2017	Total HRSD Injuries Since July 2017
1	0	5	22

c. A follow-up investigation was performed on one reported work-related injury.

2. HRSD Safety Training

Strategic Planning Measure	Unit	December 2017
Total Safety Training Hours per Full Time Employee (830) All HRSD – December 2017	108.21 Hours / 830 FTE	0.13
Total Safety Training Hours Per Full Time Employee (830) – Cumulative July 2017	2186.98 Hours / 830 FTE	2.63

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

- a. Seven external briefings for contractors working at TPs and pump stations
- b. An additional Methanol Safety Training class for North Shore Electrical and Energy Management employees

4. Safety Inspections, Testing and Monitoring

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

- (1) Army Base Treatment Plant (TP)
- (2) Atlantic TP
- (3) James River TP
- (4) SWIFT Research Center at Nansemond TP
- (5) VIP

b. Quarterly safety inspections of the following work centers:

- (1) Atlantic TP
- (2) Chesapeake Elizabeth TP
- (3) James River TP
- (4) Small Communities TPs and Pump Stations
- (5) South Shore Automotive, Carpentry, Electrical and Machine Shops
- (6) South Shore Maintenance
- (7) Williamsburg TP

- c. Monitoring and testing for the following:
 - (1) Monthly hood velocity tests on Central Environmental Laboratory and Technical Services lab hoods
 - (2) Radiation screening of incinerator ash at Army Base, Boat Harbor, Chesapeake Elizabeth, VIP and Williamsburg TPs
- d. The following safety walk-throughs or inspections were conducted:
 - (1) Escorted City of Suffolk Fire Department staff on a walk-through of Nansemond TP
 - (2) Escorted City of Norfolk Fire Department staff on a walk-through of VIP
- d. Staff continued to address safety needs for the Town of Surry TP.

5. Safety Programs

- a. Safety Manager and HR Specialist worked on the 2017 Occupational Safety and Health Administration (OSHA) 300 log.
- b. Staff continued to review and input audiometric testing results and conducted required employee testing.
- c. Safety and Operations continued implementation of an online Material Safety Data Sheets program at several work centers.
- d. The 2018 Safety Training Calendar was completed and published.
- e. The Safety Coordinator continued maintaining the Operations Safety Accident Tracking report.
- f. A panel containing asbestos material was removed from Urbanna TP and relocated to Safety Division storage for disposal.

6. General

- a. Staff continued developing requirements for a Prescription Safety Glasses program and employment related physicals.
- b. Staff began developing training instructions on use of a Fluke meter for testing grounds on portable electrical tools.
- e. A records and storage item inventory was completed to identify salvage items and evaluate future storage needs.

- d. Staff participated in the following HRSD activities:
 - (1) SharePoint Governance team
 - (2) HRSD Uniform team
- e. The Safety Manager attended annual Asbestos Inspector and Project Designer recertification training conducted by Applied Labs.

D. Monthly Strategic Planning Metrics Summary

- 1. Education and Outreach Events: 2
 - a. Hampton Roads Public Works Academy *What's Next?* Subject Matter Expert Class
 - b. Virginia Space Grant Consortium Commonwealth STEM Industry Internship Program informational meeting
- 2. Community Partners: 2
 - a. Hampton Roads Public Works Academy
 - b. Virginia Space Grant Consortium
- 3. Monthly Metrics

Item #	Strategic Planning Measure	Unit	December 2017
M-1.1a	Employee Turnover Rate (Total)	Percentage	0.38
M-1.1b	Employee Turnover due to Service Retirements	Percentage	0.33
M-1.4a	Total Training Hours Per Full Time Employee (15) – Current Month	Total Training Hours/ FTE	1.87
M-1.4b	Total Training Hours Per FTE (15) Cumulative Fiscal Year-to-Date	Total Training Hours/ FTE	18.63
M-5.2	Educational and Outreach Events	Number	2
M-5.3	Community Partners	Number	2

Respectfully submitted,
Paula A. Hogg
 Director of Talent Management

TO: General Manager
FROM: Director of Water Quality (WQ)
SUBJECT: Monthly Report for December 2017
DATE: January 10, 2018

A. General

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

Norfolk Southern Railway Company – Norfolk

An Enforcement Order was issued to Norfolk Southern Railway Company in December 2017 for failure to follow special conditions of the permit in July 2017 along with two additional monthly violations for the same failure in August and September 2017. The Enforcement Order contained an invoice totaling \$2,250 in Civil Penalties.

The industry failed to notify the P3 Division of discharges from a permitted sample point during this three-month timeframe. A Show Cause Meeting was held; the industry indicated that the circumstances allowing for these failures have been addressed and preventive measures have been put into place. The Enforcement Order was accepted and the Civil Penalty was paid in December 2017.

B. Quality Improvement and Strategic Activities

1. The Sustainability Advocacy Group (SAG) did not report activity for the month of December.
2. The WQ Communication Team continues monitoring and measuring inter-divisional communication issues within the WQ Department.

C. Municipal Assistance

1. HRSD provided sampling and analytical services to Bedford County and Westmoreland County to support their Virginia Pollution Discharge Elimination System (VPDES) permit application processes.
2. The [Municipal Assistance Billed Reimbursements](#) per service collected between October 1 and December 31, 2017 are attached.

3. The [Municipal Assistance Invoice Summary](#) for the fourth quarter of the 2017 calendar year is attached.

D. Strategic Planning Metrics Summary

1. Educational and Outreach Events: 1
 - a. Central Environmental Laboratory staff provided a tour of the laboratory to Deep Creek High School Environmental Science students.

2. Community Partners: 9
 - a. City of Norfolk
 - b. City of Newport News
 - c. Virginia Department of Health Division of Shellfish Sanitation
 - d. Virginia Department of Environmental Quality
 - e. Occoquan Laboratory
 - f. City of Suffolk
 - g. Elizabeth River Project
 - h. Virginia Department of Health Office of Epidemiology
 - i. Hampton Roads Planning District Commission

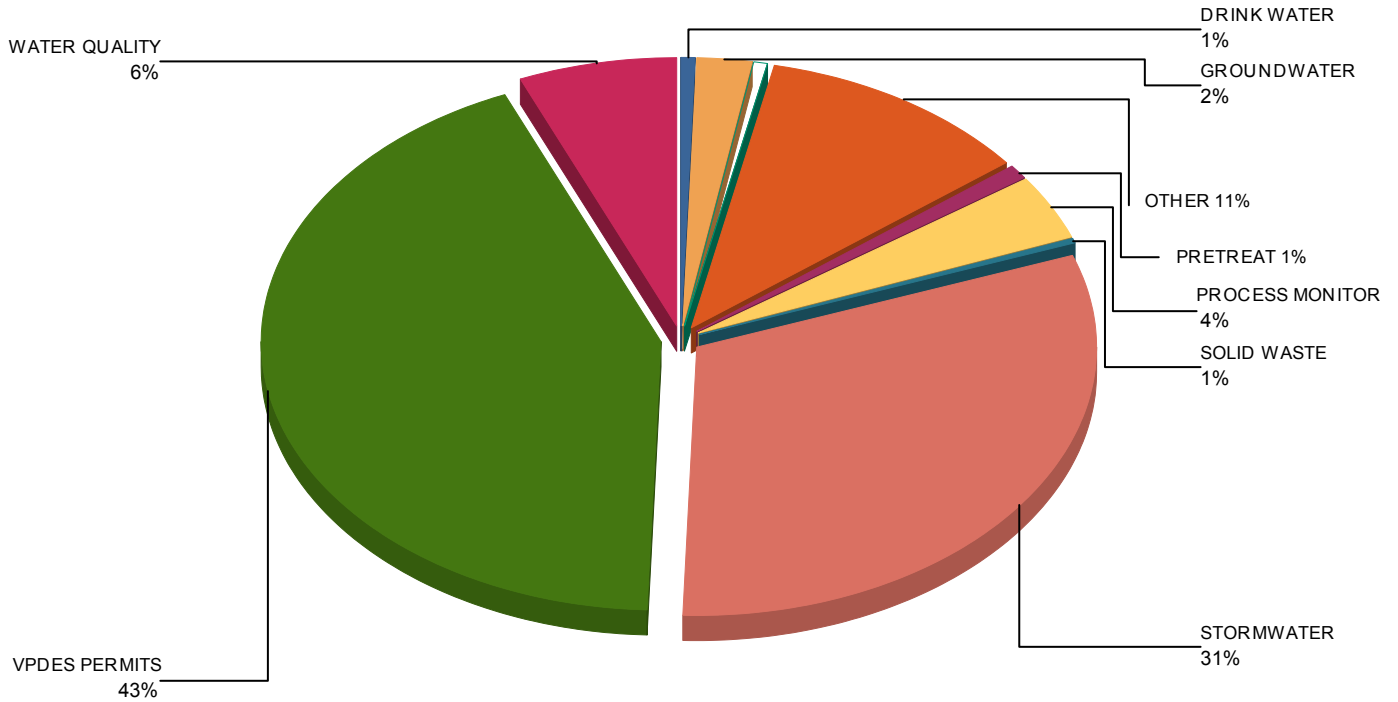
Item #	Strategic Planning Measure	Unit	December 2017
M-1.4a	Training During Work Hours Per Full Time Employee (109) (Current Month)	Total Hours / # FTE	3.44
M-1.4b	Total Training During Work Hours Per Full Time Employee (109) (Cumulative Fiscal Year-to-Date)	Total Hours / # FTE	27.34
M-2.5	North Shore/South Shore Capacity Related Overflows	# within Level of Service	0
M-3.1	Permit Compliance	# of Exceedances: # of Permitted Parameters	5:28,941
M-3.2	Odor Complaints	#	0
M-3.4	Pollutant Removal	Total Pounds Removed	93,707,429
M-3.5	Pollutant Discharge	% Pounds Discharged/Pounds Permitted	16%

Item #	Strategic Planning Measure	Unit	December 2017
M-5.2	Educational and Outreach Events	#	1
M-5.3	Community Partners	#	9
	Average Daily Flow	Total MGD for all Treatment Plants	134.82
	Industrial Waste Related System Issues	#	0

Respectfully submitted,
James Plett, PhD
 Director of Water Quality

Municipal Assistance Billed Reimbursements per Service From 10/01/2017 to 12/31/2017

Attachment 1



Notes: Other = Equipment purchase, consultation, validation studies, boater pump-out program, etc.

Municipal Assistance Invoice Summary

From 10/01/2017 - 12/31/2017

Municipality	Reimbursements
Accomack County	\$3,594.37
Bedford County PSA	\$8,341.62
Buckingham County	\$696.68
City of Chesapeake	\$1,387.15
City of Emporia	\$296.96
City of Lynchburg	\$7,103.38
City of Norfolk	\$4,910.25
City of Portsmouth	\$1,907.33
City of Richmond	\$5,318.17
City of Suffolk	\$8,193.19
City of Virginia Beach	\$6,157.97
Dept of Corrections	\$827.79
HRPDC	\$49,982.98
Hanover County	\$727.81
Hopewell RWTF	\$5,009.40
King George County	\$4,591.83
New Kent County	\$8,586.75
Northampton County WWTP	\$674.43
Northumberland Co. - Callao WWTP	\$13,498.62
Stafford County	\$5,712.46
Town of Blackstone	\$5,513.93
Town of Cape Charles	\$6,101.49
Town of Lawrenceville	\$848.35
Upper Occoquan Service Authority	\$1,471.68
Virginia Department of Health	\$8,420.41
Warsaw WWTP	\$385.15
Westmoreland County	\$971.35
Total Reimbursements 4th Quarter	\$161,231.50



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

I. *Projects in Process*

Engineering Procurement Process Review

- **Tasks Completed (December 2017)**
 - Discussed final report and responses on December 5, 2017
 - Updated report based on management input

- **Upcoming Tasks (January 2018)**
 - Complete evaluation procedures: On January 2, 2018, SC&H was informed by Engineering that additional documentation related to real estate procurement exists, however has not been previously provided. As a result, the documentation will be evaluated once received in order to complete the audit procedures.
 - Finalize report

IT: Network Security/ Cybersecurity

- **Tasks Completed (December 2017)**
 - Received and reviewed management action plan responses and contacted process owners to coordinate follow-up discussion to finalize report

- **Upcoming Tasks (January 2018)**
 - Finalize report
 - SC&H has been working to coordinate a meeting with IT to discuss report content and management responses
 - Determine communication method

Corporate Governance: Ethics Function

- **Tasks Completed (December 2017)**
 - Performed fieldwork testing steps
 - Began draft of final report and observations

- **Upcoming Tasks (January 2018)**
 - Finalize fieldwork
 - Draft audit report
 - Schedule exit meeting to discuss findings with process owners

Risk Assessment: Year 3 Refresh

- **Tasks Completed (December 2017)**
 - Performed risk assessment interviews
 - Reviewed relevant documentation
 - Performed risk assessment analyses

- **Upcoming Tasks (January 2018)**
 - Schedule and complete open interviews
 - Prepare risk ranking and audit plan presentation
 - Discuss results with HRSD management



II. Upcoming Projects (FY2018)

The following projects are scheduled to be performed during FY2018 based upon the risk assessment previously performed by SC&H.

- Q3- Operations: Treatment Plants
- Q4- Finance and Accounting: Customer Care (Billing, Mail Center & Payments, A/R & Delinquent Accounts)

III. Management Action Plan (MAP) Monitoring

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

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

The following describes the current project monitoring status and upcoming monitoring timeframes.

Design and Construction: CIP Project Management Review MAP Status

- Audit Report Date: May 11, 2016
- Next Follow-up: January 2018
- Total Recommendations: 13
- Recommendations Closed: 10
- Recommendations Open: 3

Biosolids Recycling Program Review MAP Status

- Audit Report Date: October 8, 2016
- Next Follow-up: April 2018
- Total Recommendations: 8
- Recommendations Closed: 7- validation in process
- Recommendations Open: 1- validation in process

HR Administration of Employee Health Insurance Audit MAP Status

- Audit Report Date: November 22, 2016
- Next Follow-up: May 2018
- Total Recommendations: 15
- Recommendations Closed: 12- validation in process
- Recommendations Open: 3- validation in process

Upcoming MAP Monitoring

- Inventory Management
 - Report Date: April 20, 2017
 - Anticipated MAP Follow-up: April 2018

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

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

Monthly Updated Metrics												FY-18	FY-18
Item	Strategic Planning Measure	Unit	Target	FY-10	FY-11	FY-12	FY-13	FY-14	FY-15	FY-16	FY-17	Nov-17	Dec-17
	Average Daily Flow	MGD at the Plants	< 249		136	146.5	158.7	156.3	153.5	155.8	153.5	132.6	134.8
	Industrial Waste Related System Issues	Number	0		3	6	6	6	2	4	7	0	0
	Wastewater Revenue	Percentage of budgeted	100%		97%	96%	98%	107%	102%	104%	103%	102%	102%
	General Reserves	Percentage of Operating and Improvement Budget	75% - 100%		72%	82%	84%	92%	94%	95%	104%	112%	112%
	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	\$21,044,338	\$23,184,740
	Aging Accounts Receivable	Percentage of receivables greater than 90 days			21%	20%	18%	19%	21%	20%	18%	17%	17%
M-2.5	Capacity Related Overflows	Number within Level of Service	0		25	1	30	5	11	16	6	0	0
M-3.1	Permit Compliance	# of Exceedances to # of Permitted Parameters	0		12:55,045	1:51995	2:52491	1:52491	2:52491	2:52,491	9:53236	4:24118	5:28941
M-3.2	Odor Complaints	Number	0		6	2	7	11	5	9	7	2	0
M-3.4	Pollutant Removal (total)	Total Pounds Removed			178,163,629	171,247,526	176,102,248	185,677,185	180,168,546	193,247,790	189,765,922	79,267,424	93,707,429
M-3.5	Pollutant Discharge (% of permitted)	Pounds Discharged/Pounds Removed	< 40%		25%	22%	25%	22%	22%	20%	22%	16%	16%
M-5.2	Educational and Outreach Events	Number			302	184	238	322	334	443	502	31	14
M-5.3	Number of Community Partners	Number			280	289	286	297	321	354	345	29	21

EFFLUENT SUMMARY FOR DECEMBER 2017

PLANT	FLOW mgd	% of Design	BOD mg/l	TSS mg/l	FC #/UBI	ENTERO #/UBI	TP mg/l	TP CY Avg	TN mg/l	TN CY Avg	TKN mg/l	NH3 mg/l	CONTACT TANK EX
ARMY BASE	9.94	55%	3	2.8	2	1	0.57	0.59	6.7	7.4	NA	NA	6
ATLANTIC	23.55	44%	9	10	3	<1	NA	NA	NA	NA	NA	NA	2
BOAT HARBOR	12.74	51%	5	4.9	1	1	0.29	0.50	13	13	NA	NA	0
CENT. MIDDLESEX	0.012	48%	<2	2.1	<1	<1	NA	NA	NA	NA	NA	NA	NA
CHES-ELIZ	16.85	70%	12	13	14	3	0.76	1.2	29	30	NA	NA	3
JAMES RIVER	11.88	59%	3	3.2	1	1	1.2	0.53	8.1	8.9	NA	NA	0
KING WILLIAM	0.038	38%	<2	<1.0	NA	<1	0.04	0.04	0.39	0.68	0.21	NA	NA
NANSEMOND	17.26	58%	4	4.9	2	1	1.0	0.90	5.0	6.5	NA	NA	17
SURRY, COUNTY	0.044	68%	1	<1.0	NA	1	NA	NA	NA	NA	<QL	NA	0
SURRY, TOWN	0.049	81%	7	16	NA	19	NA	NA	NA	NA	3.0	0.40	NA
URBANNA	0.039	39%	10	17	7	10	5.2	4.9	27	22	NA	0.07	NA
VIP	22.70	57%	3	2.6	2	1	0.40	0.81	6.1	6.4	NA	NA	0
WEST POINT	0.310	52%	23	14	1	1	3.6	3.2	20	17	NA	NA	0
WILLIAMSBURG	7.30	32%	3	5.0	1	1	0.52	0.74	5.4	4.3	NA	NA	9
YORK RIVER	12.10	81%	3	2.5	1	1	0.21	0.26	2.3	2.0	NA	NA	3
	134.82												

	% of Capacity
North Shore	53%
South Shore	54%
Small Communities	49%

Tributaries	Annual Total Nitrogen				Annual Total Phosphorus		
	Discharged		Operational		Discharged		Operational
	YTD	Projection CY17	YTD	Projection CY17	YTD	Projection CY17	%
	%	Lbs	%	%	Lbs	%	
James River	82%	3,711,986	82%	81%	253,533	80%	
York River	34%	95,803	33%	70%	13,428	70%	
Rappahannock	253%	NA	NA	847%	NA	NA	

Permit Exceedances: Total Possible Exceedances, FY18 to Date: 5:28,941*
Pounds of Pollutants Removed in FY18 to Date: 93,707,429
Pollutant Lbs Discharged/Permitted Discharge FY18 to Date: 16%

*This measure does not include the Town of Surry facility

	Rainfall (inch)		
	<u>North Shore (PHF)</u>	<u>South Shore (ORF)</u>	<u>Small Communities (FYJ)</u>
Month	2.42"	2.40"	1.36"
Normal for Month	3.71"	3.48"	3.61"
Year to Date Total	45.58"	49.16"	44.57"
Normal for YTD	50.73"	49.93"	48.02"

2017 EFFLUENT SUMMARY

PLANT	FLOW MGD	BOD MG/L	TSS MG/L	FC #/100 ML	ENTERO #/100 ML	TP MG/L	TN MG/L	CONTACT TANK EX	NH3 MG/L
ARMY BASE	9.09	3	3.5	4	2	0.59	7.4	12	NA
ATLANTIC	26.53	11	7.5	5	1	NA	NA	NA	NA
BOAT HARBOR	13.44	5	5.2	3	2	0.50	13	3	NA
C. MIDDLESEX	0.013	1	2.1	4	3	NA	NA	NA	0.09
CHES-ELIZ	17.70	15	16	39	5	1.2	30	7	NA
JAMES RIVER	12.29	3	3.3	2	1	0.53	8.9	1	NA
KING WILLIAM	0.043	0	0.02	NA	1	0.04	0.68	NA	NA
LAWNES POINT	0.000	0	0	0	0	0.0	0	NA	NA
NANSEMOND	18.24	6	5.0	2	2	0.90	6.5	8	NA
SURRY, COUNTY	0.041	2	1.5	1	0	NA	NA	NA	0.17
SURRY, TOWN	0.046	7	12	71	0	NA	NA	NA	5.5
URBANNA	0.052	7	17	5	6	4.9	22	NA	0.87
VA INITIATIVE	27.41	3	3.8	7	2	0.81	6.4	2	NA
WEST POINT	0.384	21	15	4	4	3.2	17	1	8.1
WILLIAMSBURG	7.72	2	3.0	4	2	0.74	4.3	6	NA
YORK RIVER	12.49	2	2.1	1	1	0.26	2.0	4	NA

Permit Exceedences:

January 2017: King William STP TKN weekly loading & weekly max value

January 2017: Central Middlesex Fecal Coliform

June 2017: Ches-Eliz TSS weekly loading and max value

July 2017: Urbanna TSS maximum weekly concentration

September 2017: Urbanna Ammonia maximum weekly concentration

October 2017: Town of Surry, 11 exceedances (see effluent summary)

November 2017: Town of Surry, 12 exceedances; Surry Co. maximum weekly and monthly total copper conc.

December 2017: Town of Surry, 7 exceedances; Army Base annual TN concentration

AIR EMISSIONS SUMMARY FOR DECEMBER 2017

MHI PLANT	No. of Permit Deviations below 129 SSI Rule Minimum Operating Parameters								Part 503e Limits		
	BZ Temp	Venturi(s) PD	Precooler Flow	Spray Flow	Venturi Flow	Tray/PBs Flow	Scrubber	Any	THC	THC	BZ Temp
	12 hr ave	12 hr ave	12 hr ave	12 hr ave	12 hr ave	12 hr ave	pH	Bypass	Mo. Ave	DC	Daily Ave
(F)	(in. WC)	(GPM)	(GPM)	(GPM)	(GPM)	(GPM)	3 hr ave	Stack Use	(PPM)	(%)	Days >Max
ARMY BASE	0	0	0	0	0	0	0	3	29	99	0
BOAT HARBOR	0	0	0	n/a	0	0	0	1	9	100	0
CHES-ELIZ	0	0	0	0	0	0	0	0	30	96	0
VIP	0	0	0	n/a	0	0	0	1	61	99	0
WILLIAMSBURG	0	0	0	n/a	0	0	0	1	6	100	0

ALL OPERATIONS

DEQ Reportable Air Incidents:	0
DEQ Request for Corrective Action (RCA):	0
DEQ Warning Letter:	0
DEQ Notice of Violation (NOV):	0
Other Air Permit Deviations:	0
Odor Complaints Received:	0
Odor Scrubber HRSD Exception Events:	1

AIR EMISSIONS SUMMARY FOR CY 2017

MHI PLANT	No. of Permit Deviations below 129 SSI Rule Minimum Operating Parameters							Part 503e Limits		
	BZ Temp	Venturi(s) PD	Precooler Flow	Venturi Flow	Tray/PBs Flow	Scrubber	Any	THC	THC	BZ Temp
	12 hr ave (F)	12 hr ave (in. WC)	12 hr ave (GPM)	12 hr ave (GPM)	12 hr ave (GPM)	pH 3 hr ave	Bypass Stack Use	Mo. Ave (PPM)	DC (%)	Daily Ave Days >Max
ARMY BASE	2	2	0	0	1	3	19	30	98	0
BOAT HARBOR	4	6	0	3	1	0	11	39	96	2
CHES-ELIZ	2	5	1	0	0	1	14	29	98	0
VIP	0	1	1	2	0	2	15	68	99	0
WILLIAMSBURG	0	0	0	0	0	0	7	9	98	0

ALL OPERATIONS

DEQ Reportable Air Incidents:	8
DEQ Request for Corrective Action (RCA):	0
DEQ Notice of Violation (NOV):	1
Other Air Permit Deviations:	1
Odor Complaints Received:	8
Odor Scrubber HRSD Exceptions:	22