General









PR_GN013300

System: Type: General Wastewater Treatment Driver Category: Capacity Improvements Project Phase: Construction Regulatory: None

PROGRAM CASH FLOW PROJECTION (\$,000)

Prog Cost	Exp to Previous Year	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34
\$12,230	\$12,222	\$8	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

PROJECT DESCRIPTION

This project involves installation of a facility at Nansemond Treatment Plant to receive FOG (Fats, Oils, and Grease) from indirect haulers. The facility will screen, decant, and process the FOG in a manner that will convert a portion to bio-fuel using the Greasezilla system. The portion of FOG converted to bio-fuel will be sold to Greasezilla per the HRSD/Greasezilla offtake agreement, the decanted FOG water will be sent to headworks for normal wastewater treatment, and the remaining processed FOG will be sent to the digesters.

PROJECT JUSTIFICATION

The grease handling facilities will reduce the impact of high biochemical oxygen demand (BOD) loading on the biological system and provide a more stable operation. The new facilities will also reduce the plugging of treatment process piping and equipment caused by the large quantities of grease being discharged over short time periods. This project also addresses the Regional Consent Decree which requires an effective FOG program.

FUNDING TYPE		CONTACTS		
Funding Type:	VCWRLF	Contacts-Requesting Dept: Contacts-Dept Contacts: Contacts-Managing Dept:	Operations-Treatment Angela Weatherhead Engineering	
PROPOSED SC	HEDULE START DATE	COST ESTIMATE		
PrePlanning PER Design Delay Design Bid Delay PreConstruction Construction Closeout	02/02/2015 04/01/2015 03/02/2015 02/01/2019 08/01/2020 08/01/2020 11/01/2020 07/01/2024	Cost Estimate Class: PrePlanning PER Design PreConstruction Construction <u>Closeout</u> Est. Program Cost Contingency Budget	Class 1 \$0 \$108,672 \$1,309,063 \$1,815 \$10,800,000 \$10,000 \$12,229,550 \$500,000	
		Est. Project Costs	\$12,729,550	



North Shore Gravity Sewer Improvements Phase I

PR_GN014900

Driver Category:I&I Abatement-Rehabilitation PlanProject Phase:ConstructionRegulatory:Rehab Plan Phase Two

PROGRAM CASH FLOW PROJECTION (\$,000)

Prog Cost	Exp to Previous Year	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34
\$12,101	\$10,714	\$1,387	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

PROJECT DESCRIPTION

This project will provide for rehabilitation/replacement of gravity sewer infrastructure in the Newport News, Hampton and Williamsburg. For a complete list of affected assets refer to the Rehabilitation Plan.

PROJECT JUSTIFICATION

Condition assessment activities indicate that these assets present a material risk of failure due to sanitary sewer overflow, I/I, and physical condition defects.

FUNDING TYPE		CONTACTS	
Funding Type:	VCWRLF	Contacts-Requesting Dep Contacts-Dept Contacts: Contacts-Managing Dept:	t: Operations-Interceptors Angela Weatherhead Engineering
PROPOSED SC	HEDULE START DATE	COST ESTIMATE	
PrePlanning PER Design Delay Design Bid Delay PreConstruction Construction Closeout	11/13/2019 11/13/2019 05/27/2022 11/16/2020 11/01/2021 12/05/2022 02/27/2023 10/14/2024	Cost Estimate Class: PrePlanning PER Design PreConstruction Construction Closeout Est. Program Cost Contingency Budget	Class 1 \$952 \$155,712 \$375,458 \$12,514 \$11,546,317 \$10,000 \$12,100,953 \$300,000
		Est. Project Costs	\$12,400,953



Driver Category:I&I Abatement-Rehabilitation PlanProject Phase:DesignRegulatory:Rehab Plan Phase Two

PROGRAM CASH FLOW PROJECTION (\$,000)

Prog Cost	Exp to Previous Year	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34
\$1,657	\$352	\$1,305	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

PROJECT DESCRIPTION

This project will rehabilitate and/or replace gravity sewer segments at various locations in the South Shore Interceptor System. Refer to the Rehabilitation Plan for the full listing of affected assets.

PROJECT JUSTIFICATION

Condition assessment activities indicate that these assets present a material risk of failure due to physical condition defects and I/I.

FUNDING TYPE		CONTACTS	
Funding Type:	Revenue Bond	Contacts-Requesting Dept: Contacts-Dept Contacts: Contacts-Managing Dept:	Operations-Interceptors Virginia Opp Engineering
PROPOSED SCI	HEDULE START DATE	COST ESTIMATE	
PrePlanning PER Design Delay Design Bid Delay PreConstruction Construction Closeout	10/01/2020 10/29/2020 12/18/2020 08/01/2023 06/01/2024 06/01/2024 08/01/2024 03/01/2025	Cost Estimate Class: PrePlanning PER Design PreConstruction Construction Closeout Est. Program Cost Contingency Budget Est. Project Costs	Class 4 \$0 \$53,412 \$290,571 \$16,000 \$1,297,000 \$0 \$1,656,983 \$178,864 \$1 835 847



Driver Category:I&I Abatement-Rehabilitation PlanProject Phase:ConstructionRegulatory:Rehab Plan Phase Two

PROGRAM CASH FLOW PROJECTION (\$,000)

Prog Cost	Exp to Previous Year	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34
\$4,749	\$2,111	\$2,634	\$4	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

PROJECT DESCRIPTION

This project will address multiple valves, air vents, and a leak detector assessed to be at material risk of failure during the Condition Assessment Program. These assets are located between North and South Shore Interceptors. All South Shore air vents on this project were addressed through GN013900.

PROJECT JUSTIFICATION

Condition Assessment Activities and/or Preventative Maintenance reviews suggest that these assets are either at material risk of failure, in need of replacement, or in need of repair.

FUNDING TYPE		CONTACTS	
Funding Type:	Revenue Bond	Contacts-Requesting Dept: Contacts-Dept Contacts: Contacts-Managing Dept:	Operations-Interceptors Ted Denny Engineering
PROPOSED SC	HEDULE START DATE	COST ESTIMATE	
PrePlanning PER Design Delay Design Bid Delay PreConstruction Construction Closeout	02/01/2019 04/30/2021 06/28/2022 06/28/2022 08/17/2023 08/17/2023 11/01/2023 05/01/2025	Cost Estimate Class: PrePlanning PER Design PreConstruction Construction Closeout Est. Program Cost Contingency Budget Est. Project Costs	Class 1 \$0 \$70,643 \$257,660 \$13,242 \$4,402,402 \$5,000 \$4,748,947 \$189,000 \$4,937,947



Driver Category:I&I Abatement-Rehabilitation PlanProject Phase:ConstructionRegulatory:Rehab Plan Phase Two

PROGRAM CASH FLOW PROJECTION (\$,000)

Prog Cost	Exp to Previous Year	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34
\$495	\$306	\$189	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

PROJECT DESCRIPTION

This project will repair/rehabilitate HRSD's aerial/exposed crossings. See Table 3-6 of the Rehabilitation Action Plan for a detailed project list. HRSD may adjust the scope of this project if other projects outside of the Rehabilitation Action Plan address the condition issues.

PROJECT JUSTIFICATION

Condition Assessment Activities and Annual yearly inspections suggested that these aerial/exposed crossings are at material risk of failure or require rehabilitation.

FUNDING TYPE		CONTACTS		
Funding Type:	Revenue Bond	Contacts-Requesting Dept: Contacts-Dept Contacts: Contacts-Managing Dept:	Operations-Interceptors Eddie Heady Operations-Interceptors	
PROPOSED SCI	HEDULE START DATE	COST ESTIMATE		
PrePlanning PER Design Delay Design Bid Delay PreConstruction Construction Closeout	03/02/2020 03/30/2020 05/19/2020 03/01/2021 03/01/2022 03/01/2024 03/02/2024 12/01/2024	Cost Estimate Class: PrePlanning PER Design PreConstruction Construction Closeout Est. Program Cost Contingency Budget Est. Project Costs	Class 4 \$0 \$32,513 \$40,531 \$0 \$422,240 \$0 \$495,284 \$60,560 \$555,844	





System: General Type: Pump Stations

Driver Category: Capacity Improvements Project Phase: Construction Regulatory: None

PROGRAM CASH FLOW PROJECTION (\$,000)

Prog Cost	Exp to Previous Year	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34
\$2,193	\$1,408	\$785	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

PROJECT DESCRIPTION

The project will involve installing control valves at three pump station (PS) sites (North Avenue PS, Woodland Road PS, and Big Bethel Pressure Reducing Station (PRS)) to provide greater operational flexibility and system diversion capabilities during localized wet weather events. Immediate needs to reduce the three month average flow at York River Treatment Plant (YRTP) will be addressed. The long term goal of equalizing and coordinating flows at James River Treatment Plant (JRTP) and YRTP will also be achieved.

PROJECT JUSTIFICATION

The YRTP has experienced increased average daily flow during winter months due to elevated groundwater levels. In the winter of 2014, YRTP experienced five consecutive months that exceeded the 95% design criteria threshold. As required by permit, once three consecutive months above 95% are experienced, a short term and long range plan shall be developed. This automated diversion project will serve as the long range solution and will be able to manage the flow through diversions and operational strategies at several locations between the YRTP, JRTP, and Boat Harbor Treatment Plant (BHTP). Meter data, future flow projections, and hydraulic modeling indicate that once implemented these strategies will successfully reduce the flow below the 95% threshold at YRTP and provide the overall North Shore interceptor system with additional diversion capabilities.

This project was also identified in the Smart Sewer Study as possible average daily (non wet-weather) equalization for the YRTP and JRTP. These automated valves, together with off-line storage facilities could be used to equalize treatment plant flows over the entire day. This flow equalization would serve to both improve sewage treatment processes and optimization SWIFT facilities. It is anticipated that these facilities will provide significant operational and capital improvement cost savings.

FUNDING TYPE		CONTACTS	
Funding Type:	Revenue Bond	Contacts-Requesting Dept: Contacts-Dept Contacts: Contacts-Managing Dept:	Operations-Interceptors Virginia Opp Engineering
PROPOSED SC	HEDULE START DATE	COST ESTIMATE	
PrePlanning PFR	10/03/2016 10/31/2016	Cost Estimate Class: PrePlanning	Class 1
Design Delay	12/20/2016	PER	\$89,250
Design	08/29/2017	Design	\$193,314
Bid Delay	11/30/2017	PreConstruction	\$9,061
PreConstruction	08/09/2018	Construction	\$1,896,340
Construction	07/01/2023	Closeout	\$5,000
Closeout	12/01/2024	Est. Program Cost	\$2,192,964

Contingency Budget

Est. Project Costs

\$440,000

\$2,632,964



Driver Category: I&I Abatement-IP/RWWMP Project Phase: Pre Planning Regulatory: Integrated Plan-SWIFT

PROGRAM CASH FLOW PROJECTION (\$,000)

Prog Cost	Exp to Previous Year	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34
\$1,225	\$204	\$100	\$0	\$0	\$0	\$0	\$229	\$230	\$230	\$232	\$0

PROJECT DESCRIPTION

This project will assist HRSD in development of a regulatory strategy related to dispersion of treated effluent from outfalls associated with the seven facilities that will be impacted by full-scale implementation of SWIFT.

PROJECT JUSTIFICATION

One objective of full scale SWIFT implementation is to substantially reduce surface discharge by maximizing aquifer recharge at each SWIFT facility. This will result in a reduction in daily flow to surface waters from the associated treatment plants. The variability of effluent flow rate for each facility may also significantly increase. These changes may impact the operation of the existing outfall and may require a related outfall modification or new outfall. Dispersion modeling of each outfall will provide an understanding of the related impacts of these changes and will inform conversations with state regulators.

FUNDING TYPE		CONTACTS	
Funding Type:	Cash	Contacts-Requesting Dept: Contacts-Dept Contacts: Contacts-Managing Dept:	Water Quality Lauren Zuravnsky Engineering
PROPOSED SC	HEDULE START DATE	COST ESTIMATE	
PrePlanning PER Design Delay Design Bid Delay PreConstruction	05/31/2019 01/31/2023 01/31/2023 01/31/2023 01/31/2023 01/31/2023	Cost Estimate Class: PrePlanning PER Design PreConstruction Construction	\$1,225,000 \$0 \$0 \$0 \$0
Construction	01/31/2023	Closeout	\$0 \$0
Closeout	01/31/2023	Est. Program Cost Contingency Budget	\$1,225,000 \$0

Est. Project Costs

\$1,225,000



System:	General
Туре:	SWIFT

Driver Category: I&I Abatement-IP/RWWMP Project Phase: Pre Planning Regulatory: Integrated Plan-SWIFT

PROGRAM CASH FLOW PROJECTION (\$,000)

Prog Cost	Exp to Previous Year	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34
\$80,000	\$40,851	\$6,499	\$6,499	\$6,499	\$3,780	\$3,743	\$3,978	\$2,754	\$2,765	\$2,631	\$0

PROJECT DESCRIPTION

The SWIFT Full Scale Implementation Program management team will manage the delivery of the advanced water treatment facilities to take HRSD's already highly treated wastewater and produce SWIFT water. The Program Management team will also manage the delivery of the managed aquifer recharge wells, monitoring wells, and associated pumping and piping systems. The Program Management team will also manage delivery of the wastewater treatment plant improvements, outfall modifications, conveyance, and other projects needed to ensure successful SWIFT implementation. The Program Management team will also processes, procedures, and systems needed to design, procure, construct, permit, manage, and integrate the new SWIFT related assets. The Program Management team will also provide staff augmentation, owner's consultant services, and other support as needed.

PROJECT JUSTIFICATION

The permitting, design, procurement and construction of advanced water treatment facilities, managed aquifer recharge facilities, wastewater treatment upgrades, conveyance, and outfall modifications required to implement the SWIFT Full Scale Implementation Program will require additional resources and expertise to augment HRSDs capabilities and capacity limitations.

FUNDING TYPE		CONTACTS	
Funding Type:	WIFIA	Contacts-Requesting Dept: Contacts-Dept Contacts: Contacts-Managing Dept:	General Manager Laura Kirkwood Engineering
PROPOSED SCI	HEDULE START DATE	COST ESTIMATE	
PrePlanning PER Design Delay Design Bid Delay PreConstruction Construction Closeout	05/01/2020 07/02/2018 01/31/2023 11/01/2018 01/31/2023 07/01/2020 08/01/2022 06/30/2033	Cost Estimate Class: PrePlanning PER Design PreConstruction Construction Closeout Est. Program Cost Contingency Budget Est. Project Costs	\$690,521 \$700 \$69,472,279 \$0 \$9,836,500 \$0 \$80,000,000 \$0 \$80,000,000



Driver Category: Nutrient Reduction Project Phase: Pre Planning Regulatory: Integrated Plan-SWIFT

PROGRAM CASH FLOW PROJECTION (\$,000)

Prog Cost	Exp to Previous Year	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34
\$750	\$621	\$129	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

PROJECT DESCRIPTION

This project includes engineering services necessary to advance the conceptual design and planning for Managed Aquifer Recharge (MAR) wells at each SWIFT facility. Tasks include evaluating the suitability of locations for well sites, preparing preliminary site layouts with respect to well installation and site planning requirements, supporting real estate acquisition, planning well installation logistics, testing, and aquifer conditioning fluid management, developing the overall MAR well data management structure, and supporting contractor and stakeholder outreach.

PROJECT JUSTIFICATION

This project is necessary to inform the selection of individual MAR sites and provide information critical to planning and subsequently installing successful MAR wells. Information developed during this project will support SWIFT recharge and monitoring well land acquisition efforts and locality site planning requirements.

FUNDING TYPE	CONTACT	ſS
Funding Type: Cash	Contacts-Rec Contacts-Dep Contacts-Mar	questing Dept: Engineering ot Contacts: Laura Kirkwood naging Dept: Engineering
PROPOSED SCHEDULE STA	RT DATE COST ESTI	MATE
PrePlanning 01/02/2024 PER 02/02/2024 Design Delay 04/01/2025 Design 04/01/2025 Bid Delay 04/01/2025 PreConstruction 04/01/2025 Construction 04/01/2025 Closeout 04/01/2025	Cost Estimat PrePlanning PER Design PreConstruct Construction <u>Closeout</u> Est. Progra <u>Contingency</u> Est Project	te Class: \$632,034 \$117,966 \$0 ion \$0 \$0 \$0 \$0 \$0 am Cost \$750,000 Budget \$38,000 \$788,000





Driver Category: I&I Abatement-IP/RWWMP Project Phase: Construction Regulatory: Integrated Plan-SWIFT

PROGRAM CASH FLOW PROJECTION (\$,000)

Prog Cost	Exp to Previous Year	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34
\$11,410	\$9,122	\$2,287	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

PROJECT DESCRIPTION

This project will provide design and construction of improvements to the land surrounding the James River Treatment Plant (JRTP), including development of a nearly 1 mile of linear park and trail system. The trail consists of elevated timber boardwalk structures and asphalt on grade trails within HRSD's open space easement and in the City Farm section of Riverview Farm Park.

PROJECT JUSTIFICATION

HRSD Commission approved an Agreement with the City of Newport News in 2020 to purchase approximately ten (10) acres of land adjacent to JRTP and receive the required easements for managed aquifer recharge wells, buildings, and related piping. Among the requirements stated in the land purchase Agreement is the commitment by HRSD to design and construct public access trails, which will be operated and maintained by the City of Newport News.

FUNDING TYPE		CONTACTS		
Funding Type:	Cash	Contacts-Requesting Dept Contacts-Dept Contacts: Contacts-Managing Dept:	:: Engineering Jennifer Klages Engineering	
PROPOSED SC	HEDULE START DATE	COST ESTIMATE		
PrePlanning PER Design Delay Design Bid Delay PreConstruction Construction	11/01/2019 02/17/2021 09/30/2022 08/31/2022 09/30/2022 08/09/2022 03/01/2023 10/24/2024	Cost Estimate Class: PrePlanning PER Design PreConstruction Construction Closeout Est Program Cost	Class 1 \$1,197 \$199,484 \$629,783 \$17,014 \$10,516,563 \$0 \$11 364 041	
Closeout	10/24/2024	Contingency Budget	\$11,364,041 \$0	
		Est. Project Costs	\$11,364,04 <u>1</u>	





PR_GN016346

Driver Category: I&I Abatement-IP/RWWMP Project Phase: Pre Planning Regulatory: Integrated Plan-SWIFT

PROGRAM CASH FLOW PROJECTION (\$,000)

Prog Cost	Exp to Previous Year	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34
\$5,500	\$1,923	\$3,577	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

PROJECT DESCRIPTION

A transmission force main connecting the new Boat Harbor Pump Station and Nansemond Treatment Plant will be constructed under a separate capital project. Additionally, SWIFT Water piping and recharge well locations will be defined along the transmission force main route. This project will fund the purchase of land and easements that are needed to construct the transmission force main, SWIFT Water piping, well buildings and associated utilities.

PROJECT JUSTIFICATION

An easement across private property is required to install the force main from the south shore of the James River to the Nansemond Treatment Plant, which is required to implement projects BH015700, BH015710, and BH015720. Acquiring property on the west side of I-664 for recharge wells is required because there is insufficient space on the HRSD Nansemond property to accommodate the needed spacing between recharge wells.

FUNDING TYPE		CONTACTS		
Funding Type:	WIFIA	Contacts-Requesting Dept: Contacts-Dept Contacts: Contacts-Managing Dept:	Engineering David Steele Engineering	
PROPOSED SC	HEDULE START DATE	COST ESTIMATE		
PrePlanning PER Design Delay Design Bid Delay PreConstruction Construction Closeout	11/28/2022 02/01/2023 02/01/2023 02/01/2023 08/26/2024 08/26/2024 08/26/2024 08/26/2024	Cost Estimate Class: PrePlanning PER Design PreConstruction Construction <u>Closeout</u> Est. Program Cost	\$0 \$0 \$5,500,000 \$0 \$0 \$5,500,000	
		Est. Project Costs	\$500,000 \$6,000,000	





Driver Category: I&I Abatement-IP/RWWMP Project Phase: Proposed Regulatory: Integrated Plan-SWIFT

PROGRAM CASH FLOW PROJECTION (\$,000)

Prog Cost	Exp to Previous Year	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34
\$2,287	\$0	\$426	\$995	\$866	\$0	\$0	\$0	\$0	\$0	\$0	\$0

PROJECT DESCRIPTION

This project includes design and construction of multi-use trails of approximately 3,000 linear feet connecting to existing City of Newport News trails. The project area is located adjacent to HRSDs James River Treatment Plant within the City of Newport News Riverview Farm Park. The project will incorporate multi-use asphalt on grade trail and associated landscaping improvements near the managed aquifer recharge well buildings.

PROJECT JUSTIFICATION

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

FUNDING TYPE		CONTACTS		
Funding Type:	Cash	Contacts-Requesting Dept: Contacts-Dept Contacts: Contacts-Managing Dept:	Engineering Jennifer Klages Engineering	
PROPOSED SC	HEDULE START DATE	COST ESTIMATE		
PrePlanning PER Design Delay Design Bid Delay PreConstruction Construction	07/01/2024 07/01/2024 07/01/2024 07/01/2024 06/02/2025 10/15/2025 11/25/2025	Cost Estimate Class: PrePlanning PER Design PreConstruction Construction Closeout	Class 5 \$0 \$185,000 \$15,000 \$2,087,000 \$0	
Closeout	01/11/2027	Est. Program Cost Contingency Budget	\$2,287,000 \$302,000	
		Est. Project Costs	\$2,589,000	







Driver Category: I&I Abatement-IP/RWWMP Project Phase: Construction Regulatory: Integrated Plan-SWIFT

PROGRAM CASH FLOW PROJECTION (\$,000)

Prog Cost	Exp to Previous Year	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34
\$298,200	\$156,391	\$99,081	\$30,641	\$12,087	\$0	\$0	\$0	\$0	\$0	\$0	\$0

PROJECT DESCRIPTION

SWIFT James River will include advanced water treatment facilities needed to produce SWIFT water at the James River Treatment Plant. The scope includes advanced water treatment facilities, conveyance of SWIFT water to the recharge wells, and modifications to the non-potable water system. The scope does not include land acquisition, modifications to the existing outfall system or improvements to the existing watewater treatment process to improve the quality of the secondary effluent, to be compatible with the SWIFT facilities. The scope does not include drilling of the recharge and monitoring wells.

PROJECT JUSTIFICATION

SWIFT James River is needed to reduce nutrients entering the Chesapeake Bay, augment the groundwater supply, reduce the rate of ground subsidence, protect groundwater from saltwater intrusion and support Virginias economy.

FUNDING TYPE		CONTACTS	
Funding Type:	WIFIA	Contacts-Requesting Dep Contacts-Dept Contacts: Contacts-Managing Dept:	ot: General Manager Efram Fuller Engineering
PROPOSED SC	HEDULE START DATE	COST ESTIMATE	
PrePlanning PER Design Delay Design Bid Delay PreConstruction Construction Closeout	08/01/2019 07/01/2019 04/30/2020 04/24/2020 07/31/2020 08/02/2019 02/07/2022 11/07/2026	Cost Estimate Class: PrePlanning PER Design PreConstruction Construction Closeout Est. Program Cost Contingency Budget Est. Project Costs	Class 1 \$0 \$4,079,276 \$19,018,105 \$288,289 \$274,813,869 \$0 \$298,199,539 \$7,500,000





Driver Category: I&I Abatement-IP/RWWMP Project Phase: Construction Regulatory: Integrated Plan-SWIFT

PROGRAM CASH FLOW PROJECTION (\$,000)

Prog Cost	Exp to Previous Year	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34
\$47,077	\$31,797	\$14,796	\$484	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

PROJECT DESCRIPTION

James River Recharge Wells (Off Site) will provide for the construction of recharge wells and monitoring wells off site; services for the development, logging, testing, and conditioning of wells associated with SWIFT at the James River Treatment Plant. The scope does not include well site development or the mechanical equipment associated with the conveyance of SWIFT water up to and into the wells.

PROJECT JUSTIFICATION

James River Recharge Wells are required for managed aquifer recharge using SWIFT Water. The monitoring wells are required by permit.

FUNDING TYPE		CONTACTS	
Funding Type:	WIFIA	Contacts-Requesting Dept Contacts-Dept Contacts: Contacts-Managing Dept:	: Engineering Jennifer Klages Engineering
PROPOSED SC	HEDULE START DATE	COST ESTIMATE	
PrePlanning PER Design Delay Design Bid Delay PreConstruction Construction Closeout	08/31/2021 08/31/2021 10/31/2021 08/25/2021 05/28/2021 05/28/2021 06/29/2022 08/26/2025	Cost Estimate Class: PrePlanning PER Design PreConstruction Construction Closeout Est. Program Cost Contingency Budget Est. Project Costs	Class 1 \$0 \$955 \$25,833 \$47,048,520 \$2,000 \$47,077,308 \$256,692 \$47,334,000





Driver Category: I&I Abatement-IP/RWWMP Project Phase: Proposed Regulatory: Integrated Plan-SWIFT

PROGRAM CASH FLOW PROJECTION (\$,000)

Prog Cost	Exp to Previous Year	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34
\$305	\$0	\$102	\$198	\$5	\$0	\$0	\$0	\$0	\$0	\$0	\$0

PROJECT DESCRIPTION

This project includes enhancement of approximately three managed aquifer recharge wells in the City of Newport News Riverview Farm Park. The project area is located within the City's Riverview Farm park and HRSD's easements. The project will incorporate native plants and public access design elements to enhance the area around the managed aquifer recharge well buildings.

PROJECT JUSTIFICATION

HRSD entered into an Agreement with the City of Newport News to purchase approximately ten (10) acres of land adjacent to the James River Treatment Plant (JRTP) and receive the required easements for managed aquifer recharge wells, buildings, and related piping. Among the requirements stated in the land purchase Agreement is the commitment by HRSD to integrate the managed aquifer recharge well buildings into the park through installation of landscaping and public amenities.

FUNDING TYPE		CONTACTS		
Funding Type:	Cash	Contacts-Requesting Dept: Contacts-Dept Contacts: Contacts-Managing Dept:	Engineering Jennifer Klages Engineering	
PROPOSED SC	HEDULE START DATE	COST ESTIMATE		
PrePlanning PER Design Delay Design Bid Delay PreConstruction Construction Closeout	07/01/2024 07/01/2024 07/01/2024 07/01/2024 10/02/2024 06/11/2025 07/22/2025 07/09/2026	Cost Estimate Class: PrePlanning PER Design PreConstruction Construction Closeout Est. Program Cost	Class 5 \$0 \$100,000 \$5,000 \$200,000 \$0 \$305,000	
		Contingency Budget	\$50,000	
		Est. Project Costs	\$355,000	







Driver Category: I&I Abatement-IP/RWWMP Project Phase: PER Regulatory: Integrated Plan-SWIFT

PROGRAM CASH FLOW PROJECTION (\$,000)

Prog Cost	Exp to Previous Year	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34
\$564,828	\$2,017	\$33,370	\$132,799	\$132,430	\$132,311	\$131,901	\$0	\$0	\$0	\$0	\$0

PROJECT DESCRIPTION

Nansemond SWIFT will include advanced water treatment facilities needed to produce SWIFT water at the Nansemond Treatment Plant. The scope includes advanced water treatment facilities, conveyance of SWIFT water to the recharge wells, and modifications to the non-potable water system. The scope does not include land acquisition, modifications to the existing outfall system, or improvements to the existing wastewater treatment process to improve the quality of the secondary effluent to meet the influent requirements of the SWIFT treatment facilities. The scope does not include drilling of the recharge and monitoring wells.

PROJECT JUSTIFICATION

Nansemond SWIFT is needed to reduce nutrients entering the Chesapeake Bay, augment the groundwater supply, reduce the rate of ground subsidence, protect groundwater from saltwater intrusion, and support Virginia's economy. This project will support HRSD's nutrient management strategy for meeting the Lower James River Basin total phosphorus and total nitrogen discharge limits.

FUNDING TYPE		CONTACTS		
Funding Type:	VCWRLF	Contacts-Requesting Dep Contacts-Dept Contacts: Contacts-Managing Dept:	t: General Manager Adam Werner Engineering	
PROPOSED SC	HEDULE START DATE	COST ESTIMATE		
PrePlanning PER Design Delay Design Bid Delay PreConstruction Construction Closeout	11/22/2021 05/02/2022 03/28/2023 06/11/2024 09/22/2025 06/11/2024 06/04/2025 03/30/2029	Cost Estimate Class: PrePlanning PER Design PreConstruction Construction Closeout Est. Program Cost	Class 5 \$0 \$969,626 \$35,017,600 \$441,009 \$528,400,000 <u>\$0</u> \$564,828,235	
		Contingency Budget	\$58,843,065	
		Est. Project Costs	<u>\$623,671,300</u>	







Driver Category: I&I Abatement-IP/RWWMP Project Phase: Pre Planning Regulatory: Integrated Plan-SWIFT

PROGRAM CASH FLOW PROJECTION (\$,000)

Prog Cost	Exp to Previous Year	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34
\$67,351	\$10	\$939	\$13,318	\$35,367	\$17,522	\$195	\$0	\$0	\$0	\$0	\$0

PROJECT DESCRIPTION

Nansemond Recharge Wells will provide for the construction of recharge wells and monitoring wells; services for the development, logging, testing, and conditioning of wells associated with SWIFT at the Nansemond Treatment Plant. The scope does not include well site development or the mechanical equipment associated with the conveyance of SWIFT water up to and into the wells.

PROJECT JUSTIFICATION

Nansemond Recharge Wells are required for managed aquifer recharge using SWIFT Water. The monitoring wells are required by permit.

FUNDING TYPE		CONTACTS		
Funding Type:	VCWRLF	Contacts-Requesting Dept Contacts-Dept Contacts: Contacts-Managing Dept:	:: Engineering Laura Kirkwood Engineering	
PROPOSED SCI	HEDULE START DATE	COST ESTIMATE		
PrePlanning PER Design Delay Design Bid Delay PreConstruction Construction Closeout	01/02/2024 02/02/2024 03/29/2024 04/01/2024 03/26/2025 03/27/2025 09/11/2025 08/01/2028	Cost Estimate Class: PrePlanning PER Design PreConstruction Construction Closeout Est. Program Cost Contingency Budget Est. Project Costs	Class 5 \$0 \$0 \$913,000 \$42,900 \$66,395,450 \$0 \$67,351,350 \$6,735,850 \$74,087,200	



Driver Category: I&I Abatement-IP/RWWMP Project Phase: Proposed Regulatory: Integrated Plan-SWIFT

PROGRAM CASH FLOW PROJECTION (\$,000)

Prog Cost	Exp to Previous Year	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34
\$55,106	\$16	\$758	\$10,899	\$28,848	\$14,402	\$182	\$0	\$0	\$0	\$0	\$0

PROJECT DESCRIPTION

Nansemond Recharge Wells (Off-Site) will provide for the design and construction of recharge wells and monitoring wells and services for the development, logging, testing, and conditioning of wells associated with SWIFT at the Nansemond Treatment Plant. The scope does not include well site development or the mechanical equipment associated with the conveyance of SWIFT water up to and into the wells. The well locations are outside the boundary of Nansemond Plant property.

PROJECT JUSTIFICATION

Nansemond Recharge Wells are required for managed aquifer recharge using SWIFT Water. The monitoring wells are required by permit.

	CONTACTS	
WIFIA	Contacts-Requesting Dept Contacts-Dept Contacts: Contacts-Managing Dept:	: Engineering Laura Kirkwood Engineering
HEDULE START DATE	COST ESTIMATE	
01/02/2024 02/02/2024 03/29/2024 04/01/2024 03/26/2025 03/27/2025 09/11/2025 08/01/2028	Cost Estimate Class: PrePlanning PER Design PreConstruction Construction Closeout Est. Program Cost Contingency Budget Est. Project Costs	Class 5 \$0 \$0 \$747,000 \$35,100 \$54,323,550 \$0 \$55,105,650 \$5,511,150
	WIFIA HEDULE START DATE 01/02/2024 02/02/2024 03/29/2024 03/29/2024 03/26/2025 03/27/2025 03/27/2025 09/11/2025 08/01/2028	WIFIAContacts-Requesting Dept Contacts-Dept Contacts: Contacts-Managing Dept:HEDULE START DATECOST ESTIMATE01/02/2024Cost Estimate Class: PrePlanning 03/29/202403/29/2024PER 04/01/202403/26/2025PreConstruction Construction 03/27/202503/27/2025Construction Closeout08/01/2028Est. Program Cost Contingency Budget Est. Project Costs



Driver Category: I&I Abatement-IP/RWWMP Project Phase: Pre Planning Regulatory: Integrated Plan-SWIFT

PROGRAM CASH FLOW PROJECTION (\$,000)

Prog Cost	Exp to Previous Year	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34
\$56,101	\$104	\$467	\$582	\$5,824	\$37,252	\$11,871	\$0	\$0	\$0	\$0	\$0

PROJECT DESCRIPTION

The project will design and construct the process mechanical elements, mechanical, civil/site, structural/architectural, electrical, and instrumentation and control for the infrastructure required to convey SWIFT Water from the Nansemond SWIFT facility to the off-site managed aquifer recharge wells and monitoring wells. A section of the backflush and SWIFT Water piping will be constructed from the Nansemond Plant boundary to the traffic circle at the College Drive/Armstead Road intersection under a separate project, Boat Harbor Treatment Plant Transmission Force Main Section 2 project. The remaining off-site SWIFT Water and backflush piping will fall under this project.

PROJECT JUSTIFICATION

Nansemond Recharge Wells are required for managed aquifer recharge using SWIFT Water. The monitoring wells are required by permit. Separation of this project from the well drilling and advanced water treatment facility projects allows for a focused selection of delivery methods and contract requirements for off-site work.

FUNDING TYPE		CONTACTS	
Funding Type:	WIFIA	Contacts-Requesting Depr Contacts-Dept Contacts: Contacts-Managing Dept:	t: Engineering Laura Kirkwood Engineering
PROPOSED SCI	HEDULE START DATE	COST ESTIMATE	
PrePlanning PER Design Delay Design Bid Delay PreConstruction Construction Closeout	12/01/2023 06/03/2024 10/01/2024 10/01/2024 09/28/2026 09/29/2029 02/26/2027 09/01/2028	Cost Estimate Class: PrePlanning PER Design PreConstruction Construction Closeout Est. Program Cost Contingency Budget Est. Project Costs	Class 5 \$126,000 \$325,000 \$711,000 \$69,000 \$54,870,000 \$0 \$56,101,000 \$16,830,000 \$72,931,000





System: VIP Type: SWIFT Driver Category: I&I Abatement-IP/RWWMP Project Phase: Pre Planning Regulatory: Integrated Plan-SWIFT

PROGRAM CASH FLOW PROJECTION (\$,000)

Prog Cost	Exp to Previous Year	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34
\$5,377	\$0	\$2,116	\$3,261	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

PROJECT DESCRIPTION

This project will include the preliminary engineering of the initial phase of SWIFT implementation, including tertiary treatment comprised of coagulation, flocculation, and sedimentation followed by granular media filters.

PROJECT JUSTIFICATION

This project will support HRSD's nutrient management strategy for meeting the 2032 Lower James River Basin total phosphorus discharge limits.

FUNDING TYPE		CONTACTS		
Funding Type:	Revenue Bond	Contacts-Requesting Dept: Contacts-Dept Contacts: Contacts-Managing Dept:	Engineering Akshay Kumar Engineering	
PROPOSED SC	HEDULE START DATE	COST ESTIMATE		
PrePlanning PER Design Delay Design Bid Delay PreConstruction Construction Closeout	03/10/2023 07/01/2023 06/26/2026 06/26/2026 06/26/2026 06/26/2026 06/26/2026 06/26/2026	Cost Estimate Class: PrePlanning PER Design PreConstruction Construction Closeout Est. Program Cost Contingency Budget	Class 5 \$138 \$5,377,000 \$0 \$0 \$0 \$0 \$5,377,138 \$0	
		Est. Project Costs	\$5,377,138	





Driver Category: I&I Abatement-IP/RWWMP Project Phase: Proposed Regulatory: Integrated Plan-SWIFT

PROGRAM CASH FLOW PROJECTION (\$,000)

Prog Cost	Exp to Previous Year	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34
\$32,021	\$0	\$0	\$0	\$1,045	\$23,027	\$7,949	\$0	\$0	\$0	\$0	\$0

PROJECT DESCRIPTION

This project will design and construct the necessary site preparation, grading, and debris removal to prepare the former Lambert's Point Golf Course site adjacent to VIP treatment plant for SWIFT tertiary treatment facilities.

PROJECT JUSTIFICATION

VIP treatment plant is land constrained. A portion of the former Lambert's Point Golf Course, adjacent to the treatment plant, was purchased for treatment expansion including SWIFT facilities. Prior to redevelopment as a golf course, the parcel was used as a landfill from prior to 1965 until its closure around 1980. Separate planning, design, and construction will allow this project to proceed prior to the construction of treatment facilities.

FUNDING TYPE		CONTACTS	
Funding Type:	WIFIA	Contacts-Requesting Dept: Contacts-Dept Contacts: Contacts-Managing Dept:	Engineering Lauren Zuravnsky Engineering
PROPOSED SC	HEDULE START DATE	COST ESTIMATE	
PrePlanning PER Design Delay Design Bid Delay PreConstruction Construction	03/10/2023 07/01/2023 06/26/2026 07/01/2026 05/07/2027 05/08/2027 06/16/2027	Cost Estimate Class: PrePlanning PER Design PreConstruction Construction Closeout	Class 5 \$0 \$928,000 \$33,000 \$31,060,000 \$0
Closeout	01/24/2029	Est. Program Cost Contingency Budget	\$32,021,000 \$6,404,200
		Est. Project Costs	\$38,425,200





System: VIP Type: SWIFT Driver Category: I&I Abatement-IP/RWWMP Project Phase: Proposed Regulatory: Integrated Plan-SWIFT

PROGRAM CASH FLOW PROJECTION (\$,000)

Prog Cost	Exp to Previous Year	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34
\$323,886	\$0	\$0	\$0	\$8,145	\$4,328	\$67,470	\$83,943	\$80,000	\$80,000	\$0	\$0

PROJECT DESCRIPTION

This project will include the design, construction, and commissioning of the initial phase of SWIFT implementation, including tertiary treatment comprised of coagulation, flocculation, and sedimentation followed by granular media filters.

PROJECT JUSTIFICATION

This project will support HRSD's nutrient management strategy for meeting the 2032 Lower James River Basin total phosphorus discharge limits.

FUNDING TYPE		CONTACTS
Funding Type:	Revenue Bond	Contacts-Requesting Dept:EngineeringContacts-Dept Contacts:Akshay KumarContacts-Managing Dept:Engineering
PROPOSED SCH	EDULE START DATE	COST ESTIMATE
PrePlanning PER Design Delay Design Bid Delay PreConstruction Construction Closeout	03/10/2023 07/01/2023 06/26/2026 07/01/2026 11/03/2027 12/01/2027 03/06/2028 03/03/2032	Cost Estimate Class:Class 5PrePlanning\$0PER\$0Design\$9,525,100PreConstruction\$308,000Construction\$314,052,900Closeout\$0Est. Program Cost\$323,886,000Contingency Budget\$64,777,200Est. Project Costs\$388,663,200




Driver Category: Capacity Improvements Project Phase: Design Regulatory: None

PROGRAM CASH FLOW PROJECTION (\$,000)

	Exp to										
Prog Cost	Previous Year	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34
\$12,658	\$1,591	\$1,720	\$5,333	\$4,006	\$9	\$0	\$0	\$0	\$0	\$0	\$0

PROJECT DESCRIPTION

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

PROJECT JUSTIFICATION

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

FUNDING TYPE		CONTACTS	
Funding Type:	Revenue Bond	Contacts-Requesting Dept Contacts-Dept Contacts: Contacts-Managing Dept:	: Operations-Treatment Angela Weatherhead Engineering
PROPOSED SCI	HEDULE START DATE	COST ESTIMATE	
PrePlanning PER Design Delay Design Bid Delay PreConstruction Construction Closeout	07/02/2018 01/01/2020 04/01/2020 05/01/2020 01/10/2025 01/13/2025 04/14/2025 04/01/2027	Cost Estimate Class: PrePlanning PER Design PreConstruction Construction Closeout Est. Program Cost Contingency Budget Est. Project Costs	Class 2 \$0 \$0 \$1,263,839 \$15,000 \$11,364,462 \$15,000 \$12,658,301 \$1,704,669 \$14,362,970



Interceptor Systems PS Control and SCADA Upgrades and Enhancements Phase II

PR_GN017200

System: Type: General Software and Technology Driver Category: Performance Upgrades Project Phase: Construction Regulatory: None

PROGRAM CASH FLOW PROJECTION (\$,000)

Prog Cost	Exp to Previous Year	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34
\$10,505	\$8,424	\$1,921	\$160	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

PROJECT DESCRIPTION

This project provides for implementation of Phase II of the Interceptor System Supervisory Control and Data Acquisition System (SCADA). This project will replace approximately 130 control panels at remote HRSD facilities. The project will also provide replacement of the current top-end SCADA software and hardware.

PROJECT JUSTIFICATION

The existing remote facilities require replacement of the control panels and SCADA system to provide operational improvements and replace aging equipment that was installed in the 1990s. The current design of the control panels at the remote facilities does not promote adequate data acquisition, supervisory control, or emerging control technologies.

FUNDING TYPE		CONTACTS		
Funding Type:	Cash	Contacts-Requesting Dept: Contacts-Dept Contacts: Contacts-Managing Dept:	Chris Stephan Operations-Interceptors Operations-Interceptors	
PROPOSED SC	HEDULE START DATE	COST ESTIMATE		
PrePlanning PER Design Delay Design Bid Delay PreConstruction Construction Closeout	05/01/2020 05/01/2020 05/01/2020 05/01/2020 05/01/2020 05/01/2020 07/01/2020 08/01/2025	Cost Estimate Class: PrePlanning PER Design PreConstruction Construction <u>Closeout</u> Est. Program Cost	Class 1 \$0 \$0 \$0 \$0 \$10,505,000 <u>\$0</u> \$10,505,000	
	00,0	Contingency Budget	\$0	
		Est. Project Costs	\$10,505,000	



Treatment Plant Dewatering Improvement Program

PR_GN017300

Driver Category:Aging Infrastructure/RehabilitationProject Phase:ProposedRegulatory:None

PROGRAM CASH FLOW PROJECTION (\$,000)

Prog Cost	Exp to Previous Year	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34
\$13,605	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$2,721	\$5,442	\$5,442

PROJECT DESCRIPTION

This project will serve as the program for replacement of centrifuges at each treatment plant. Plant specific projects will be created out of this program. The funding for this program will be reduced as the plant specific projects are created.

PROJECT JUSTIFICATION

Each of the large plants currently have centrifuges that were installed anywhere from 20 to 40 years ago and repairs are becoming difficult and expensive. Replacement will be required for two units per plant over the next 15 years.

FUNDING TYPE		CONTACTS	
Funding Type:	Revenue Bond	Contacts-Requesting Dept: Contacts-Dept Contacts: Contacts-Managing Dept:	Operations-Treatment Christopher Wilson Engineering
PROPOSED SC	HEDULE START DATE	COST ESTIMATE	
PrePlanning PER Design Delay Design Bid Delay PreConstruction Construction	07/01/2017 07/01/2017 07/01/2017 07/01/2017 07/01/2017 07/01/2017 01/01/2032	Cost Estimate Class: PrePlanning PER Design PreConstruction Construction Closeout	Class 5 \$0 \$0 \$0 \$0 \$18,594,160 \$0
Closeout	06/01/2035	Est. Program Cost Contingency Budget	\$18,594,160 \$3,718,832
		Est. Project Costs	\$22,312,992







Driver Category: Capacity Improvements Project Phase: Design Regulatory: Nutrient Reduction

PROGRAM CASH FLOW PROJECTION (\$,000)

Prog Cost	Exp to Previous Year	EV25	EV26	EV27	EV28	EV20	EV30	EV31	EV32	EV33	EV34
Flog Cost	Flevious leal	FIZJ	FIZU	F127	F120	F129	FISU	FIJI	FIJZ	FIJJ	F134
\$9,854	\$754	\$2,209	\$4,588	\$2,304	\$0	\$0	\$0	\$0	\$0	\$0	\$0

PROJECT DESCRIPTION

This project includes evaluation, design, and construction relating to the modification of the solids handling building for the installation of two HRSD-owned final dewatering centrifuges. Additionally, the project will include rehabilitation as needed of HRSD-owned centrifuges currently installed and in operation at the James River Treatment Plant (JRTP) (DS706) and Chesapeake-Elizabeth Treatment Plant (CETP) (PM76000). These centrifuges will be installed in locations with no currently installed centrifuges at Virginia Initiative Plant (VIP), requiring addition of cake conveyors and other appurtenance to feed solids and polymer to the centrifuges, to convey dewatered solids cake to the multiple hearth furnace, and to connect to the centrate drain.

PROJECT JUSTIFICATION

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

FUNDING TYPE		CONTACTS		
Funding Type:	Revenue Bond	Contacts-Requesting Dept Contacts-Dept Contacts: Contacts-Managing Dept:	: Operations-Treatment Angela Weatherhead Engineering	
PROPOSED SCI	HEDULE START DATE	COST ESTIMATE		
PrePlanning PER Design Delay Design Bid Delay PreConstruction Construction Closeout	10/01/2021 10/04/2021 10/05/2021 06/17/2022 11/15/2024 11/18/2024 02/17/2025 01/18/2027	Cost Estimate Class: PrePlanning PER Design PreConstruction Construction Closeout Est. Program Cost Contingency Budget Est. Project Costs	Class 2 \$0 \$290,408 \$747,174 \$13,484 \$8,793,120 \$10,000 \$9,854,186 \$1,758,624 \$11,612,810	



General Facilities, Buildings and Capital Equipment

Driver Category:Aging Infrastructure/RehabilitationProject Phase:ProposedRegulatory:None

PROGRAM CASH FLOW PROJECTION (\$,000)

Prog Cost	Exp to Previous Year	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34
\$6,611	\$0	\$0	\$1,653	\$1,653	\$1,653	\$1,653	\$0	\$0	\$0	\$0	\$0

PROJECT DESCRIPTION

This project will provide funding for the scheduled replacement of fleet assets.

PROJECT JUSTIFICATION

Fleet assets are on a scheduled replacement plan. This program will ensure there is funding in each fiscal year to meet the replacement schedule.

FUNDING TYPE		CONTACTS	
Funding Type:	Cash	Contacts-Requesting Dept: Contacts-Dept Contacts: Contacts-Managing Dept:	Operations-Support Systems Lee Heath Operations-Support Systems
PROPOSED SC	HEDULE START DATE	COST ESTIMATE	
PrePlanning PER Design Delay Design Bid Delay PreConstruction Construction Closeout	07/01/2020 07/01/2020 07/01/2020 07/01/2020 07/01/2020 07/01/2020 07/01/2020 06/01/2029	Cost Estimate Class: PrePlanning PER Design PreConstruction Construction Closeout Est. Program Cost Contingency Budget	Class 5 \$0 \$0 \$0 \$6,611,370 \$0 \$6,611,370 \$0
		Est. Project Costs	\$6,611,370





Driver Category: Clean Air Act Project Phase: Construction Regulatory: Clean Air Act

PROGRAM CASH FLOW PROJECTION (\$,000)

Prog Cost	Exp to Previous Year	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34
\$6,036	\$4,758	\$1,277	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

PROJECT DESCRIPTION

Design and installation of thickened liquid solids load out facilities at Army Base Treatment Plant (ABTP) and thickened liquid solids load in facilities at Atlantic Treatment Plant (ATP) and Virginia Initiative Plant (VIP). Completed facilities will leverage existing solids handling capacity at receiving plants to remove solids handling facilities at ABTP from operation (including dewatering and multiple hearth incinerator (MHI) operations). Utilizing improvements will require contracting of thickened liquid solids hauling from ABTP to ATP and VIP.

PROJECT JUSTIFICATION

Project is projected to reduce net annual operating expenses for ABTP solids management by approximately \$100,000/year. Removing ABTP solids handling systems from operation will reduce baseline operational staffing requirements at ABTP by four (4) Plant Operators, one (1) Maintenance Operator, one (1) Maintenance Operator Assistant; reduce electrical energy requirements at ABTP by 27 percent; and reduce net carbon emissions associated with ABTP solids management (inclusive of contract hauling of thickened liquid sludge) by 2,880 tons CO2e/year (35% of current ABTP net annual emissions).

Removing ABTP MHI from operation mitigates regulatory risk of CAA129 MACT standards non-compliance.

FUNDING TYPE		CONTACTS		
Funding Type:	VCWRLF	Contacts-Requesting Dept: Contacts-Dept Contacts: Contacts-Managing Dept:	Operations-Treatment Rebecca Currall Engineering	
PROPOSED SCI	HEDULE START DATE	COST ESTIMATE		
PrePlanning PER Design Delay Design Bid Delay PreConstruction Construction Closeout	07/01/2020 10/14/2020 05/17/2021 05/19/2021 02/11/2022 05/02/2022 08/10/2022 04/01/2025	Cost Estimate Class: PrePlanning PER Design PreConstruction Construction <u>Closeout</u> Est. Program Cost Contingency Budget	Class 1 \$0 \$44,864 \$573,028 \$17,938 \$5,400,000 <u>\$0</u> \$6,035,830 \$190,000	
		Est. Project Costs	\$6,225,830	



System: General Type: Pipelines North Shore Galvanic Cathodic Protection Rehabilitation

PR_GN018600

Driver Category: Aging Infrastructure/Rehabilitation Project Phase: Pre Planning Regulatory: Rehab Plan Phase Two

PROGRAM CASH FLOW PROJECTION (\$,000)

Prog Cost	Exp to Previous Year	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34
\$1,988	\$110	\$1,251	\$616	\$11	\$0	\$0	\$0	\$0	\$0	\$0	\$0

PROJECT DESCRIPTION

This project will renew eleven (11) Cathodic Protection(CP) systems in the Interceptor system currently protecting force mains with a high consequence of failure. The Interceptor force main CP systems requiring renewal consists of NF-015, NF-170, NF-172, NF-197, NF-204, NF-205, NF-215, NF-216, NF-217, NF-223, NF-961.

PROJECT JUSTIFICATION

The identified cathodic protection systems are no longer providing an adequate level of protection for force mains located in highly corrosive soils, which increases the potential for future failures due to external corrosion. The CP system renewals associated with NF-172, NF-204, and NF-205 are part of the Rehab Action Plan Phase 2 projects.

FUNDING TYPE		CONTACTS	CONTACTS					
Funding Type:	Revenue Bond	Contacts-Requesting Dept: Contacts-Dept Contacts: Contacts-Managing Dept:	Engineering Phil Hughes Engineering					
PROPOSED SC	HEDULE START DATE	COST ESTIMATE						
PrePlanning PER Design Delay Design Bid Delay PreConstruction Construction Closeout	12/01/2022 02/02/2023 07/03/2023 03/01/2024 12/01/2024 12/01/2024 03/01/2025 09/01/2025	Cost Estimate Class: PrePlanning PER Design PreConstruction Construction <u>Closeout</u> Est. Program Cost Contingency Budget	Class 5 \$0 \$219,113 \$21,911 \$1,679,863 \$67,000 \$1,987,887 \$335,973					
		Est. Project Costs	\$2,323,860					



System:	General
Туре:	Pipelines

Driver Category:Aging Infrastructure/RehabilitationProject Phase:Pre PlanningRegulatory:None

PROGRAM CASH FLOW PROJECTION (\$,000)

Prog Cost	Exp to Previous Year	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34
\$2,847	\$229	\$668	\$1,922	\$28	\$0	\$0	\$0	\$0	\$0	\$0	\$0

PROJECT DESCRIPTION

This project will renew twelve (12) Cathodic Protection(CP) systems in the Interceptor system currently protecting force mains with a high consequence of failure. The Interceptor force main CP systems requiring renewal consists of SF-024, SF-081, SF-082, SF-083, SF-283, SF-084, SF-126, SF-172, SF 225, SF-260, SF-268, and SF-281.

PROJECT JUSTIFICATION

The identified cathodic protection systems are no longer providing an adequate level of protection for force mains located in highly corrosive soils, which increases the potential for future failures due to external corrosion.

FUNDING TYPE		CONTACTS	
Funding Type:	Revenue Bond	Contacts-Requesting Dept: Contacts-Dept Contacts: Contacts-Managing Dept:	Engineering Phil Hughes Engineering
PROPOSED SC	HEDULE START DATE	COST ESTIMATE	
PrePlanning PER Design Delay Design Bid Delay PreConstruction Construction	03/01/2024 03/01/2024 06/01/2024 06/01/2024 03/01/2025 03/01/2025 06/01/2025	Cost Estimate Class: PrePlanning PER Design PreConstruction Construction Closeout	Class 5 \$0 \$196,450 \$294,675 \$29,468 \$2,259,175 \$67,000
Closeout	12/01/2025	Est. Program Cost Contingency Budget Est. Project Costs	\$2,846,768 \$451,835 \$3.298.603



System:	General
Туре:	Pipelines

Driver Category:Aging Infrastructure/RehabilitationProject Phase:Pre PlanningRegulatory:Rehab Plan Phase Two

PROGRAM CASH FLOW PROJECTION (\$,000)

Prog Cost	Exp to Previous Year	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34
\$2,650	\$131	\$1,699	\$809	\$11	\$0	\$0	\$0	\$0	\$0	\$0	\$0

PROJECT DESCRIPTION

This project will renew eleven (11) Cathodic Protection(CP) systems in the Interceptor system currently protecting force mains with a high consequence of failure. The interceptor force main CP systems requiring renewal will consist of SF-216, SF-235, SF-261, SF-262, SF-263, SF-265, SF 270, SF-274, SF-275, and SF-284.

PROJECT JUSTIFICATION

The identified cathodic protection systems are no longer providing an adequate level of protection for force mains located in highly corrosive soils, which increases the potential for future failures due to external corrosion. The CP system renewal associated with SF-262 is part of the Rehab Action Plan Phase 2 projects.

FUNDING TYPE		CONTACTS		
Funding Type:	Revenue Bond	Contacts-Requesting Dept: Contacts-Dept Contacts: Contacts-Managing Dept:	Engineering Phil Hughes Engineering	
PROPOSED SC	HEDULE START DATE	COST ESTIMATE		
PrePlanning PER Design Delay Design Bid Delay PreConstruction Construction Closeout	07/03/2023 09/04/2023 02/02/2024 03/01/2024 12/01/2024 12/01/2024 03/01/2025 09/01/2025	Cost Estimate Class: PrePlanning PER Design PreConstruction Construction Closeout Est. Program Cost Contingency Budget	Class 5 \$0 \$294,683 \$29,468 \$2,259,237 \$67,000 \$2,650,388 \$451,847	
		Est. Project Costs	\$3,102,235	



System:	General
Туре:	Electrical

Pump Station Motor Control Center Replacements -Phase I PR_GN018900

Driver Category: Aging Infrastructure/Rehabilitation Project Phase: Pre Planning Regulatory: None

PROGRAM CASH FLOW PROJECTION (\$,000)

Prog Cost	Exp to Previous Year	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34
\$2,863	\$333	\$799	\$799	\$799	\$133	\$0	\$0	\$0	\$0	\$0	\$0

PROJECT DESCRIPTION

This project is to replace Motor Control Centers (MCCs) at various pump stations located on the North and South Shore that have exhibited signs of copper bus bar deterioration. The bus bar condition was identified while performing annual maintenance inspections.

PROJECT JUSTIFICATION

This project will improve the overall reliability of the North Shore and South Shore collection systems to prevent disruptions to the electrical distribution system, and safeguard HRSD employees from potential exposure to an arc flash event. This project will include the replacement of variable frequency drives (VFD's), motor control center (MCC), and associated electrical equipment. Lastly, the project will involve the installation of an air purification system to help mitigate hydrogen sulfide (H2S) gases which is the leading cause of copper bus bar deterioration.

FUNDING TYPE		CONTACTS	
Funding Type:	Revenue Bond	Contacts-Requesting Dept: Contacts-Dept Contacts: Contacts-Managing Dept:	Operations-E&I Sherman Pressey Operations-E&I
PROPOSED SC	HEDULE START DATE	COST ESTIMATE	
PrePlanning PER Design Delay Design Bid Delay PreConstruction Construction Closeout	05/19/2023 05/19/2023 05/19/2023 05/19/2023 05/19/2023 05/19/2023 08/25/2023 08/25/2023	Cost Estimate Class: PrePlanning PER Design PreConstruction Construction Closeout Est. Program Cost	Class 5 \$0 \$0 \$0 \$2,863,500 \$2,863,500 \$2,863,500
		Contingency Budget	\$572,700

Est. Project Costs

\$3,436,200



General Facilities, Buildings and Capital Equipment

Driver Category:Aging Infrastructure/RehabilitationProject Phase:ProposedRegulatory:None

PROGRAM CASH FLOW PROJECTION (\$,000)

Prog Cost	Exp to Previous Year	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34
\$2,372	\$293	\$2,079	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

PROJECT DESCRIPTION

This project will provide for replacement of aging fleet vehicles and purchase of additional vehicles to meet the needs of the organization. An itemized list of vehicles to be replaced or added is maintained by the Support Systems Division.

PROJECT JUSTIFICATION

Replacement of aging vehicles will result in lower repair costs and the purchase of additional vehicles will provide for increased staff efficiency.

FUNDING TYPE		CONTACTS	
Funding Type:	Cash	Contacts-Requesting Dept: Contacts-Dept Contacts: Contacts-Managing Dept:	Operations-Support Systems Lee Heath Operations-Support Systems
PROPOSED SC	HEDULE START DATE	COST ESTIMATE	
PrePlanning PER	07/01/2023 07/01/2023	Cost Estimate Class: PrePlanning	Class 3 \$0
Design Delay Design	07/01/2023 07/01/2023	PER Design	\$0 \$0
Bid Delay PreConstruction	07/01/2023 07/01/2023 07/01/2023	PreConstruction Construction Closeout	\$0 \$2,372,112 \$0
Closeout	03/01/2025	Est. Program Cost Contingency Budget	\$2,372,112 \$242,810
		Est. Project Costs	\$2,614,922



General

System:

Type:

Water Quality Department Instrumentation Equipment Program

PR_GN019400

Facilities, Buildings and Capital Equipment

Driver Category: Performance Upgrades Proposed Project Phase: None Regulatory:

PROGRAM CASH FLOW PROJECTION (\$,000)

Prog Cost	Exp to Previous Year	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34
\$5,221	\$0	\$0	\$755	\$755	\$755	\$755	\$755	\$755	\$692	\$0	\$0

PROJECT DESCRIPTION

This project will provide funding for analytical equipment for the Water Quality Department.

PROJECT JUSTIFICATION

The sampling and analytical equipment will support various projects and programs led by the Water Quality Department. This program will ensure there is funding in each fiscal year to meet the Department's needs.

FUNDING TYPE		CONTACTS		
Funding Type:	Cash	Contacts-Requesting Dept: Contacts-Dept Contacts: Contacts-Managing Dept:	Water Quality Jamie Mitchell Water Quality	
PROPOSED SCI	HEDULE START DATE	COST ESTIMATE		
PrePlanning PER Design Delay Design Bid Delay PreConstruction Construction Closeout	07/01/2024 07/01/2024 07/01/2024 07/01/2024 07/01/2024 07/01/2024 07/01/2024 06/01/2032	Cost Estimate Class: PrePlanning PER Design PreConstruction Construction Closeout Est. Program Cost Contingency Budget Est. Project Costs	Class 5 \$0 \$0 \$0 \$0 \$5,221,000 \$0 \$5,221,000 \$0 \$5,221,000	



Interceptor Systems PS Control and SCADA Upgrades and Enhancements Phase III

PR_GN019600

System: Type: General Pump Stations Driver Category: Performance Upgrades Project Phase: Proposed Regulatory: None

PROGRAM CASH FLOW PROJECTION (\$,000)

Prog Cost	Exp to Previous Year	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34
\$10,296	\$0	\$1,134	\$2,130	\$3,833	\$3,195	\$5	\$0	\$0	\$0	\$0	\$0

PROJECT DESCRIPTION

This project includes a comprehensive review of the SCADA system to ensure the long-term viability of the system to extend into machine learning and SmartSewer applications. The project also includes the upgrades necessary to provide additional, necessary functionality. Additional functionality will include VeeterRoot (Emergency Generator - Diesel UST) levels, leak detection, and total fuel quantities; Emergency Generator and ATS Power Management connectivity and graphics; as well as individual VFD network cards and ethernet modbus communication to pump station variable frequency drives.

PROJECT JUSTIFICATION

The original SCADA system requirements were developed over fifteen years ago and technology has progressed and may have outpaced the original design. A comprehensive review of the network architecture, communications, database architecture, and system requirements is necessary to ensure the viability of the system to maximize security, minimize life-cycle costs, and ensure a viable platform to extend into machine learning and SmartSewer applications. Additional functionality will be extended and include upgrades to and inclusion of HRSD's VeeterRoot UST Leak detection systems, which include a wide range of mostly outdated models and alarms. This project will update all systems to the latest technology and provide network cards to communicate this data to the top-end SCADA system. Leak detection, inner wall annular floats, sump floats, belly tanks, and fuel transfer pump conditions are a necessity for proper management, alarming, and upkeep for each pump station. USTs are regulated by DEQ and these project improvements will provide a means for required leak detection and alarming, and utimately better fuel management. Emergency Generator, ATS, VFD, and Power Management connectivity are also included upgrades with this project for total visibility into each pump station's operation and power consumption. Availability of this data through the SCADA system will provide for complete awareness and better overall operations at each pump station.

FUNDING TYPE		CONTACTS		
Funding Type:	Cash	Contacts-Requesting Dept: Contacts-Dept Contacts: Contacts-Managing Dept:	Operations-Interceptors Chris Stephan Operations-Interceptors	
PROPOSED SC	HEDULE START DATE	COST ESTIMATE		
PrePlanning PER Design Delay Design Bid Delay PreConstruction Construction Closeout	07/01/2024 07/01/2024 11/01/2024 11/01/2024 09/01/2025 09/01/2025 01/01/2026 06/01/2028	Cost Estimate Class: PrePlanning PER Design PreConstruction Construction Closeout Est. Program Cost Contingency Budget	Class 5 \$0 \$301,600 \$1,040,000 \$5,200 \$8,944,000 \$5,200 \$10,296,000 \$1,778,400	
		Est. Project Costs	\$12,074,400	





Treatment Plant Dewatering Improvement Phase IV

PR_GN019700

Driver Category: Performance Upgrades Project Phase: PER Regulatory: None

PROGRAM CASH FLOW PROJECTION (\$,000)

Prog Cost	Exp to Previous Year	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34
\$9,065	\$420	\$2,163	\$4,569	\$1,912	\$1	\$0	\$0	\$0	\$0	\$0	\$0

PROJECT DESCRIPTION

This project will design and install improvements at the Virginia Initiative Plant to include the addition of two gravity belt thickeners for waste-activated sludge thickening and provide necessary electrical, control, and mechanical improvements to make the system operable.

PROJECT JUSTIFICATION

Wastage of Activated Sludge from the VIP Biological Nutrient Removal (BNR) process is intermittently hydraulically limited by the capacity of dewatering centrifuges and centrate management systems. This project will un-bottleneck the treatment process and allow on-demand wastage of solids from the BNR process, which will improve treatment performance at VIP and stabilize solids handling operations, including centrifuge dewatering and incineration. This improvement will also help VIP to better accommodate hauled liquid primary solids from Army Base Treatment Plant (ABTP) by reducing the overall hydraulic load on the VIP dewatering centrifuges. Feasibility of the proposed improvements has been previously investigated under GN017400 in support of the budget and schedule estimates shown.

FUNDING TYPE		CONTACTS	
Funding Type:	Revenue Bond	Contacts-Requesting Dept Contacts-Dept Contacts: Contacts-Managing Dept:	t: Operations Angela Weatherhead Engineering
PROPOSED SC	HEDULE START DATE	COST ESTIMATE	
PrePlanning PER Design Delay Design Bid Delay PreConstruction Construction Closeout	07/31/2023 07/31/2023 07/31/2023 02/12/2024 11/13/2024 11/14/2024 02/10/2025 01/01/2027	Cost Estimate Class: PrePlanning PER Design PreConstruction Construction Closeout Est. Program Cost Contingency Budget Est. Project Costs	Class 2 \$0 \$0 \$673,839 \$5,000 \$8,376,480 \$10,000 \$9,065,319 \$1,675,296 \$10,740,615





Treatment Plant Dewatering Improvement Phase V

PR_GN019800

Driver Category:Aging Infrastructure/RehabilitationProject Phase:ProposedRegulatory:None

PROGRAM CASH FLOW PROJECTION (\$,000)

	Exp to										
Prog Cost	Previous Year	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34
\$3,492	\$0	\$0	\$0	\$229	\$354	\$2,053	\$856	\$0	\$0	\$0	\$0

PROJECT DESCRIPTION

This project will serve as Phase V of the Treatment Plant Dewatering Improvement Program (GN017300). The project scope will be identified closer to project initiation.

PROJECT JUSTIFICATION

This project will allow for the replacement of aging dewatering equipment.

FUNDING TYPE		CONTACTS		
Funding Type:	Revenue Bond	Contacts-Requesting Dept: Contacts-Dept Contacts: Contacts-Managing Dept:	Operations Christopher Wilson Engineering	
PROPOSED SCH	HEDULE START DATE	COST ESTIMATE		
PrePlanning PER Design Delay Design Bid Delay PreConstruction Construction Closeout	07/01/2026 07/01/2026 03/01/2027 03/01/2027 03/01/2028 03/01/2028 06/01/2028 12/01/2029	Cost Estimate Class: PrePlanning PER Design PreConstruction Construction Closeout Est. Program Cost Contingency Budget Est. Project Costs	Class 5 \$0 \$137,000 \$275,000 \$0 \$3,080,000 \$0 \$3,492,000 \$1,048,000 \$4,540,000	



Treatment Plant Dewatering Improvement Phase VI

PR_GN019900

Driver Category:Aging Infrastructure/RehabilitationProject Phase:ProposedRegulatory:None

PROGRAM CASH FLOW PROJECTION (\$,000)

Prog Cost	Exp to Previous Year	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34
\$3,492	\$0	\$0	\$0	\$0	\$0	\$229	\$354	\$2,053	\$856	\$0	\$0

PROJECT DESCRIPTION

This project will serve as Phase VI of the Treatment Plant Dewatering Improvement Program (GN017300). The project scope will be identified closer to project initiation.

PROJECT JUSTIFICATION

This project will allow for the replacement of aging dewatering equipment.

FUNDING TYPE		CONTACTS	
Funding Type:	Revenue Bond	Contacts-Requesting Dept: Contacts-Dept Contacts: Contacts-Managing Dept:	Operations Christopher Wilson Engineering
PROPOSED SCI	HEDULE START DATE	COST ESTIMATE	
PrePlanning PER Design Delay Design Bid Delay PreConstruction Construction Closeout	07/01/2028 07/01/2028 03/01/2029 03/01/2029 03/01/2030 06/01/2030 06/01/2030 12/01/2031	Cost Estimate Class: PrePlanning PER Design PreConstruction Construction Closeout Est. Program Cost Contingency Budget Est. Project Costs	Class 5 \$0 \$137,000 \$275,000 \$0 \$3,080,000 \$0 \$3,492,000 \$1,048,000 \$4,540,000





General Facilities, Buildings and Capital Equipment

Driver Category: Cost Recovery Project Phase: Proposed Regulatory: None

PROGRAM CASH FLOW PROJECTION (\$,000)

Prog Cost	Exp to Previous Year	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34
\$1,088	\$0	\$0	\$25	\$304	\$304	\$304	\$152	\$0	\$0	\$0	\$0

PROJECT DESCRIPTION

This project is to install solar panels on the roofs of two buildings of the South Shore Operation complex: buildings 1434 and 1436.

PROJECT JUSTIFICATION

As part of HRSD's Resource Recovery initiatives, solar-powered systems provide a sustainable, renewable source of power at a reduced operating cost. The payback is 8 years and the cost includes a 20-year labor and maintenance warranty.

	CONTACTS	
Cash	Contacts-Requesting Dept: Contacts-Dept Contacts: Contacts-Managing Dept:	Operations-Treatment Charles Wright Operations
HEDULE START DATE	COST ESTIMATE	
07/01/2024 07/29/2024 09/17/2024 05/27/2025 08/28/2025 05/07/2026 06/17/2026 04/14/2027	Cost Estimate Class: PrePlanning PER Design PreConstruction Construction Closeout Est. Program Cost Contingency Budget	Class 5 \$0 \$0 \$0 \$0 \$1,087,959 \$0 \$1,087,959 \$0
	Est. Project Costs	\$1,087,959
	Cash IEDULE START DATE 07/01/2024 07/29/2024 09/17/2024 05/27/2025 08/28/2025 05/07/2026 06/17/2026 06/17/2026 04/14/2027	CashContacts-Requesting Dept: Contacts-Dept Contacts: Contacts-Managing Dept:IEDULE START DATECOST ESTIMATE07/01/2024Cost Estimate Class: PrePlanning 09/17/202407/29/2024PrePlanning PER 05/27/202508/28/2025PreConstruction Construction 05/07/202606/17/2026Closeout Closeout04/14/2027Est. Program Cost Contingency Budget





VIP and Army Base Treatment Plant Secondary Clarifier Weir Cover Installation

PR_GN020100

System: Type: General Wastewater Treatment Driver Category: Performance Upgrades Project Phase: Pre Planning Regulatory: None

PROGRAM CASH FLOW PROJECTION (\$,000)

Prog Cost	Exp to Previous Year	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34
\$1,371	\$305	\$914	\$152	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

PROJECT DESCRIPTION

This project will involve procurement and installation of covers on the secondary clarifier effluent weir channels at both Virginia Initiative Plant (VIP) and Army Base Treatment Plant (ABTP).

PROJECT JUSTIFICATION

The covers will prevent algae growth from occurring in the quiescent portion of clarifier by eliminating exposure to sunlight. At ABTP, the current protocol is to assign Maintenance Operators to the task of removing algae once every week equating to \$34,000 per year. VIP currently utilizes sodium hypochlorite to prevent algae growth which, with recent increases in chemical costs, equates to \$150,000 per year. The prevention of algae growth is necessary to reduce adverse impacts on effluent quality and downstream mechanical equipment.

FUNDING TYPE		CONTACTS		
Funding Type:	Revenue Bond	Contacts-Requesting Dept: Contacts-Dept Contacts: Contacts-Managing Dept:	Operations-Treatment Matt Poe Operations	
PROPOSED SC	HEDULE START DATE	COST ESTIMATE		
PrePlanning PER Design Delay Design Bid Delay PreConstruction Construction Closeout	07/03/2023 07/03/2023 07/03/2023 07/03/2023 07/03/2023 07/03/2023 01/01/2024 09/01/2025	Cost Estimate Class: PrePlanning PER Design PreConstruction Construction Closeout Est. Program Cost Contingency Budget	Class 5 \$0 \$0 \$0 \$1,371,252 \$0 \$1,371,252 \$270,400	
		Est. Project Costs	\$1,641,652	



Treatment Plant Fire Suppression System Upgrades

PR_GN020200

System: Type: General Facilities, Buildings and Capital Equipment Driver Category: Safety Compliance Project Phase: Pre Planning Regulatory: None

PROGRAM CASH FLOW PROJECTION (\$,000)

Prog Cost	Exp to Previous Year	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34
\$1,800	\$1,000	\$800	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

PROJECT DESCRIPTION

This project will address plant methanol facilities with replacement of PFAS-containing AR-AFFF. This project will work to replace the existing methanol fire suppression systems at YRTP, ABTP, NTP and VIP with non-PFAS fluorine free foam. Facilities Maintenance staff will manage this while Procurement will bid out the services.

PROJECT JUSTIFICATION

The current methanol fire suppression systems use PFAS containing AR-AFFF foam, this product is no longer supported. Some facilities have experienced false alarms and equipment malfunctions causing activation of the AR-AFFF systems. This item was brought to the 9/11/23 HRSD QST and agreed to be an out of cycle CIP.

FUNDING TYPE		CONTACTS		
Funding Type:	Revenue Bond	Contacts-Requesting Dept: Contacts-Dept Contacts: Contacts-Managing Dept:	Operations-Support Systems Lee Heath Operations-Support Systems	
PROPOSED SC	HEDULE START DATE	COST ESTIMATE		
PrePlanning PER Design Delay Design Bid Delay PreConstruction Construction	11/15/2023 11/15/2023 11/15/2023 11/15/2023 11/15/2023 11/15/2023	Cost Estimate Class: PrePlanning PER Design PreConstruction Construction Closeout	Class 5 \$0 \$0 \$0 \$0 \$1,800,000 \$0	
Closeout	11/15/2024	Est. Program Cost Contingency Budget	\$1,800,000 \$0	
		Est. Project Costs	\$1,800,000	



General Locality and Private Property Driver Category: I&I Abatement-IP/RWWMP Project Phase: Pre Planning Regulatory: Integrated Plan-HPP 1

PROGRAM CASH FLOW PROJECTION (\$,000)

1	I _ I										
Prog Cost	Exp to Previous Year	EY25	FY26	FY27	FY28	FY29	FY30	FY31	EY32	FY33	FY34
1109 0001	Trevious real	1120	1120		1120	1120	1100	1101	1102	1100	1104
\$1,040	\$8	\$578	\$454	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

PROJECT DESCRIPTION

Pre-planning, negotiation, as well as the initial data collection, analysis, and planning phases of the larger Inflow and Infiltration (II) Program, which will include the following CIP Projects: AT014301; JR013700; NP013901; NP014801; VP019300; and WB013200. These projects and the overall Program will be delivered via the PPEA project delivery method.

PROJECT JUSTIFICATION

PreConstruction

Construction

Closeout

01/01/2026

01/01/2026

01/01/2026

Inflow and infiltration projects require extensive field investigation due to the unknown location and severity of defects that allow the extraneous stormwater and groundwater into the sanitary sewer system. They also tend to be long-duration and iterative in nature, as predicting the success of any rehabilitation activities is not possible due to the rather "fluid" nature of surface and groundwater in that they can migrate within a basin to find unfixed defects. Thus, these projects also typically involve multiple investigation cycles, rehabilitation, and verification.

Given the relatively short period over which this \$130 million in inflow and infiltration work must be completed and the iterative nature of these projects, staff believes that combining the remaining projects into a single alternative delivery contract is the best path forward. However, the inability to properly define the scope of the work ahead of releasing the request for qualifications makes traditional design-build unrealistic. Therefore, utilizing the Public-Private Education Facilities and Infrastructure Act of 2002 (PPEA) provides the flexibility to hire a firm (or firms) qualified in this type of work, and allows the collaborative development of the scope of work through multiple task orders. In addition, since the type, location, and amount of construction activities cannot be predicted at this time, the alternative delivery team should be led by an engineering firm that can directly contract with construction firms, as necessary, to complete these projects. In this way, the single engineering firm will also have complete control over the relatively limited pool of contractors equipped to do the type of rehabilitation activities likely to be heavily utilized on these projects.

Construction

Est. Program Cost

Est. Project Costs

Contingency Budget

Closeout

\$0

\$0

\$1,040,000

\$1,300,000

\$260,000

FUNDING TYPE		CONTACTS	
Funding Type:	Cash	Contacts-Requesting Dept: Contacts-Dept Contacts: Contacts-Managing Dept:	Engineering Jeff Scarano Engineering
PROPOSED SCHE	DULE START DATE	COST ESTIMATE	
PrePlanning PER Design Delay Design	12/01/2023 09/02/2024 06/01/2025 06/02/2025	Cost Estimate Class: PrePlanning PER Design	Class 5 \$10,000 \$500,000 \$530,000
Bid Delay	01/01/2026	PreConstruction	\$0



General Facilities, Buildings and Capital Equipment

Driver Category:Aging Infrastructure/RehabilitationProject Phase:ProposedRegulatory:None

PROGRAM CASH FLOW PROJECTION (\$,000)

Prog Cost	Exp to Previous Year	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34
\$4,030	\$0	\$4,030	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

PROJECT DESCRIPTION

This project will provide for replacement of aging fleet vehicles and purchase of additional vehicles to meet the needs of the organization. An itemized list of vehicles to be replaced or added is maintained by the Support Systems Division.

PROJECT JUSTIFICATION

Replacement of aging vehicles will result in lower repair costs and the purchase of additional vehicles will provide for increased staff efficiency.

FUNDING TYPE		CONTACTS	
Funding Type:	Cash	Contacts-Requesting Dept: Contacts-Dept Contacts: Contacts-Managing Dept:	Operations-Support Systems Lee Heath Operations-Support Systems
PROPOSED SC	HEDULE START DATE	COST ESTIMATE	
PrePlanning PER Design Delay Design Bid Delay PreConstruction Construction Closeout	07/01/2024	Cost Estimate Class: PrePlanning PER Design PreConstruction Construction <u>Closeout</u> Est. Program Cost Contingency Budget	Class 3 \$0 \$0 \$0 \$4,029,800 \$0 \$4,029,800 \$4,432,780
		Est Project Costs	\$8 462 580



General

Water Quality Department Instrumentation Equipment (FY25)

PR_GN020500

System: Type:

Facilities, Buildings and Capital Equipment

Driver Category: Performance Upgrades Proposed Project Phase: Regulatory: None

PROGRAM CASH FLOW PROJECTION (\$,000)

Prog Cost	Exp to Previous Year	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34
\$1,080	\$0	\$1,080	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

PROJECT DESCRIPTION

This project will provide for analytical equipment for the Water Quality Department for Fiscal Year 2025.

PROJECT JUSTIFICATION

The sampling and analytical equipment will support various projects and programs led by the Water Quality Department.

FUNDING TYPE		CONTACTS		
Funding Type:	Cash	Contacts-Requesting Dept: Contacts-Dept Contacts: Contacts-Managing Dept:	Water Quality Jamie Mitchell Water Quality	
PROPOSED SCH	IEDULE START DATE	COST ESTIMATE		
PrePlanning PER Design Delay Design Bid Delay PreConstruction Construction Closeout	07/01/2024	Cost Estimate Class: PrePlanning PER Design PreConstruction Construction <u>Closeout</u> Est. Program Cost Contingency Budget	Class 5 \$0 \$0 \$0 \$0 \$1,080,000 \$0 \$1,080,000 \$0	
		Est. Project Costs	\$1,080,000	



Development Plan 2025

PR_GN020600

System: Type: General Strategic Planning Driver Category: Capacity Improvements Project Phase: Proposed Regulatory: None

PROGRAM CASH FLOW PROJECTION (\$,000)

	Exp to										
Prog Cost	Previous Year	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34
\$500	\$0	\$239	\$261	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

PROJECT DESCRIPTION

This project calls for professional engineering services to develop a comprehensive Sanitary Sewer Development Plan - 2025. The Plan will serve as a roadmap to guide HRSD to plan, design, and construct future CIP projects to address system deficiencies and to identify future system capacity needs within the HRSD territory. The project includes a comprehensive analysis of population projections, zoning densities and land uses in conformance with existing Locality Comprehensive Plans and development activity trends. The Plan will identify system extensions and expansions based on short and long-range system needs. The master plan will result in a dynamic digital development plan using ESRI, Web Apps and Power BI that supports flexible decision making.

PROJECT JUSTIFICATION

This project is needed for HRSD to meet the challenges of the future in a cohesive, consistent, and comprehensive manner and to ensure HRSD's interceptor networks, treatment plants, and outfalls can accommodate future needs. Since the last HRSD Development Plan was published in 2003, many system improvements have been and continue to be implemented in support of HRSD initiatives. These initiatives include the Consent Decree, the Regional Wet Weather Management Plan (RWWMP), the Chesapeake-Elizabeth and Boat Harbor Treatment Plant decommissions, and the SWIFT program. Most of these initiatives were the result of regulatory requirements and compliance; strategic planning with a focus on long range capacity needs was not the main driver.

FUNDING TYPE		CONTACTS		
Funding Type:	Cash	Contacts-Requesting Dept: Contacts-Dept Contacts: Contacts-Managing Dept:	Engineering Bambos Charalambous Engineering	
PROPOSED SC	HEDULE START DATE	COST ESTIMATE		
PrePlanning PER Design Delay Design Bid Delay PreConstruction Construction Closeout	07/01/2024 08/01/2024 07/01/2026 07/01/2026 07/01/2026 07/01/2026 07/01/2026 07/01/2026	Cost Estimate Class: PrePlanning PER Design PreConstruction Construction Closeout Est. Program Cost Contingency Budget	Class 5 \$0 \$500,000 \$0 \$0 \$0 \$0 \$500,000 \$0	
		Est. Project Costs	\$500,000	



General Facilities, Buildings and Capital Equipment

Driver Category: Performance Upgrades Project Phase: Proposed Regulatory: None

PROGRAM CASH FLOW PROJECTION (\$,000)

Prog Cost	Exp to Previous Year	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34
\$19,490	\$0	\$0	\$0	\$100	\$0	\$800	\$6,090	\$12,167	\$333	\$0	\$0

PROJECT DESCRIPTION

This project includes design and construction of a high-strength hypochlorite generating facility with capacity to meet HRSD's projected treatment demands. The scope of work includes an enclosed building to house the manufacturing equipment and facilities for loading of raw materials. Pipe and pumps necessary for conveyance to existing or new storage tanks is also included.

PROJECT JUSTIFICATION

HRSD's chemical costs have risen sharply and an internal business case evaluation has demonstrated that investment in a hypochlorite generation facility is a financially prudent way to meet ongoing needs for this chemical. In addition to a positive net present value compared with continued reliance on outside suppliers, HRSD anticipates that onsite generation will result in a fresher product reducing overall demand.

FUNDING TYPE		CONTACTS	
Funding Type:	Revenue Bond	Contacts-Requesting De Contacts-Dept Contacts: Contacts-Managing Dept	pt: Ryan Radspinner t:
PROPOSED SC	HEDULE START DATE	COST ESTIMATE	
PrePlanning PER Design Delay Design Bid Delay PreConstruction	06/01/2023 07/01/2026 07/01/2027 07/01/2028 07/01/2029 01/01/2030	Cost Estimate Class: PrePlanning PER Design PreConstruction Construction	Class 5 \$0 \$100,000 \$800,000 \$90,000 \$18,000,000
Construction Closeout	03/01/2030 03/01/2031	Closeout Est. Program Cost Contingency Budget Est. Project Costs	\$500,000 \$19,490,000 \$2,000,000 \$21,490,000





System: General Type: Pipelines Driver Category: Aging Infrastructure/Rehabilitation Project Phase: Proposed Regulatory: None

PROGRAM CASH FLOW PROJECTION (\$,000)

	Exp to										
Prog Cost	Previous Year	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34
\$700	\$0	\$698	\$3	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

PROJECT DESCRIPTION

This project will include the installation of a shutoff isolation valve at Colonial Williamsburg, Greensprings, and Washington Street Pump Stations. The work will require the Contractor to bypass the pump station, isolate the last segment of piping between the terminal manhole and the pump station's wet well wall, remove a portion of the existing piping, install a new vertical gate valve, and complete the site restoration.

PROJECT JUSTIFICATION

All three stations have failed sluice/slide gates and no longer have a permanent mechanical means to isolate system flows from entering into the station wet wells. These gates are required to provide Operations control of influent flows to perform maintenance activities inside the wet wells. The new valves offer a more robust and reliable means of isolating flow that enters the wet well than the sluice/slide gates.

FUNDING TYPE		CONTACTS		
Funding Type:	Revenue Bond	Contacts-Requesting Dept: Contacts-Dept Contacts: Contacts-Managing Dept:	Operations-Interceptors Michael Johnson Operations-Interceptors	
PROPOSED SCI	HEDULE START DATE	COST ESTIMATE		
PrePlanning PER Design Delay Design Bid Delay PreConstruction Construction	07/01/2024 07/01/2024 07/01/2024 07/01/2024 07/01/2024 07/01/2024 09/01/2024	Cost Estimate Class: PrePlanning PER Design PreConstruction Construction Closeout	Class 5 \$0 \$0 \$0 \$5,000 \$690,000 \$5,000	
Closeout	06/01/2025	Est. Program Cost Contingency Budget	\$700,000 \$140,000	
		Est. Project Costs	\$840,000	



Microbial Source Tracking Identified Locality Repair Program

PR_GN020900

System: Type: General Locality and Private Property

Driver Category: I&I Abatement-IP/RWWMP Project Phase: Proposed Regulatory: Integrated Plan-MST

PROGRAM	CASH FLOW	V PROJECTION	l (\$,000)

Prog Cost	Exp to Previous Year	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34
\$4,500	\$0	\$0	\$500	\$1,000	\$1,000	\$1,000	\$1,000	\$0	\$0	\$0	\$0

PROJECT DESCRIPTION

This project will provide funding for the Microbial Source Tracking (MST) Program required as part of the Integrated Plan.

PROJECT JUSTIFICATION

Several water bodies in the Hampton Roads region remain impaired by bacteria with elevated levels found in dry weather in areas that have no record of sewer overflow and, in some cases, in areas without any public sewer infrastructure. Dry weather, ongoing, sources almost always present a greater impact to water quality than isolated wet weather-related sewer overflows. Surface water monitoring data following SSOs has indicated that the impacts of a transient SSO on the long-term impairment of a waterway are minimal, supporting the conclusion that waterway impairments in the Hampton Roads area are driven by chronic and persistent sources. Given that the regional sanitary sewer system has no chronic capacity-related overflow locations, the most effective approach toward achieving a higher degree of public health protection is to identify and eliminate the sources of bacterial contamination, specifically those that are known to represent the greatest risk to public health - human sources. To this end, HRSD has implemented its Microbial Source Tracking Program. This focused water quality monitoring effort, in partnership with local governments and the Virginia Department of Health, has been successfully used to identify, locate, and eliminate chronic and persistent non-SSO-related sources of human-sourced bacteria.

FUNDING TYPE		CONTACTS	
Funding Type:	Cash	Contacts-Requesting Dept: Contacts-Dept Contacts: Contacts-Managing Dept:	Water Quality Jamie Mitchell Water Quality

PROPOSED SCHEDULE START DATE

07/01/2025

PrePlanning PER Design Delay Design Bid Delay PreConstruction Construction

Closeout

COST ESTIMATE

Cost Estimate Class:	Class 5
PrePlanning	\$0
PER	\$0
Design	\$0
PreConstruction	\$0
Construction	\$4,500,000
Closeout	\$0
Est. Program Cost	\$4,500,000
Contingency Budget	\$0
Est. Project Costs	\$4,500,000



Microbial Source Tracking Identified Locality Repairs (FY25)

PR_GN020910

System: Type:

General Locality and Private Property Driver Category: I&I Abatement-IP/RWWMP Project Phase: Proposed Integrated Plan-MST Regulatory:

PROGRAM CASH FLOW PROJECTION (\$,000)

Prog Cost	Exp to Previous Year	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34
\$300	\$0	\$300	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

PROJECT DESCRIPTION

This project will provide FY25 funding for the Microbial Source Tracking (MST) Program required as part of the Integrated Plan.

PROJECT JUSTIFICATION

Several water bodies in the Hampton Roads region remain impaired by bacteria with elevated levels found in dry weather in areas that have no record of sewer overflow and, in some cases, in areas without any public sewer infrastructure. Dry weather ongoing sources almost always present a greater impact to water quality than isolated wet weather-related sewer overflows. Surface water monitoring data following SSOs has indicated that the impacts of a transient SSO on the long-term impairment of a waterway are minimal supporting the conclusion that waterway impairments in the Hampton Roads area are driven by chronic and persistent sources. Given that the regional sanitary sewer system has no chronic capacity-related overflow locations the most effective approach toward achieving a higher degree of public health protection is to identify and eliminate the sources of bacterial contamination specifically those that are known to represent the greatest risk to public health - human sources. To this end HRSD has implemented its Microbial Source Tracking Program. This focused water quality monitoring effort in partnership with local governments and the Virginia Department of Health has been successfully used to identify locate and eliminate chronic and persistent non-SSO-related sources of human-sourced bacteria.

FUNDING TYPE		CONTACTS		
Funding Type:	Cash	Contacts-Requesting Dept: Contacts-Dept Contacts: Contacts-Managing Dept:	Water Quality Jamie Mitchell Water Quality	
PROPOSED SCHE	DULE START DATE	COST ESTIMATE		

PrePlanning	
PER	
Design Delay	
Design	
Bid Delay	
PreConstruction	
Construction	07/01/2024

Closeout

COST ESTIMATE

Cost Estimate Class:	Class 5
PrePlanning	\$0
PER	\$0
Design	\$0
PreConstruction	\$0
Construction	\$300,000
Closeout	\$0
Est. Program Cost	\$300,000
Contingency Budget	\$0
Est. Project Costs	\$300.000



System:	General			
Туре:	Water Reuse			

Regional Granular Activated Carbon Reactivation Facility PR_GN021000

Driver Category: NPDES Compliance Project Phase: Proposed Regulatory: None

PROGRAM CASH FLOW PROJECTION (\$,000)

Prog Cost	Exp to Previous Year	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34
\$192,737	\$0	\$0	\$0	\$0	\$0	\$0	\$10,635	\$11,087	\$15,799	\$77,608	\$77,608

PROJECT DESCRIPTION

This project will include PER, design, and construction of a granular activated carbon (GAC) reactivation facility that would accept and treat exhausted GAC for the Hampton Roads region. This design will be based on a preliminary study completed in Spring 2024 that investigated the feasibility and practicality of a regional GAC reactivation facility. The facility will be built at either the Nansemond Treatment Plant or the decommissioned Chesapeake-Elizabeth Treatment Plant.

PROJECT JUSTIFICATION

With per-and polyfluoroalkyl substance (PFAS) regulatory developments, the demand for GAC continues to grow. The U.S. EPA released lifetime health advisories (LHAs) for four PFAS in June 2022 and provided draft maximum contaminant levels (MCLs) for multiple PFAS in Spring 2023. These regulatory developments will advance implementation of GAC for Virginia drinking water utilities to manage PFAS in finished waters.

HRSD will also have significant GAC reactivation demands from its planned SWIFT facilities at James River and Nansemond by 2028, with additional demands possible from the Virginia Initiative Plant in the future. The GAC Reactivation Study in 2024 concluded through a cost-benefit analysis that onsite GAC reactivation would not only provide HRSD with a significantly lower net present value to reactivate GAC (~ 33% reduction when compared to third-party reactivation), but also offer several non-financial benefits, such as control over GAC production in a highly volatile GAC market.

	CONTACTS				
Revenue Bond	Contacts-Requesting Dept:Operations-TreatmentContacts-Dept Contacts:Shirley SmithContacts-Managing Dept:Engineering				
IEDULE START DATE	COST ESTIMATE				
07/01/2029 09/01/2029 06/01/2030 06/01/2030 03/01/2032 03/01/2032	Cost Estimate Class: Class 5 PrePlanning \$10,000 PER \$9,701,000 Design \$19,402,000 PreConstruction \$1,940,200 Construction \$194,020,000 Class 5 \$10,000				
06/01/2032	Lioseout \$970,100				
	Revenue Bond IEDULE START DATE 07/01/2029 09/01/2029 06/01/2030 06/01/2030 03/01/2032 03/01/2032 03/01/2032 12/01/2034				

Contingency Budget

Est. Project Costs

\$38,804,000

\$264,847,300


System: Type: General Software and Technology Driver Category: Performance Upgrades Project Phase: Proposed Regulatory: None

PROGRAM CASH FLOW PROJECTION (\$,000)

E	xp to									
Prog Cost Previo	ous Year FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34
\$300	\$0 \$300	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

PROJECT DESCRIPTION

This project will develop a data-based decision support tool to visualize aspects of HRSD's solids management systems, including costs, material transfers, capacities, and performance, to aid in optimization and decision making about solids management. The envisioned goal of this project will be a dashboard built in Microsoft Power BI and associated user guide that visualizes near real-time data and allows scenario-based optimization related to solids production and management at HRSD's 8 large treatment plants, interplant solids transfers, and external solids end-use and disposal, and energy management impacts (where applicable).

PROJECT JUSTIFICATION

HRSD operates a complex and networked solids management system that relies on varied processes at each facility, transfer and sharing of resources across facilities, and transfer of solids external to HRSD for further processing, beneficial use, and disposal. Additionally, recent and impending changes in overall biosolids management (i.e. closure of Chesapeake Elizabeth Treatment Plant (CETP) in 2020, decommissioning of the Army Base Treatment Plant (ABTP) incinerator in 2024, closure of Boat Harbor Treatment Plant (BHTP) in 2026, introduction of SWIFT residuals, etc.) have highlighted opportunities to better utilize HRSD's existing solids management capacities and risks that may be mitigated by proposed future operational enhancements and capital expenditures. The networked and diverse nature of HRSD's solids management system makes it difficult to make fully informed cost and risk-based decisions pertaining to current and future solids management. The dashboard tool delivered under this project will improve such decision making by associating costs of treatment, capacities and operational performance with solids management at HRSD's 8 large treatment plants and allow for HRSD staff to query various scenarios for solids management. Dashboard visualizations will support the development and communication of future operational strategies, support scoping and business case evaluations of future solids management facilities. This project is alignment with Strategic Plan Principles of Empowered and Data Driven decision making and supports HRSD's Priorities of Innovation and Financial Stewardship. Additionally, the tool will provide critical data to support NP015400 - Nansemond Treatment Plant Solids Drying Feasibility and Site Study.

FUNDING TYPE		CONTACTS			
Funding Type:	Cash	Contacts-Requesting Dept: Contacts-Dept Contacts: Contacts-Managing Dept:	Operations-Treatment Virginia Opp Engineering		
PROPOSED SCHE	DUI E START DATE	COST ESTIMATE			

rePlanning 07/01/2024		Cost Estimate Class:	Class 2	
PER		PrePlanning	\$300,000	
Design Delay		PER	\$0	
Design		Design	\$0	
Bid Delay		PreConstruction	\$0	
PreConstruction		Construction	\$0	
Construction		Closeout	\$0	
Closeout		Est. Program Cost	\$300,000	
		Contingency Budget	\$0	
		Est. Project Costs	\$300,000	



Conceptual Project Development (FY25)

PR_GN021200

System: Type: General Strategic Planning Driver Category: Risk Mitigation Project Phase: Proposed Regulatory: None

PROGRAM CASH FLOW PROJECTION (\$,000)

Prog Cost	Exp to Previous Year	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34
\$500	\$0	\$500	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

PROJECT DESCRIPTION

This project will provide funding to take a concept for selected CIP projects to a level that it can be chartered, budgeted, and scheduled appropriately.

PROJECT JUSTIFICATION

New project budgets and schedules are typically estimated by the requesting Operations work center and programmed into the CIP program by Finance using these projections. The scopes and estimates for these projects are challenging for in-house staff to fully explore and accurately develop under typical market conditions. Recent bidding conditions have presented challenges even for experienced consultant estimating fully designed projects. Early conceptual project development of select projects will help to identify key elements of projects that could lead to dramatic changes in cost or schedule allowing for better confidence in CIP programming.

FUNDING TYPE		CONTACTS	CONTACTS				
Funding Type:	Cash	Contacts-Requesting Dept: Contacts-Dept Contacts: Contacts-Managing Dept:	Engineering Bruce Husselbee Engineering				
PROPOSED SC	HEDULE START DATE	COST ESTIMATE					
PrePlanning PER Design Delay Design Bid Delay PreConstruction Construction Closeout	07/01/2024	Cost Estimate Class: PrePlanning PER Design PreConstruction Construction Closeout Est. Program Cost Contingency Budget	Class 5 \$500,000 \$0 \$0 \$0 \$0 \$0 \$500,000 \$0				
		Est. Project Costs	\$500,000				