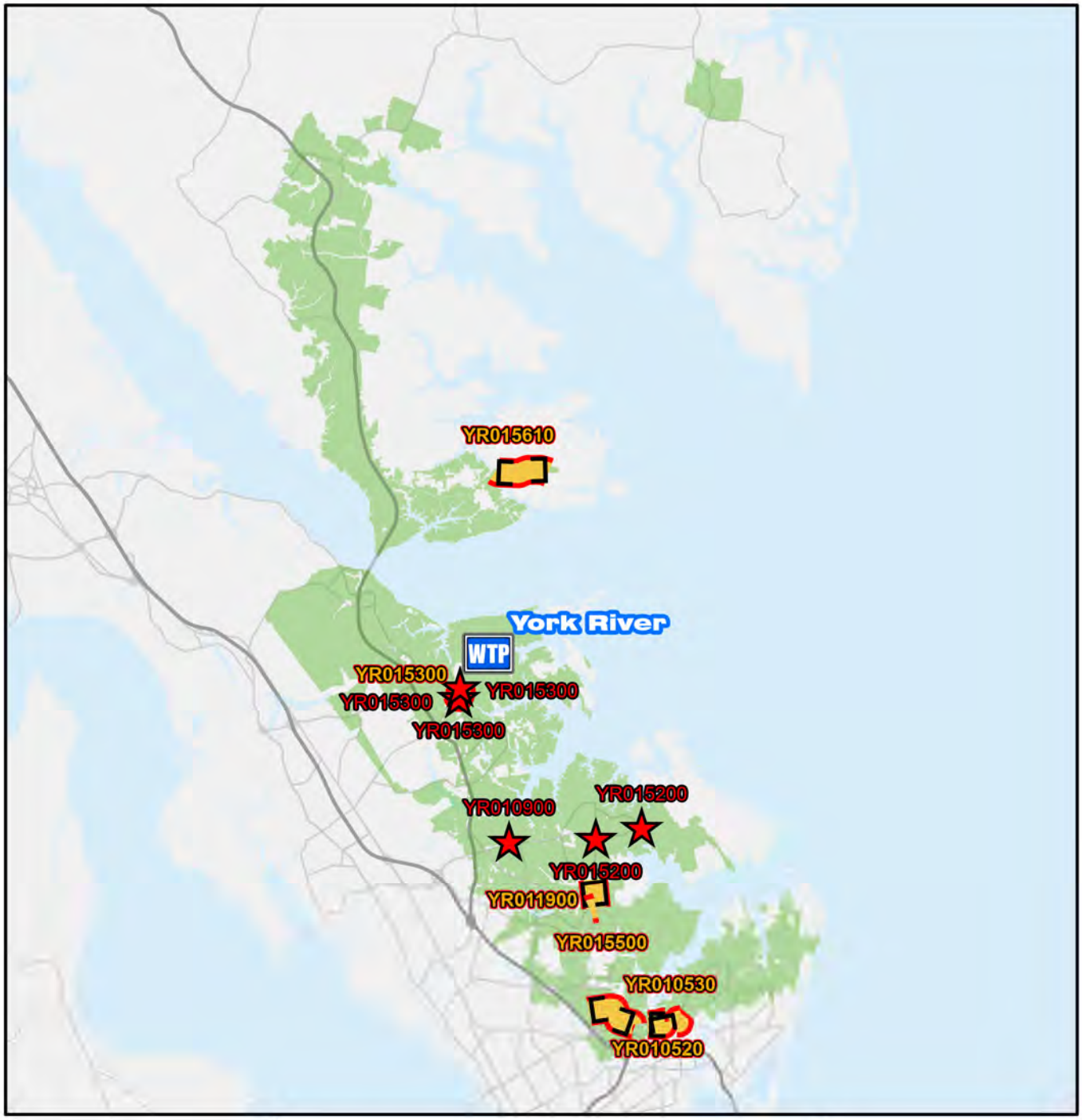
York River Treatment Plant



Legend

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

0 6,500 13,000 26,000 39,000 52,000 Feet

York River Treatment Plant Service Area CIP Projects

Treatment Plant Projects

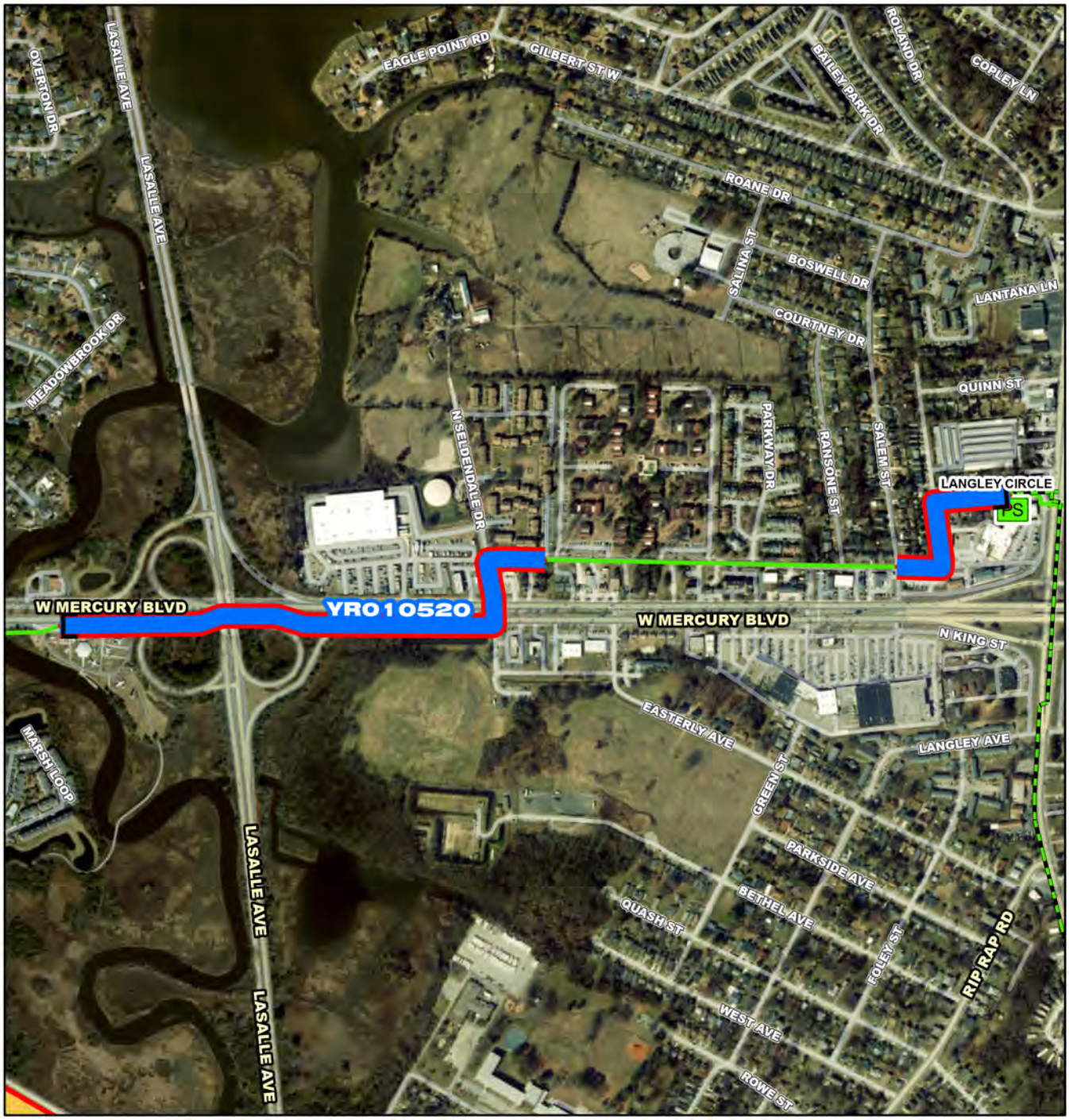
YR014900
YR015000
YR015400

HRSD

N

CIP Location

Service Area



YR010520

- Project Interceptor Line
- Project Interceptor Point
- Project Location Point
- Project Area

Legend

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

0 275 550 1,100 1,650 2,200 Feet

YR010520

Magruder Mercury Interceptor Force Main Replacement - Section B

HRSD

N
W E
S

CIP Location

Magruder Mercury Interceptor Force Main Replacement-Section B

PR_YR010520

System: York River
Type: Pipelines

Driver Category: Aging Infrastructure/Rehabilitation
Project Phase: Design
Regulatory: None

PROGRAM CASH FLOW PROJECTION ($,000)

Prog Cost	Exp to Previous Year	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34	FY35	FY36
$21,547	$1,255	$20	$10,569	$9,689	$14	$0	$0	$0	$0	$0	$0

PROJECT DESCRIPTION

This project will consist of design and construction for the replacement of the Langley Circle Pump Station yard piping and the targeted replacement of approximately 3,800 linear feet (LF) of the 6,200 LF of 30-inch prestressed concrete cylinder pipe (PCCP) and ductile iron (DI) force main (NF-058) from the Langley Circle Pump Station to just east of the Newmarket Creek Crossing in Hampton identified in the Preliminary Engineering Report as high-risk segments. The target replacement will start at the intersection of North Seldendale Drive and Doolittle Road to a downstream connection location near Air Power Park, located on W. Mercury Boulevard. This project will require bypass pumping and temporary piping to facilitate maintenance of existing flows during construction.

PROJECT JUSTIFICATION

There are a number of infrastructure issues providing the justification for this project and each one will be addressed during the design of the replacement. A force main break and emergency repair occurred on this line in the vicinity of Langley Circle Pump Station due to crown corrosion, and condition assessment efforts performed during the preliminary engineering phase identified which portions of the force main were installed in corrosive soils with no existing corrosion protection and elevated risk of internal crown corrosion.

FUNDING TYPE

Funding Type: Revenue Bond

CONTACTS

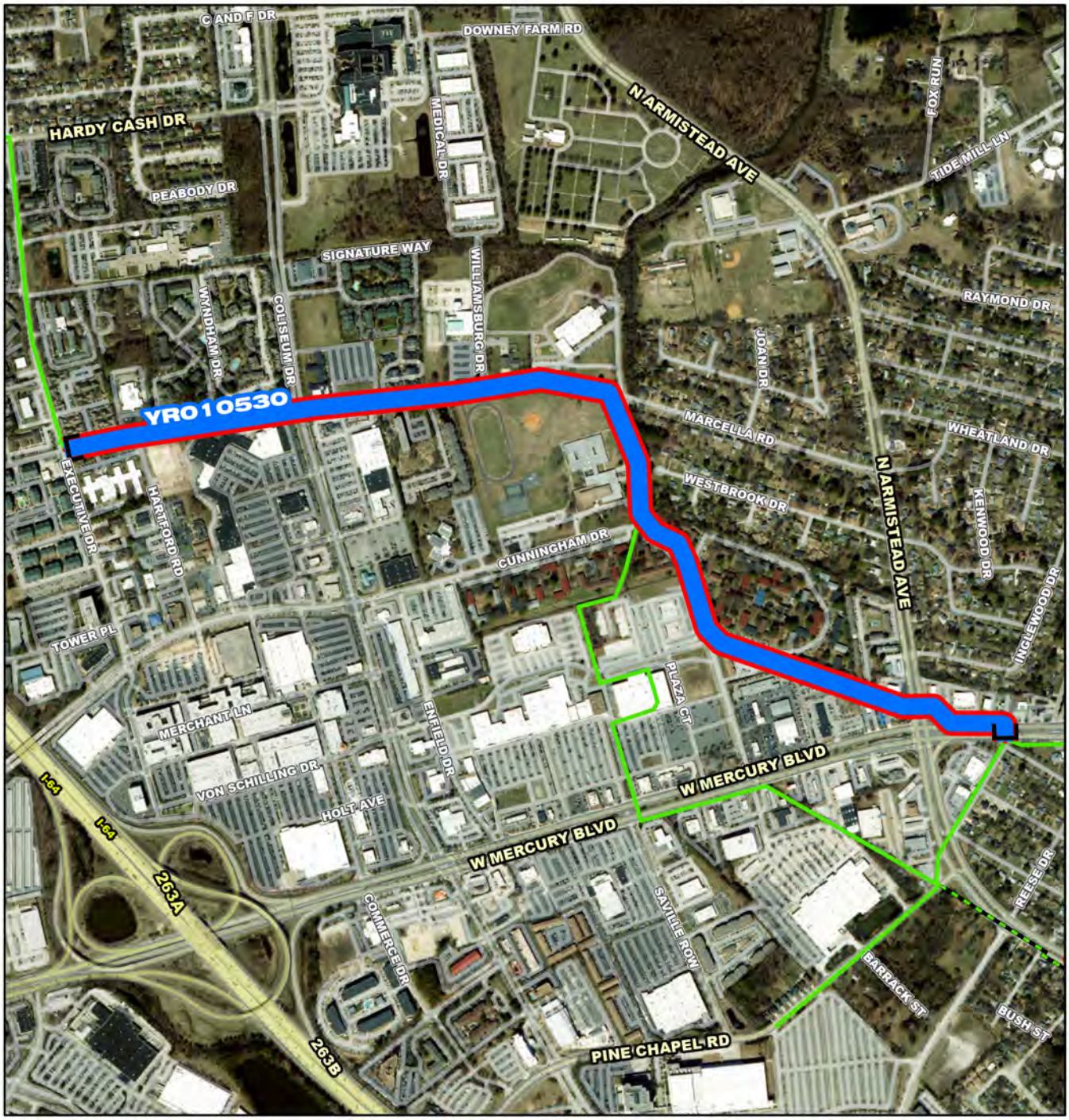
Contacts-Requesting Dept: Operations-Interceptors
Contacts-Dept Contacts: Beatriz Patino
Contacts-Managing Dept: Engineering

PROPOSED SCHEDULE START DATE

PrePlanning	07/01/2019
PER	12/16/2020
Design Delay	10/01/2021
Design	10/01/2021
Bid Delay	05/01/2026
PreConstruction	04/01/2027
Construction	07/01/2027
Closeout	06/01/2029

COST ESTIMATE

Cost Estimate Class:	**Class 1 (-3% to +15%)**
PrePlanning	$61,785
PER	$243,373
Design	$950,000
PreConstruction	$20,000
Construction	$20,256,610
Closeout	$15,000
Est. Program Cost	**$21,546,768**
Contingency Budget	$2,153,712
Est. Project Costs	**$23,700,480**



YR010530

- Project Interceptor Line
- Project Interceptor Point
- Project Location Point
- Project Area

Legend

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

0 360 720 1,440 2,160 2,880 Feet

N
W E
S

YR010530

Magruder Mercury Interceptor Force Main Replacement - Section C

HRSD

CIP Location

Magruder Mercury Interceptor Force Main Replacement-Section C

PR_YR010530

System: York River
Type: Pipelines

Driver Category: Aging Infrastructure/Rehabilitation
Project Phase: Proposed
Regulatory: None

PROGRAM CASH FLOW PROJECTION ($,000)

Prog Cost	Exp to Previous Year	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34	FY35	FY36
$17,823	$0	$0	$0	$258	$1,032	$7,589	$8,256	$688	$0	$0	$0

PROJECT DESCRIPTION

This project will consist of design and construction for the replacement of 8,300 linear feet (LF) of 30-inch prestressed concrete cylinder pipe (PCCP) force main (NF-058) from the intersection of Mercury Boulevard and Windsor Drive to just east of the intersection of Executive Drive and Marcella Road. This project will require bypass pumping and temporary piping to facilitate maintenance of existing flows during construction.

PROJECT JUSTIFICATION

There are a number of infrastructure issues providing the justification for this project and each issue should be considered during the design of the replacement. During the by-pass operation required during the VDOT relocation in the late 1980s, significant debris and sedimentation was observed. The as-built profile and the construction methods used during the original installation of this line provide indication that numerous locations of this force main are at elevated risk for internal crown corrosion. Lastly, there are numerous locations where building structures and/or lack of vehicular and equipment access present significant operational response difficulties.

FUNDING TYPE

Funding Type: Revenue Bond

CONTACTS

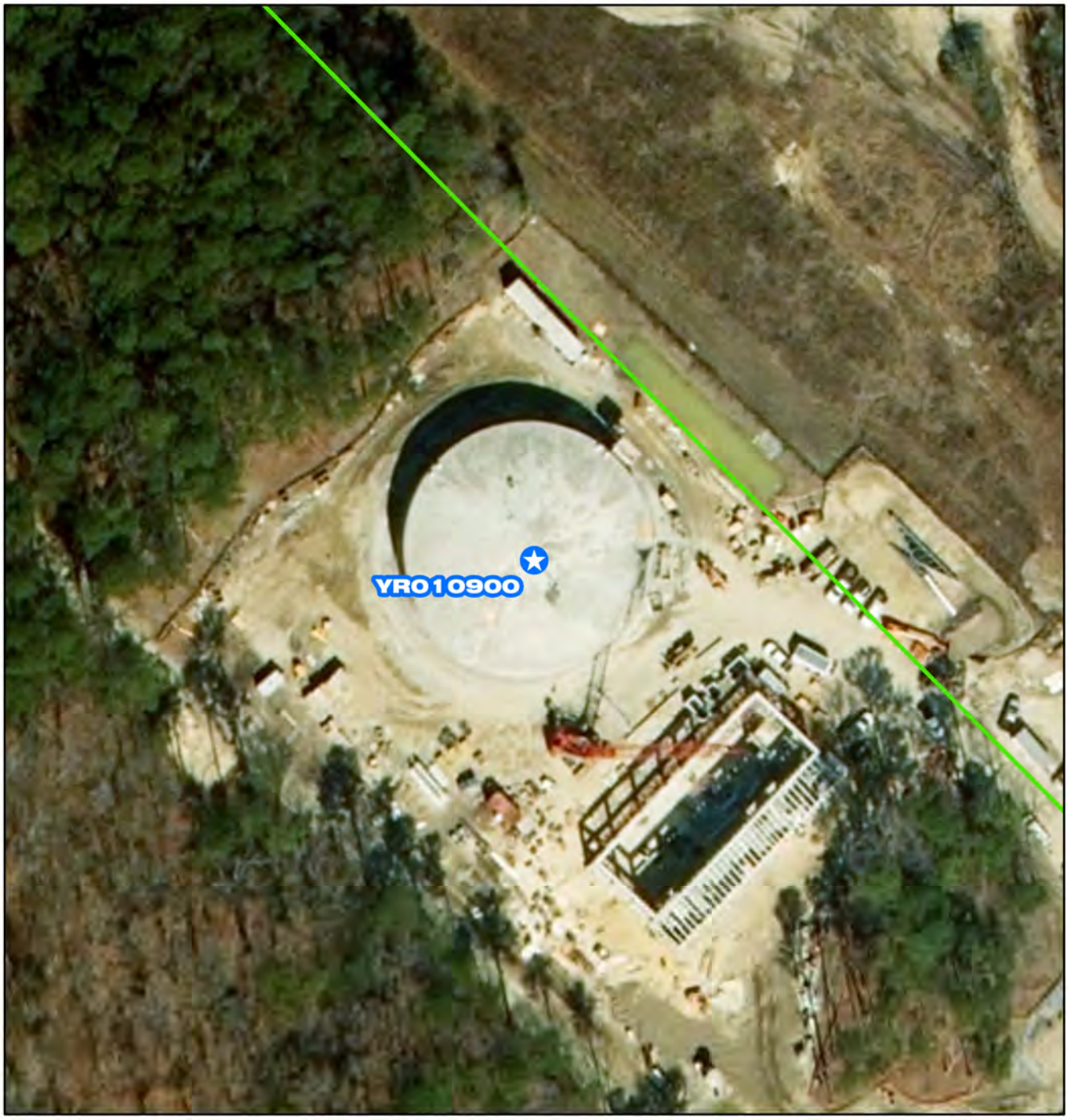
Contacts-Requesting Dept: Operations-Interceptors
Contacts-Dept Contacts: Chris Stephan
Contacts-Managing Dept: Engineering

PROPOSED SCHEDULE START DATE

PrePlanning	09/01/2028
PER	10/03/2028
Design Delay	12/04/2028
Design	08/02/2029
Bid Delay	11/02/2029
PreConstruction	07/02/2030
Construction	08/02/2030
Closeout	08/02/2032

COST ESTIMATE

Cost Estimate Class:	**Class 5 (-20% to +100%)**
PrePlanning	$0
PER	$258,000
Design	$1,032,000
PreConstruction	$20,640
Construction	$16,512,000
Closeout	$0
Est. Program Cost	**$17,822,640**
Contingency Budget	$1,654,594
Est. Project Costs	**$19,477,234**



YRO10900

- Project Interceptor Line
- Project Interceptor Point
- Project Location Point
- Project Area

Legend

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

0 25 50 100 150 200 Feet

YRO10900

Tabb Pressure Reducing Station and Offline Storage Facility

HRSD

N
W E
S

CIP Location

Tabb Pressure Reducing Station and Offline Storage Facility

PR_YR010900

System: York River
Type: Offline Storage

Driver Category: I&I Abatement-IP/RWWMP
Project Phase: Construction
Regulatory: Integrated Plan-HPP 1

PROGRAM CASH FLOW PROJECTION ($,000)

Prog Cost	Exp to Previous Year	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34	FY35	FY36
$41,268	$41,243	$25	$0	$0	$0	$0	$0	$0	$0	$0	$0

PROJECT DESCRIPTION

This project will construct a new Pressure Reducing Station (PRS) and Offline Storage Tank in the vicinity of Tabb High School in York County, Virginia. The precise capacity of the station and volume of the tank will be determined during the preliminary design.

PROJECT JUSTIFICATION

Staff determined the Tabb PRS and Offline Storage Facility project would eliminate the need for an onsite storage vessel at the James River Treatment Plant (JRTP). The facility will provide flow equalization to both York River and James River Treatment plants and also provide system relief during wet weather events.

FUNDING TYPE

Funding Type: Revenue Bond

CONTACTS

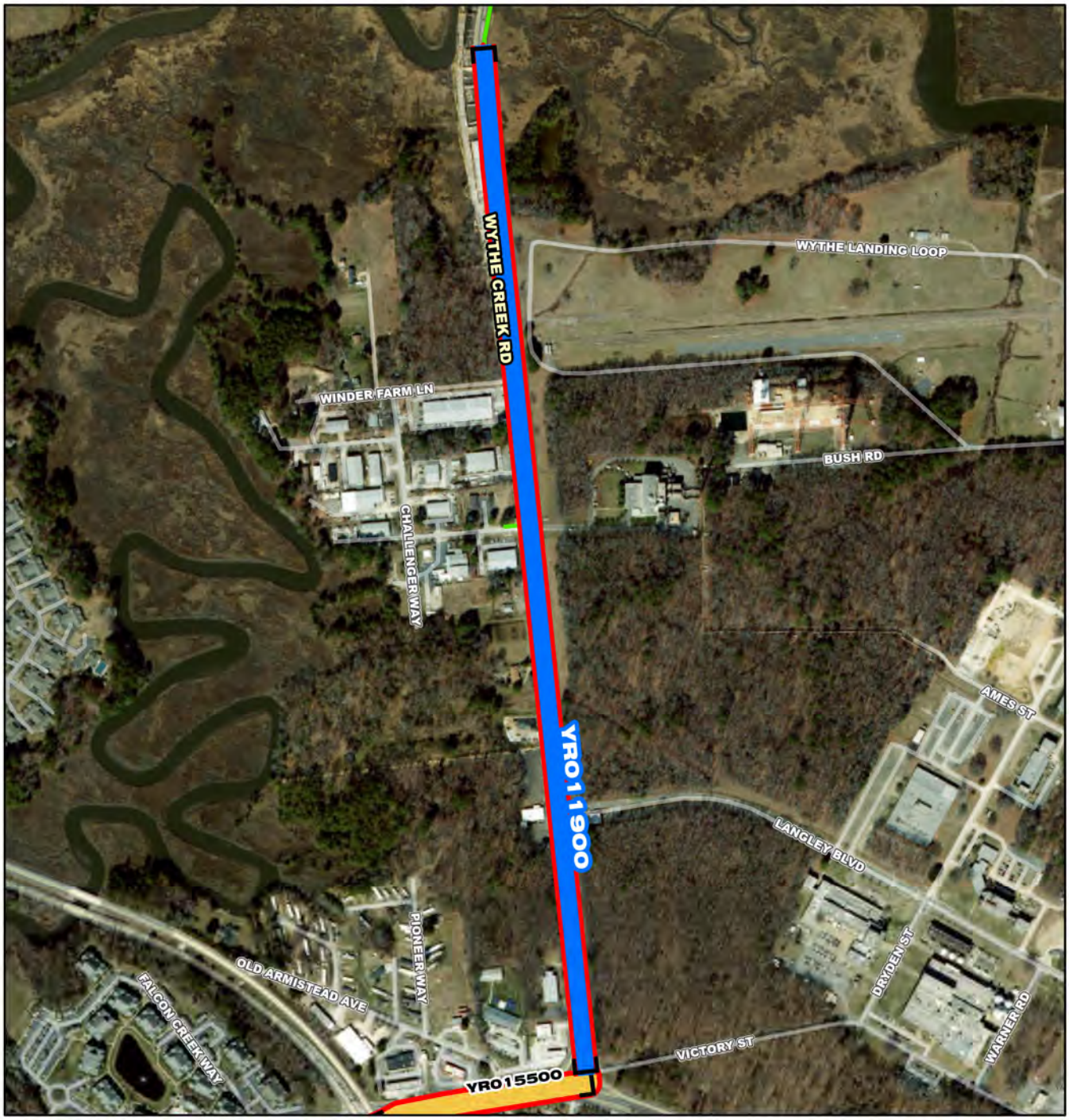
Contacts-Requesting Dept: Operations-Interceptors
Contacts-Dept Contacts: Angela Weatherhead
Contacts-Managing Dept: Engineering

PROPOSED SCHEDULE START DATE

PrePlanning	02/28/2020
PER	06/01/2020
Design Delay	02/21/2022
Design	02/20/2021
Bid Delay	07/05/2023
PreConstruction	09/18/2023
Construction	01/01/2024
Closeout	07/01/2026

COST ESTIMATE

Cost Estimate Class:	**Class 1 (-3% to +15%)**
PrePlanning	$1,229
PER	$585,657
Design	$3,091,708
PreConstruction	$22,681
Construction	$37,541,654
Closeout	$25,000
Est. Program Cost	**$41,267,929**
Contingency Budget	$3,000,000
Est. Project Costs	**$44,267,929**



YRO11900

- Project Interceptor Line
- Project Interceptor Point
- Project Location Point
- Project Area

Legend

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

0 220 440 880 1,320 1,760 Feet

N
W E
S

CIP Location

YRO11900

Bethel-Poquoson Force Main Part III Replacement

HRSD

Bethel-Poquoson Force Main Part III Replacement

PR_YR011900

System: York River
Type: Pipelines

Driver Category: Relocation
Project Phase: Construction
Regulatory: None

PROGRAM CASH FLOW PROJECTION ($,000)

Prog Cost	Exp to Previous Year	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34	FY35	FY36
$1,959	$1,563	$392	$4	$1	$0	$0	$0	$0	$0	$0	$0

PROJECT DESCRIPTION

This work will be constructed as part of a Virginia Department of Transportation (VDOT) roadway improvements project. Portions of the existing pipeline will be relocated at VDOT project expense and some portions will be relocated at HRSD expense. This project will replace and/or rehabilitate approximately 4,400 linear feet of existing 20-inch pre-stressed concrete cylinder pipe (PCCP) along the eastern edge of Wythe Creek Road. VDOT will replace approximately 2,650 feet of pipe at project cost and HRSD will be responsible for replacement of 1,750 feet of pipe at HRSD's cost.

PROJECT JUSTIFICATION

The relocation of this pipeline is due to a VDOT roadway project to widen Wythe Creek Road.

FUNDING TYPE

Funding Type: Revenue Bond

CONTACTS

Contacts-Requesting Dept: Operations-Interceptors
Contacts-Dept Contacts: Shirley Smith
Contacts-Managing Dept: Engineering

PROPOSED SCHEDULE START DATE

PrePlanning	01/01/2015
PER	01/01/2015
Design Delay	01/01/2015
Design	01/01/2015
Bid Delay	06/28/2019
PreConstruction	11/01/2023
Construction	03/01/2024
Closeout	10/01/2026

COST ESTIMATE

Cost Estimate Class:	**Class 1 (-3% to +15%)**
PrePlanning	$0
PER	$0
Design	$17,998
PreConstruction	$0
Construction	$1,735,296
Closeout	$7,090
Est. Program Cost	**$1,760,384**
Contingency Budget	$283,600
Est. Project Costs	**$2,043,984**

YR014900

- Project Interceptor Line
- Project Interceptor Point
- Project Location Point
- Project Area

Legend

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

0 25 50 100 150 200 Feet

YR014900

York River DEMON Upgrades

HRSD

N
W E
S

CIP Location

York River DEMON Upgrades

PR_YR014900

System: York River
Type: Wastewater Treatment

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

PROGRAM CASH FLOW PROJECTION ($,000)

Prog Cost	Exp to Previous Year	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34	FY35	FY36
$551	$363	$188	$0	$0	$0	$0	$0	$0	$0	$0	$0

PROJECT DESCRIPTION

Currently, the DEMON process is a sequencing batch reactor with anammox granules retained in the system with a screen and partial nitration occurring in the mixed liquor. The goal of this project is to incorporate biofilm carriers for anammox to increase process reliability and stability. HRSD will be evaluating a fixed media option vs moving media in a full-scale demonstration at James River Treatment Plant (JRTP). If fixed-film is successful at JRTP, it would be the preferred option for the York River Treatment Plant DEMON, otherwise the fall back option will be moving media.

PROJECT JUSTIFICATION

The goal is to improve reliability and stability of the process by making it more resistant to upsets from high influent Total Suspended Solids (TSS) by switching from a hybrid granular/suspended growth process to an attached growth process. Currently, there are frequent upsets from influent TSS that cause temporary shutdowns and sometimes restarts which require a significant amount of operator time and attention. When DEMON is offline, the nitrogen loading is increased on the plant which uses more aeration, alkalinity, and methanol.

FUNDING TYPE

Funding Type: Revenue Bond

CONTACTS

Contacts-Requesting Dept: Operations-Treatment
Contacts-Dept Contacts: Mike Parsons
Contacts-Managing Dept: Operations-Treatment

PROPOSED SCHEDULE START DATE

PrePlanning	03/01/2023
PER	03/01/2023
Design Delay	03/01/2023
Design	03/01/2023
Bid Delay	03/01/2023
PreConstruction	03/01/2023
Construction	03/01/2023
Closeout	01/01/2027

COST ESTIMATE

Cost Estimate Class:	**Class 1 (-3% to +15%)**
PrePlanning	$0
PER	$0
Design	$0
PreConstruction	$0
Construction	$551,200
Closeout	$0
Est. Program Cost	**$551,200**
Contingency Budget	$0
Est. Project Costs	**$551,200**

YR015000

- Project Interceptor Line
- Project Interceptor Point
- Project Location Point
- Project Area

Legend

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

0 25 50 100 150 200 Feet

N
W E
S

CIP Location

YR015000

York River Treatment Plant Switchgear and Motor Control Center Replacements

HRSD

York River Treatment Plant Switchgear and Motor Control Center Replacements

PR_YR015000

System: York River
Type: Electrical

Driver Category: Aging Infrastructure/Rehabilitation
Project Phase: PER
Regulatory: None

PROGRAM CASH FLOW PROJECTION ($,000)

Prog Cost	Exp to Previous Year	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34	FY35	FY36
$19,855	$585	$2,500	$1,586	$2,365	$2,365	$2,365	$2,365	$2,365	$2,365	$991	$4

PROJECT DESCRIPTION

This project is to replace twelve (12) motor control centers (MCC's). The MCC's were installed in the early 1980's and feed the Digester Building, DAF (Dissolved Activated Flotation) Building, Final Effluent Pump Station, Primary Solids Building, Administration Operations Building, and Odor Control Building. To extend the life of the new Primary MCC and remove the MCC from a harsh environment, the MCC will be relocated from the basement to a prefabricated electrical room that will be erected above ground. In addition, this project will replace 4160V medium voltage switchgear located in the administration building. The new switchgear lineup will provide remote racking and modernize the protective relaying by using solid state relays versus induction disc relays.

PROJECT JUSTIFICATION

This project will replace vintage MCC's that have reached the end of their useful life. The replacement parts are not readily available. The replacement of the MCC's will improve reliability and avert any disruptions to the plant processes. In addition, this project will reduce hazards to employees associated with arc flash.

FUNDING TYPE

Funding Type: Revenue Bond

CONTACTS

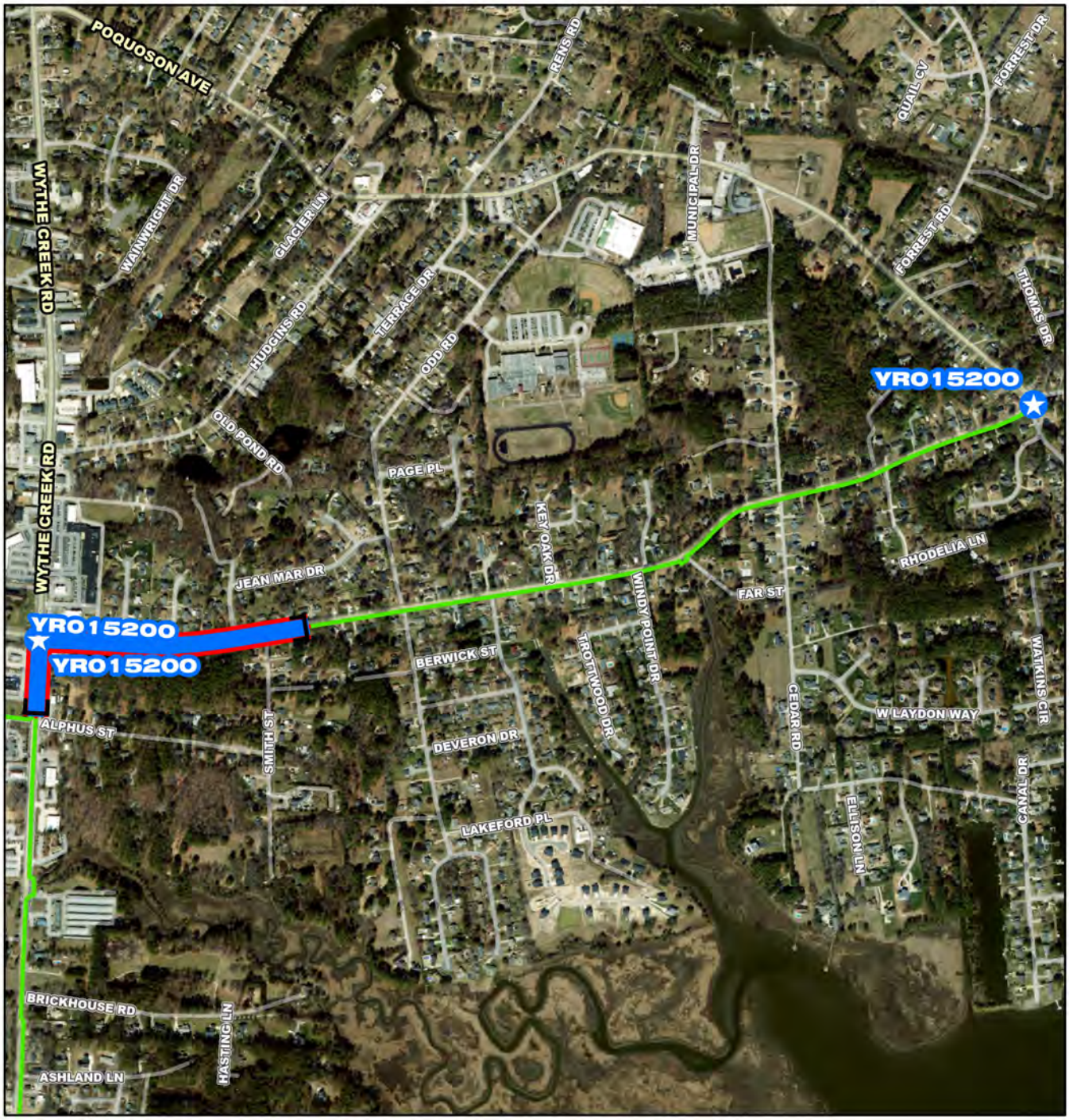
Contacts-Requesting Dept: Operations-E&I
Contacts-Dept Contacts: Donald Jennings
Contacts-Managing Dept: Engineering

PROPOSED SCHEDULE START DATE

PrePlanning	01/01/2025
PER	08/01/2025
Design Delay	07/01/2026
Design	07/01/2026
Bid Delay	07/01/2027
PreConstruction	07/01/2027
Construction	11/01/2027
Closeout	12/01/2034

COST ESTIMATE

Cost Estimate Class:	**Class 5 (-20% to +100%)**
PrePlanning	$0
PER	$585,348
Design	$2,500,000
PreConstruction	$10,000
Construction	$16,750,000
Closeout	$10,000
Est. Program Cost	**$19,855,348**
Contingency Budget	$3,000,000
Est. Project Costs	**$22,855,348**



YRO15200

- Project Interceptor Line
- Project Interceptor Point
- Project Location Point
- Project Area

Legend

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

0 360 720 1,440 2,160 2,880 Feet

N
W E
S

CIP Location

YRO15200

Bethel-Poquoson and Route 171 Victory Blvd Interceptor Force Main Relocation

HRSD

Bethel Poquoson and Route 171 Victory Blvd IFM Relocation

PR_YR015200

System: York River
Type: Pipelines

Driver Category: Aging Infrastructure/Rehabilitation
Project Phase: Proposed
Regulatory: None

PROGRAM CASH FLOW PROJECTION ($,000)

Prog Cost	Exp to Previous Year	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34	FY35	FY36
$4,301	$0	$0	$0	$0	$0	$403	$436	$2,305	$1,158	$0	$0

PROJECT DESCRIPTION

This project is to design and construct a new force main to replace portions of NF-025 & NF-026. The project will include the abandonment of 1,600 linear feet (LF) of 18-inch and 600 LF of 20-inch reinforced concrete cylinder pipe. This scope also consists of replacing two (2) valve complexes, one at Wythe Creek Road and Little Florida Avenue and the other at the intersection of Little Florida Road and Poquoson Avenue.

PROJECT JUSTIFICATION

NF-025 & NF-026 were placed into service in 1970. Both force mains have experienced corrosion-related failures. In 1986, NF-026 experienced its failure, and the pipe failed due to a corrosive attack. In 1997, NF-025 experienced a corrosion-related failure at an unvented high spot. Along with corrosion-related failures, multiple valves on both force mains have failed. Valve YR3017-2, located at Poquoson Avenue and Little Florida intersection, has failed in the open position and leaks if operated. The Wythe Creek Road and Little Florida Avenue valve complex has several valves with operational issues. Valve YR3012-1 failed in the open position, and leaks if operated. Valve YR3012-2 has failed in the open position and is considered inoperable (frozen). In addition to the information above, the force main and valve locations provide operational and access issues. Any failures on this line would create serious impact to residents and emergency services.

FUNDING TYPE

Funding Type: Revenue Bond

CONTACTS

Contacts-Requesting Dept: Operations-Interceptors
Contacts-Dept Contacts: Santino Granato
Contacts-Managing Dept: Operations-Interceptors

PROPOSED SCHEDULE START DATE

PrePlanning	07/01/2030
PER	09/02/2030
Design Delay	02/03/2031
Design	02/03/2031
Bid Delay	04/01/2032
PreConstruction	04/01/2032
Construction	07/02/2032
Closeout	01/02/2034

COST ESTIMATE

Cost Estimate Class:	**Class 5 (-20% to +100%)**
PrePlanning	$0
PER	$188,856
Design	$598,560
PreConstruction	$51,600
Construction	$3,457,200
Closeout	$5,160
Est. Program Cost	**$4,301,376**
Contingency Budget	$848,923
Est. Project Costs	**$5,150,299**

YR015300

- Project Interceptor Line
- Project Interceptor Point
- Project Location Point
- Project Area

Legend

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

0 80 160 320 480 640 Feet

YR015300

Wolf Trap Road Interceptor Improvements

HRSD

N
W E
S

CIP Location

Wolf Trap Road Interceptor Improvements

PR_YR015300

System: York River
Type: Pipelines

Driver Category: Aging Infrastructure/Rehabilitation
Project Phase: Proposed
Regulatory: None

PROGRAM CASH FLOW PROJECTION ($,000)

Prog Cost	Exp to Previous Year	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34	FY35	FY36
$7,379	$0	$0	$0	$0	$0	$0	$955	$2,090	$4,334	$0	$0

PROJECT DESCRIPTION

This project is to design and construct a new force main to relocate a portion of NF-010 and NF-011. Along with the segmental relocations, this project will remove and replace several valves that have failed and are on the influent force main to the York River Treatment Plant.

PROJECT JUSTIFICATION

The segmental replacement of NF-010 is to remove the force main installed in the 1970s. The location of the force main presents significant safety risks when performing maintenance due to its placement within a busy traffic lane. Maintenance records for the valves associated with this project indicate several failed valves. In September of 2024, valve YR1005-1 began to leak while operations staff were performing preventative maintenance activities; the estimated leak rate was 10 gallons per minute, and operations staff were able to divert flows and complete the repair to the valve and stop the leak. All flow entering the YRTP passes through this valve, and there is no redundant downstream valve. This valve would be operated if a catastrophic failure occurred at the York River Treatment Plant and flows needed to be diverted to the other plants. Given the critical role of these valves within the interceptor system, it is recommended that they be removed and replaced to improve both safety and system reliability.

FUNDING TYPE

Funding Type: Revenue Bond

CONTACTS

Contacts-Requesting Dept: Operations-Interceptors
Contacts-Dept Contacts: Santino Granato
Contacts-Managing Dept: Operations-Interceptors

PROPOSED SCHEDULE START DATE

PrePlanning	07/01/2031
PER	07/01/2031
Design Delay	01/02/2032
Design	01/02/2032
Bid Delay	01/03/2033
PreConstruction	01/03/2033
Construction	04/04/2033
Closeout	04/03/2034

COST ESTIMATE

Cost Estimate Class:	**Class 5 (-20% to +100%)**
PrePlanning	$0
PER	$309,600
Design	$1,290,000
PreConstruction	$0
Construction	$5,779,200
Closeout	$0
Est. Program Cost	**$7,378,800**
Contingency Budget	$1,155,840
Est. Project Costs	**$8,534,640**

YR015400

- Project Interceptor Line
- Project Interceptor Point
- Project Location Point
- Project Area

Legend

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

0 25 50 100 150 200 Feet

YR015400

York River Treatment Plant Fire Suppression System Upgrades

HRSD

N
W E
S

CIP Location

York River Treatment Plant Fire Suppression System Upgrades

PR_YR015400

System: York River
Type: Wastewater Treatment

Driver Category: Safety Compliance
Project Phase: Pre Construction
Regulatory: None

PROGRAM CASH FLOW PROJECTION ($,000)

Prog Cost	Exp to Previous Year	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34	FY35	FY36
$2,031	$423	$1,601	$6	$0	$0	$0	$0	$0	$0	$0	$0

PROJECT DESCRIPTION

This project will address the replacement or upgrades of the fire suppression system at the York River Treatment Plant methanol facility. Currently, the fire suppression system at this plant's methanol facility utilizes an Alcohol Resistant Aqueous Film Forming Foam (AR-AFFF) that contains Perfluoroalkyl and Polyfluoroalkyl (PFAS). Refilling the existing extinguishers with AR-AFFF will no longer be permitted due to the environmental and health concerns associated with PFAS. The new or upgraded systems will utilize a non-PFAS fluorine free foam to extinguish fires.

PROJECT JUSTIFICATION

The current methanol fire suppression systems use AR-AFFF which contains PFAS. AR-AFFF foam is being phased out due to the Federal Forever Chemical Regulation Accountability Act of 2024. If the fire suppression systems is discharged the existing system cannot be re-charged. In the past, some of these fire suppression systems have experienced false alarms and equipment malfunctions causing activation of the AR-AFFF.

FUNDING TYPE

Funding Type: Revenue Bond

CONTACTS

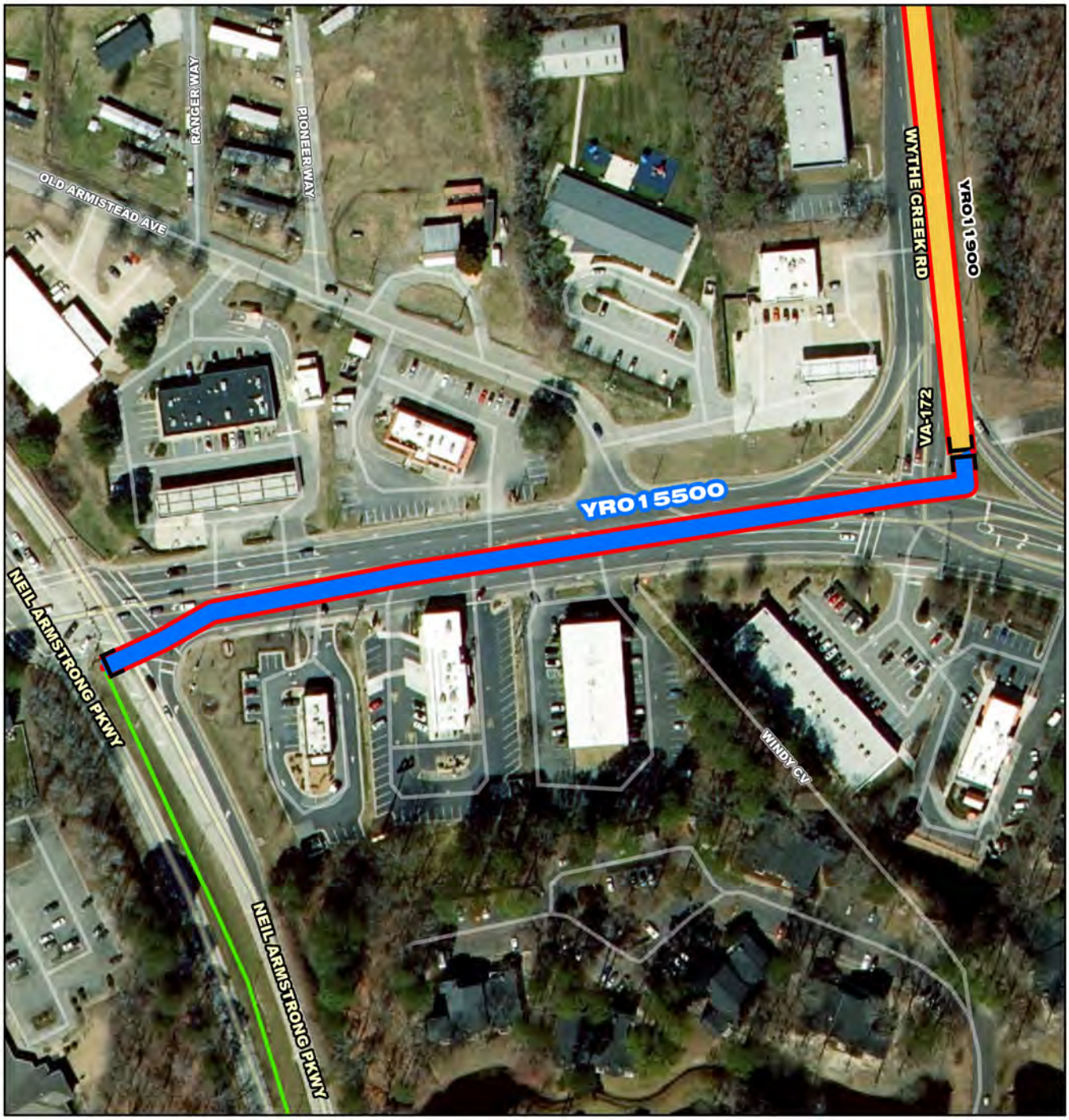
Contacts-Requesting Dept: Operations-Treatment
Contacts-Dept Contacts: Delane Carty
Contacts-Managing Dept: Engineering

PROPOSED SCHEDULE START DATE

PrePlanning	02/01/2026
PER	02/01/2026
Design Delay	02/01/2026
Design	02/01/2026
Bid Delay	02/01/2026
PreConstruction	02/01/2026
Construction	05/01/2026
Closeout	03/01/2027

COST ESTIMATE

Cost Estimate Class:	**Class 2 (-5% to +20%)**
PrePlanning	$0
PER	$0
Design	$0
PreConstruction	$23,376
Construction	$1,997,970
Closeout	$9,165
Est. Program Cost	**$2,030,511**
Contingency Budget	$304,577
Est. Project Costs	**$2,335,088**



YRO15500
- Project Interceptor Line
- Project Interceptor Point
- Project Location Point
- Project Area

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

0 55 110 220 330 440 Feet

N
W E
S

YRO15500

Commander Shepard Boulevard Interceptor Force Main Replacement

HRSD

CIP Location

Commander Shepard Boulevard Interceptor Force Main Replacement

PR_YR015500

System: York River
Type: Pipelines

Driver Category: Aging Infrastructure/Rehabilitation
Project Phase: Proposed
Regulatory: None

PROGRAM CASH FLOW PROJECTION ($,000)

Prog Cost	Exp to Previous Year	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34	FY35	FY36
$6,300	$0	$100	$845	$2,634	$2,621	$100	$0	$0	$0	$0	$0

PROJECT DESCRIPTION

This project will replace approximately 1,200 linear feet of 20-inch Prestressed Concrete Cylinder Pipe located within Commander Shepard Boulevard. The relocation will be from the end of the prior replacement at YR3003-5 to a location south of the intersection with Neil Armstrong Parkway.

PROJECT JUSTIFICATION

This 20" PCCP force main was put into service in 1970 in a rural area. Since that time, development has encroached and both roadways have expanded in width, leaving the valves and appurtenances in very difficult locations. The end of the jack and bore is now under pavement and significant fill has been placed on top of this once shallow force main. Two (2) valves have failed and are no longer operable leaving Hampton pump stations 157 & 144 and several private stations without proper isolation from HRSD's sewer infrastructure. Additionally, the previous high point study has indicated this force main to have an unvented high spot with a known potential for catastrophic failure. Given the location of this force main, a failure would result in long term traffic and service disruptions for the community. As part of the PER, it is recommended that alternative alignments be studied for constructability and future maintenance ease.

FUNDING TYPE

Funding Type: Revenue Bond

CONTACTS

Contacts-Requesting Dept: Operations-Interceptors
Contacts-Dept Contacts: Chris Stephan
Contacts-Managing Dept: Operations-Interceptors

PROPOSED SCHEDULE START DATE

PrePlanning	01/01/2027
PER	05/01/2027
Design Delay	12/01/2027
Design	12/01/2027
Bid Delay	10/01/2028
PreConstruction	10/01/2028
Construction	01/01/2029
Closeout	03/01/2030

COST ESTIMATE

Cost Estimate Class:	**Class 5 (-20% to +100%)**
PrePlanning	$0
PER	$350,000
Design	$850,000
PreConstruction	$450,000
Construction	$4,500,000
Closeout	$150,000
Est. Program Cost	**$6,300,000**
Contingency Budget	$1,200,000
Est. Project Costs	**$7,500,000**

YR015610

- Project Interceptor Line
- Project Interceptor Point
- Project Location Point
- Project Area

Legend

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

0 412.5 825 1,650 2,475 3,300 Feet

N
W E
S

CIP Location

YR015610

Maryus Road Interceptor Force Main Replacement Study

HRSD

Maryus Road Interceptor Force Main Replacement Study

PR_YR015610

System: York River
Type: Pipelines

Driver Category: Aging Infrastructure/Rehabilitation
Project Phase: Proposed
Regulatory: None

PROGRAM CASH FLOW PROJECTION ($,000)

Prog Cost	Exp to Previous Year	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34	FY35	FY36
$250	$0	$250	$0	$0	$0	$0	$0	$0	$0	$0	$0

PROJECT DESCRIPTION

This project will replace approximately 8,500 linear feet of 16-inch ductile iron force main (NF-184) located within the right-of-way of Maryus Road in Gloucester, Virginia. The relocation will be from the end the system at YR-6624 to the intersection of Maryus Road and Guinea Road.

PROJECT JUSTIFICATION

This 16" DI force main was put into service in 1992 as part of the expansion of HRSD's system into Gloucester County. This infrastructure was constructed in a rural area and since that time little development has occurred and only sporadic connections have been made. The force main was installed via direct bury with no cathodic protection system. Due to this area being extremely low, the pipe was buried within the typical tidal range and commonly encounters saltwater and marsh-mud electrolysis. A failure of this force main occurred on October 7th, 2025 where a hole was encountered at the 9 o'clock position due to external corrosion. At the time of repair, there were other locations noted to have severe pitting and additional repair clamps were also installed at that time. Ultrasonic thickness testing was attempted, but the pipe was so graphitized that during preparation efforts to get down to bare metal, the metal was flaking off and created risk of additional failures. No UST readings were possible. Prior condition assessment activities in this area have also revealed severe corrosion. Hardware replacement at valves, connections, and fittings on HRSD and Gloucester Co. infrastructure has also occurred due to external corrosion. As part of the preplanning for this project, it is recommended that significant condition assessment be attempted to better scope the length of necessary pipe replacement. The project costs have been scoped for replacement with HDPE and a smaller diameter line to account for appropriate pipe material and lower sewage flows.

FUNDING TYPE

Funding Type: Revenue Bond

CONTACTS

Contacts-Requesting Dept: Operations-Interceptors
Contacts-Dept Contacts: Chris Stephan
Contacts-Managing Dept: Operations-Interceptors

PROPOSED SCHEDULE START DATE

PrePlanning	07/01/2026
PER	07/01/2027
Design Delay	07/01/2027
Design	07/01/2027
Bid Delay	07/01/2027
PreConstruction	07/01/2027
Construction	07/01/2027
Closeout	07/01/2027

COST ESTIMATE

Cost Estimate Class:	
PrePlanning	$250,000
PER	$0
Design	$0
PreConstruction	$0
Construction	$0
Closeout	$0
Est. Program Cost	**$250,000**
Contingency Budget	$0
Est. Project Costs	**$250,000**

York River Treatment Plant Distributed Control System Upgrade Phase I

PR_YR015700

System: York River
Type: Electrical

Driver Category: Aging Infrastructure/Rehabilitation
Project Phase: Proposed
Regulatory: None

PROGRAM CASH FLOW PROJECTION ($,000)

Prog Cost	Exp to Previous Year	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34	FY35	FY36
$1,565	$0	$0	$0	$0	$0	$0	$0	$0	$1,565	$0	$0

PROJECT DESCRIPTION

This project is to update key elements for the Emerson Distributed Control System (DCS) Treatment Plants across HRSD utilizing the Emerson "Evergreen" program. This manages and eliminates system obsolescence by ensuring key elements of the control system are updated with the latest validated software, workstations, networks, I/O, security, High-Performance Graphics, and optimization technology. This upgrade will effectively protect the initial system investment, therefore prolonging and sustaining the system's life. Each treatment plant will require regular upgrades under the Evergreen program every seven (7) years beginning in FY 2027.

PROJECT JUSTIFICATION

A technological "refresh" of DCS components at HRSD treatment plants is a necessary investment to ensure that the control systems are maintained in a reliable manner. This refresh extends the life of our investment by sustaining current, or incorporating new, technology in the system. It addresses the changing needs of system security requirements and includes security features to comply with newly instituted regulations, avoids emerging maintenance issues caused by aging technology, and adopts new I/O or digital bus technology and takes advantage of the associated asset maintenance and management tools.

FUNDING TYPE

Funding Type: Revenue Bond

CONTACTS

Contacts-Requesting Dept: Operations-E&I
Contacts-Dept Contacts: Shawn Hawley
Contacts-Managing Dept: Operations-E&I

PROPOSED SCHEDULE START DATE

PrePlanning	07/01/2033
PER	07/01/2033
Design Delay	07/01/2033
Design	07/01/2033
Bid Delay	07/01/2033
PreConstruction	07/01/2033
Construction	07/01/2033
Closeout	07/01/2034

COST ESTIMATE

Cost Estimate Class:	**Class 5 (-20% to +100%)**
PrePlanning	$0
PER	$0
Design	$0
PreConstruction	$0
Construction	$1,565,433
Closeout	$0
Est. Program Cost	**$1,565,433**
Contingency Budget	$391,358
Est. Project Costs	**$1,956,791**

York River Treatment Plant Medium Voltage Switch Improvements Feasibility Study

PR_YR015810

System: York River
Type: Electrical

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

PROGRAM CASH FLOW PROJECTION ($,000)

Prog Cost	Exp to Previous Year	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34	FY35	FY36
$50	$0	$50	$0	$0	$0	$0	$0	$0	$0	$0	$0

PROJECT DESCRIPTION

This project will perform a feasibility study to evaluate options for addressing current deficiencies in the medium-voltage switch configuration and Kirk key system at the York River Treatment Plant. The study will consider system reliability, safety, remaining useful life of the existing system, and operations and maintenance requirements.
The study will develop recommendations regarding continued use of the existing Kirk key system or potential modifications to improve safety, reliability, and system redundancy. General Engineering Services will be utilized to perform this study. An opinion of probable cost will be developed for each alternative.

PROJECT JUSTIFICATION

This project will address safety and reliability risks associated with the current power transfer system at the York River Treatment Plant. The facility is supplied by two separate electrical services, with only one required to operate at a given time. The Kirk key system is intended to provide a controlled and safe method for transferring power between these sources.
The current Kirk key system is inoperable, which increases the risk of improper switching, simultaneous energization, or unintended de-energization of power sources. These conditions present significant safety hazards and could result in service disruptions or equipment damage.

FUNDING TYPE

Funding Type: Cash

CONTACTS

Contacts-Requesting Dept: Operations-E&I
Contacts-Dept Contacts: Sherman Pressey
Contacts-Managing Dept: Operations-E&I

PROPOSED SCHEDULE START DATE

PrePlanning	07/01/2026
PER	07/01/2027
Design Delay	07/01/2027
Design	07/01/2027
Bid Delay	07/01/2027
PreConstruction	07/01/2027
Construction	07/01/2027
Closeout	07/01/2027

COST ESTIMATE

Cost Estimate Class:	
PrePlanning	$50,000
PER	$0
Design	$0
PreConstruction	$0
Construction	$0
Closeout	$0
Est. Program Cost	**$50,000**
Contingency Budget	$0
Est. Project Costs	**$50,000**