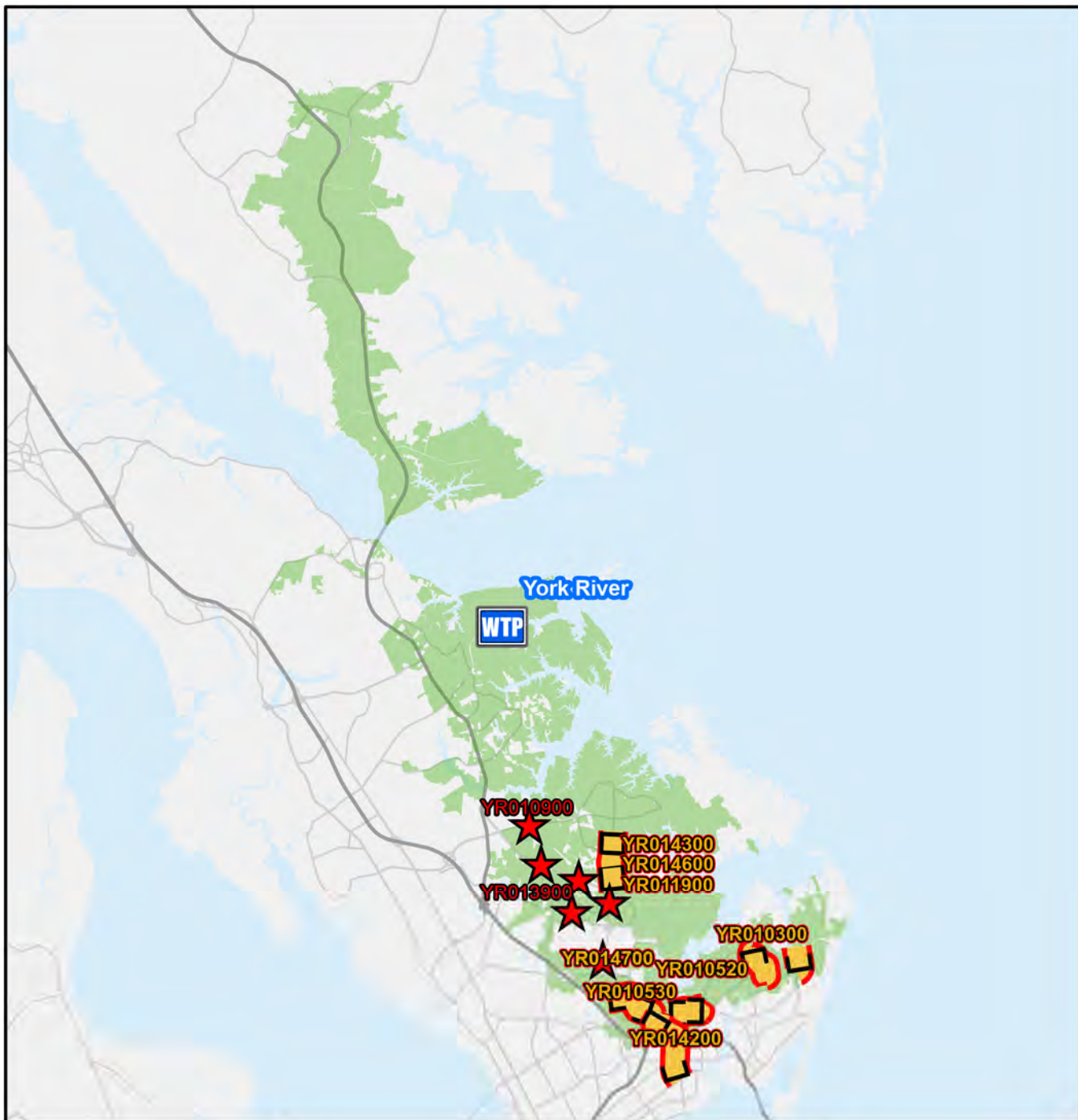


York River Treatment Plant





Legend



York River Treatment Plant



CIP Interceptor Point



CIP Pump Station Point



CIP Interceptor Line



CIP Abandonment



Treatment Plant Service Area



HRSD Interceptor Force Main



HRSD Interceptor Gravity Main



HRSD Treatment Plant



HRSD Pressure Reducing Station



HRSD Pump Station

0 5,000 10,000 20,000 30,000 40,000 Feet

York River Treatment Plant Service Area CIP Projects

Treatment Plant Projects

YR014000
YR014900



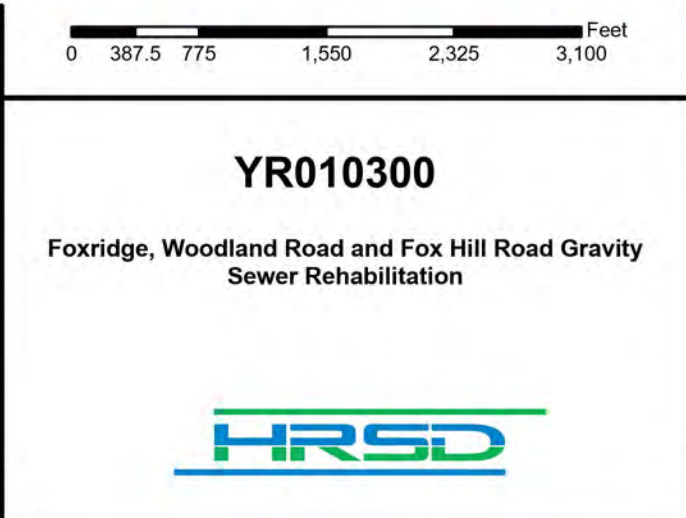
CIP Location



Service Area



- YR010300**
- Project Interceptor Line
 - Project Interceptor Point
 - Project Pump Station Point
 - Project Area
- Legend**
- CIP Interceptor Point
 - CIP Pump Station Point
 - CIP Interceptor Line
 - CIP Abandonment
 - CIP Project Area
 - HRSD Interceptor Force Main
 - HRSD Interceptor Gravity Main
 - HRSD Treatment Plant
 - HRSD Pressure Reducing Station
 - HRSD Pump Station





**Foxridge, Woodland Road and Fox Hill Road Gravity
Sewer Rehabilitation**

PR_YR010300

System: York River
Type: Pipelines

Driver Category: I&I Abatement-Rehabilitation Plan
Project Phase: Construction
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
\$6,203	\$2,178	\$4,022	\$4	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

PROJECT DESCRIPTION

This project involves the rehabilitation and/or replacement of (length dimensions approximate):

- (1) NG-086: 2,920 linear feet (LF) of 15-inch and 410 LF of 14-inch, from the terminus manhole at the intersection of Little Back River and Harris Creek to the intersection of Fort Worth Street and Waco Court
(2) NG-087: 1,523 LF of 18-inch pipe
(3) NG-088: 2,060 LF of 10-inch pipe from Beach Road and Catalina Drive to Bloxoms Corner Pump Station
(4) NG-092: 509 LF of 21-inch and 228 LF of 24-inch pipe

Line rehabilitation will also include the rehabilitation/replacement of at least fifty four (54) manholes. This project has been updated to reflect work removed from the CIP and added to the find and fix requirements of the Federal EPA Consent Decree.

PROJECT JUSTIFICATION

The Foxridge, Bloxoms Corner and Woodland/Fox Hill Road gravity systems are primarily collection systems that require rehabilitation/replacement. Upon completion of the rehabilitation/replacement, these systems should be transferred to the City of Hampton. Approximately 1935 LF of existing 10-inch Vitrified Clay pipe was replaced along Beach Road with new 10-inch PVC pipe as part of the Prompt Repair program. This portion of new gravity pipe will also be transferred over to the City of Hampton for operation and maintenance.

FUNDING TYPE

Funding Type: Cash

CONTACTS

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

PROPOSED SCHEDULE START DATE

PrePlanning 02/01/2021
PER 07/01/2021
Design Delay 06/01/2022
Design 06/01/2022
Bid Delay 08/01/2023
PreConstruction 08/01/2023
Construction 10/01/2023
Closeout 02/01/2025

COST ESTIMATE

Cost Estimate Class:	Class 1
PrePlanning	\$0
PER	\$77,733
Design	\$244,167
PreConstruction	\$13,800
Construction	\$5,862,054
Closeout	\$5,514
Est. Program Cost	\$6,203,268
Contingency Budget	\$400,000
Est. Project Costs	\$6,603,268



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	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34
\$12,757	\$799	\$2,609	\$8,625	\$723	\$0	\$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.

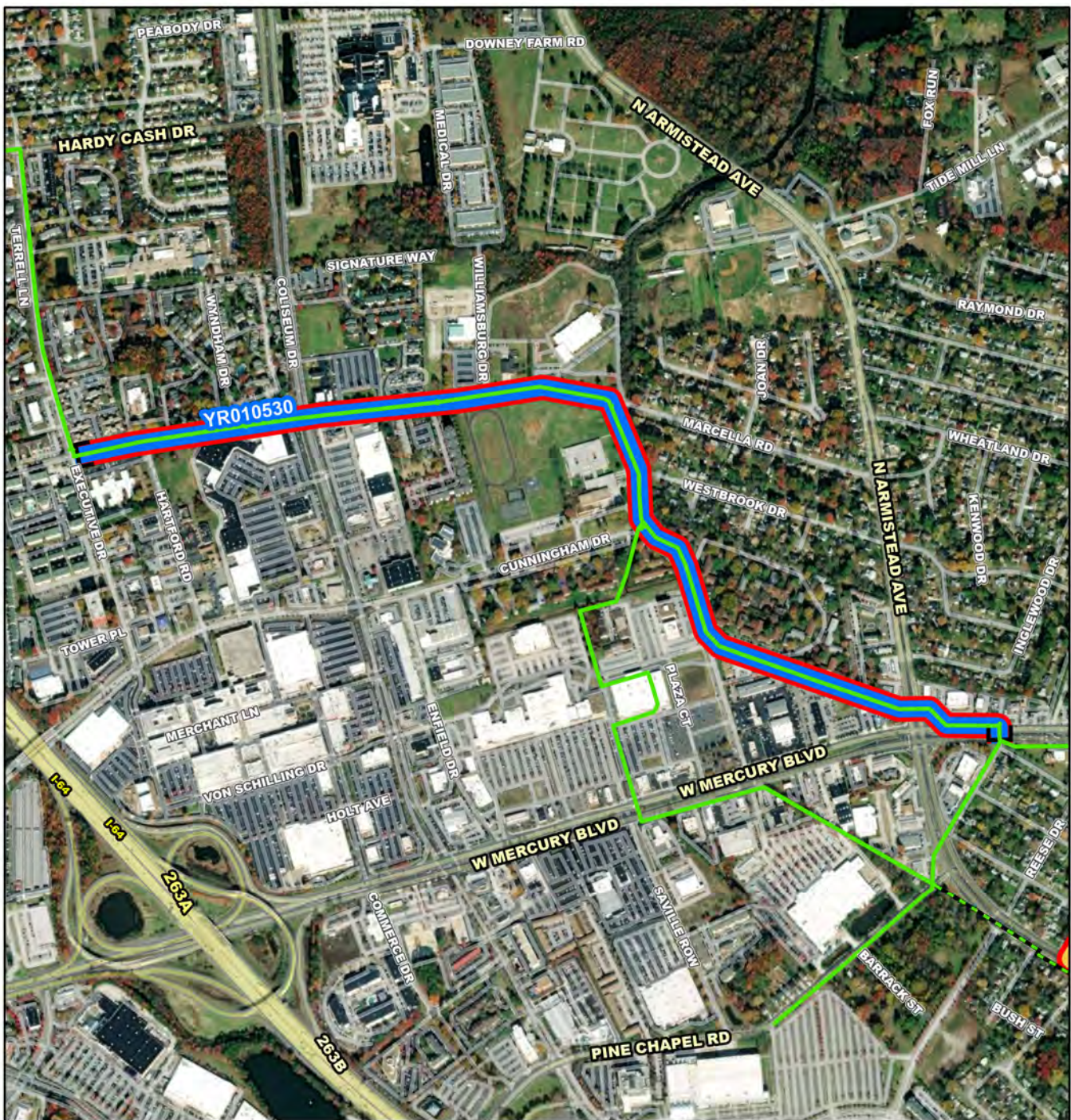
FUNDING TYPECONTACTS

Funding Type: Revenue Bond

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

PROPOSED SCHEDULE START DATECOST ESTIMATE

PrePlanning	07/01/2019	Cost Estimate Class:	Class 5
PER	12/01/2020	PrePlanning	\$61,785
Design Delay	10/01/2021	PER	\$243,373
Design	02/01/2022	Design	\$927,427
Bid Delay	12/01/2024	PreConstruction	\$19,277
PreConstruction	02/01/2025	Construction	\$11,500,000
Construction	04/01/2025	Closeout	\$5,000
Closeout	08/01/2026	Est. Program Cost	\$12,756,862
		Contingency Budget	\$2,300,000
		Est. Project Costs	\$15,056,862



YR010530

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

Legend

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

0 370 740 1,480 2,220 2,960 Feet

YR010530

Magruder Mercury Interceptor Force Main
Replacement - Section C



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	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34
\$6,913	\$0	\$0	\$0	\$0	\$111	\$630	\$6,173	\$0	\$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

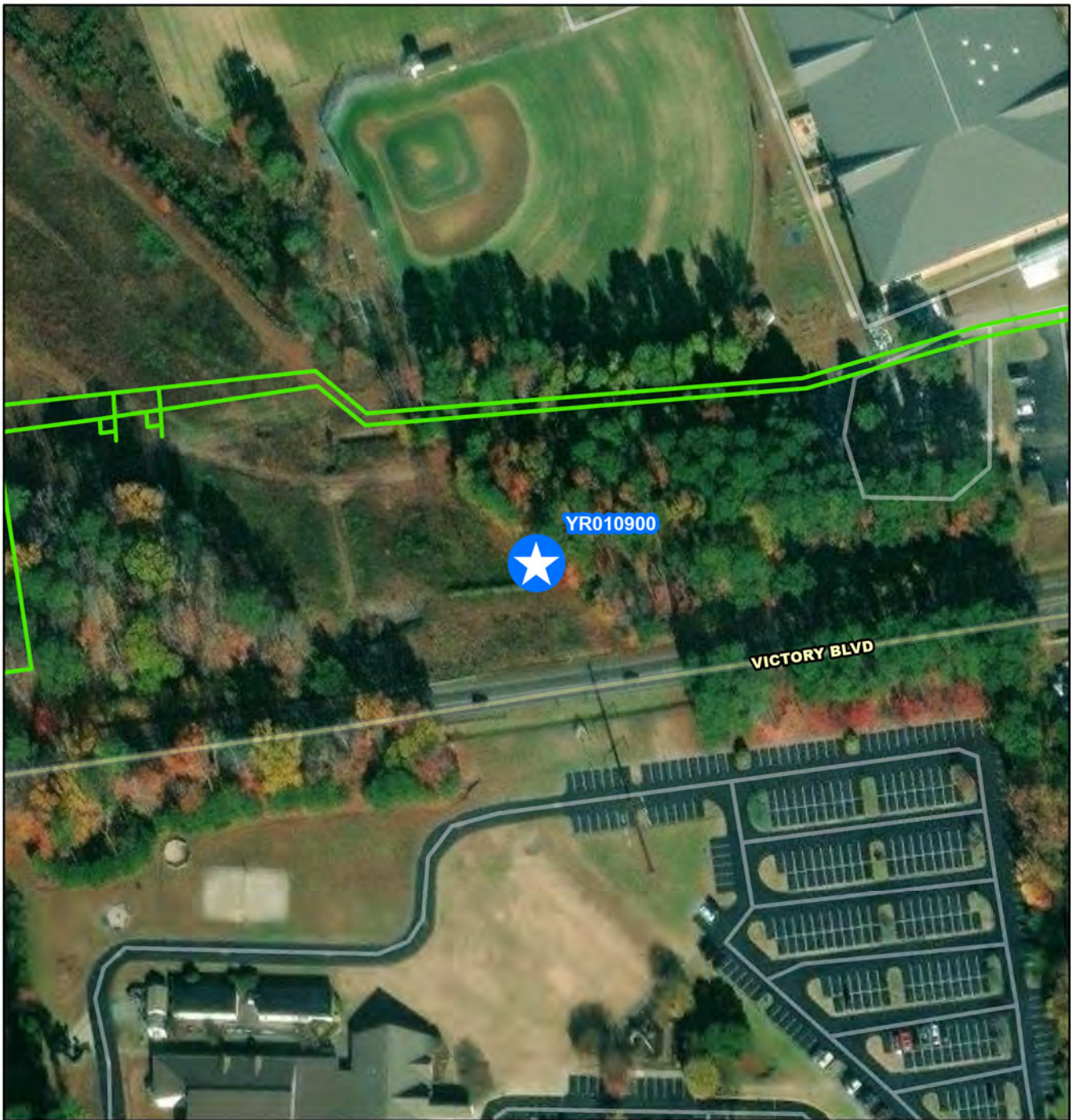
Contacts-Requesting Dept: Operations-Interceptors
Contacts-Dept Contacts: Chris Stephan
Contacts-Managing Dept: Engineering

PROPOSED SCHEDULE START DATE

PrePlanning	09/01/2027
PER	10/01/2027
Design Delay	12/01/2027
Design	08/01/2028
Bid Delay	11/01/2028
PreConstruction	07/01/2029
Construction	08/01/2029
Closeout	06/01/2030

COST ESTIMATE

Cost Estimate Class:	Class 5
PrePlanning	\$0
PER	\$111,118
Design	\$629,661
PreConstruction	\$6,173
Construction	\$6,166,498
Closeout	\$0
Est. Program Cost	\$6,913,450
Contingency Budget	\$1,541,624
Est. Project Costs	\$8,455,074



YR010900

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

Legend

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

0 45 90 180 270 360 Feet

YR010900

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: Pre Construction
Regulatory: Integrated Plan-HPP 1

PROGRAM CASH FLOW PROJECTION (\$,000)

Prog Cost	Exp to Previous Year	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34
\$40,360	\$10,889	\$16,826	\$12,626	\$19	\$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

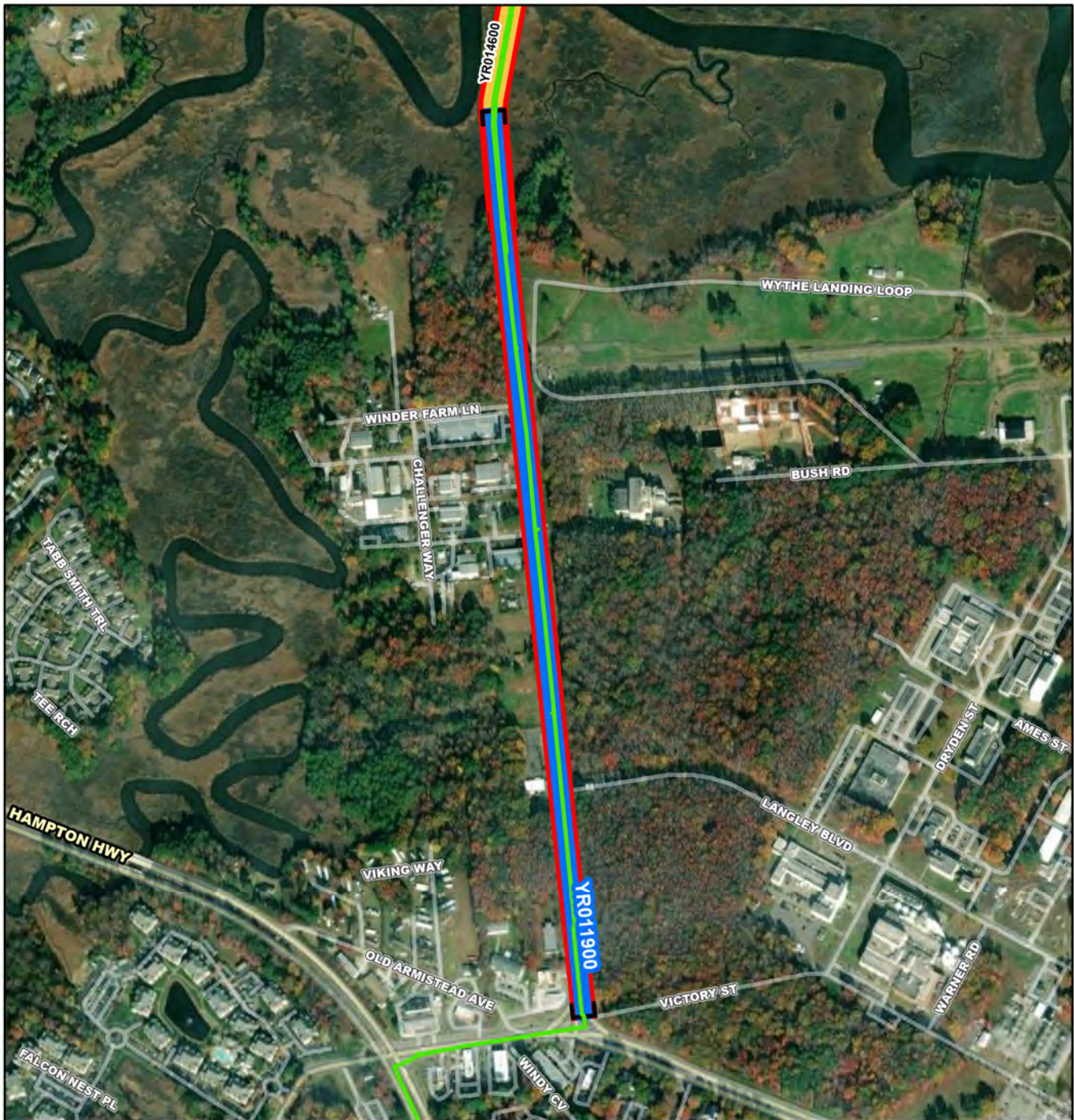
Contacts-Requesting Dept: Operations-Interceptors
Contacts-Dept Contacts: Angela Weatherhead
Contacts-Managing Dept: Engineering

PROPOSED SCHEDULE START DATE

PrePlanning	02/28/2020
PER	06/01/2020
Design Delay	02/21/2022
Design	02/01/2021
Bid Delay	12/01/2022
PreConstruction	09/01/2023
Construction	12/01/2023
Closeout	04/01/2026

COST ESTIMATE

Cost Estimate Class:	Class 1
PrePlanning	\$1,229
PER	\$585,657
Design	\$3,029,991
PreConstruction	\$22,681
Construction	\$36,695,122
Closeout	\$25,000
Est. Program Cost	\$40,359,680
Contingency Budget	\$3,375,700
Est. Project Costs	\$43,735,380



YR011900

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

Legend

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

0 250 500 1,000 1,500 2,000 Feet

YR011900

Bethel-Poquoson Force Main Part III Replacement



CIP Location





System: York River
Type: Pipelines

Driver Category: Relocation
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
\$1,022	\$683	\$286	\$53	\$0	\$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	08/01/2020
PreConstruction	04/01/2022
Construction	04/01/2024
Closeout	09/01/2025

COST ESTIMATE

Cost Estimate Class:	Class 1
PrePlanning	\$0
PER	\$0
Design	\$17,998
PreConstruction	\$465
Construction	\$998,094
Closeout	\$4,991
Est. Program Cost	\$1,021,548
Contingency Budget	\$199,619
Est. Project Costs	\$1,221,167



System: Williamsburg
Type: Biosolids

Driver Category: Aging Infrastructure/Rehabilitation
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
\$23,637	\$0	\$8	\$1,401	\$2,306	\$2,169	\$6,219	\$6,219	\$5,270	\$44	\$0	\$0

PROJECT DESCRIPTION

This project will rehabilitate both 48-year-old incinerators and address dewatering building deficiencies. To facilitate required electrical upgrades, this project will also replace motor control centers previously identified for replacement due to end of useful life. Dewatering building deficiencies that will be addressed include replacing the dewatered cake conveyor system, repairing and improving the building ventilation system, protecting centrifuge controls, and providing adequate odor control.

PROJECT JUSTIFICATION

The existing burners and controls are obsolete and finding replacement parts is difficult. The burners also require manual intervention when lighting. The new burners will be more fuel efficient, provide reliable, remote lighting from the plant's distributed control system, and have improved controls. Overhaul of the by-pass stacks and dampers and installation of the feed chute extensions will better seal the incinerators, keeping air out and resulting in less fuel usage and improved emissions control. The THC CEM system is obsolete and unreliable and is not able to meet regulatory EPA Office of Water's Part 503 Subpart E requirements for monitoring. It is being replaced in an earlier project. Dewatered cake conveyors in the dewatering building are difficult to access for maintenance and require expensive, contract rigging equipment for maintenance of screw conveyors. Failure of any of nine screw conveyors results in the shut-down of dewatering and incinerator operations. Hydrogen sulfide (H2S) gases are not adequately removed from the building resulting in the corrosion of ventilation duct and equipment and centrifuge and other controls. Employees carry H2S meters while in the building and evacuate when H2S levels are high.

FUNDING TYPE

Funding Type: Revenue Bond

CONTACTS

Contacts-Requesting Dept: Operations-Treatment
Contacts-Dept Contacts: Robert Rutherford
Contacts-Managing Dept: Engineering

PROPOSED SCHEDULE START DATE

PrePlanning	02/01/2025
PER	08/01/2025
Design Delay	05/01/2026
Design	07/01/2026
Bid Delay	12/01/2027
PreConstruction	02/01/2028
Construction	05/01/2028
Closeout	05/01/2031

COST ESTIMATE

Cost Estimate Class:	Class 5
PrePlanning	\$10,000
PER	\$1,399,349
Design	\$3,266,394
PreConstruction	\$172,166
Construction	\$18,657,700
Closeout	\$131,484
Est. Program Cost	\$23,637,093
Contingency Budget	\$5,980,000
Est. Project Costs	\$29,617,093



YR014000

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

Legend

- ★ CIP Interceptor Point
- ☆ CIP Pump Station Point
- Project 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

YR014000

York River Treatment Plant Administration Building Renovation

N
W E
S

CIP Location



System: York River

Type: Facilities, Buildings and Capital Equipment

Driver Category: Aging Infrastructure/Rehabilitation

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
\$7,897	\$7,698	\$198	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

PROJECT DESCRIPTION

This project is to renovate the existing 1980's Administration Building at the York River Treatment Plant.

PROJECT JUSTIFICATION

This project will provide for an expanded men's and women's restroom and locker facilities as well as a unisex restroom and shower. Existing toilets, sinks, showers and lockers will be replaced as needed. Much needed office space for plant staff including electrical and instrumentation staff, an expanded lunch room and a conference room will also be provided. A larger plant lab and a larger operations control room capable of meeting existing and future SWIFT needs will be constructed along with secured rooms for control systems. An upgraded fiber optic business loop will also be provided.

FUNDING TYPE

Funding Type: Revenue Bond

CONTACTS

Contacts-Requesting Dept: Operations-Treatment

Contacts-Dept Contacts: Ann Copeland

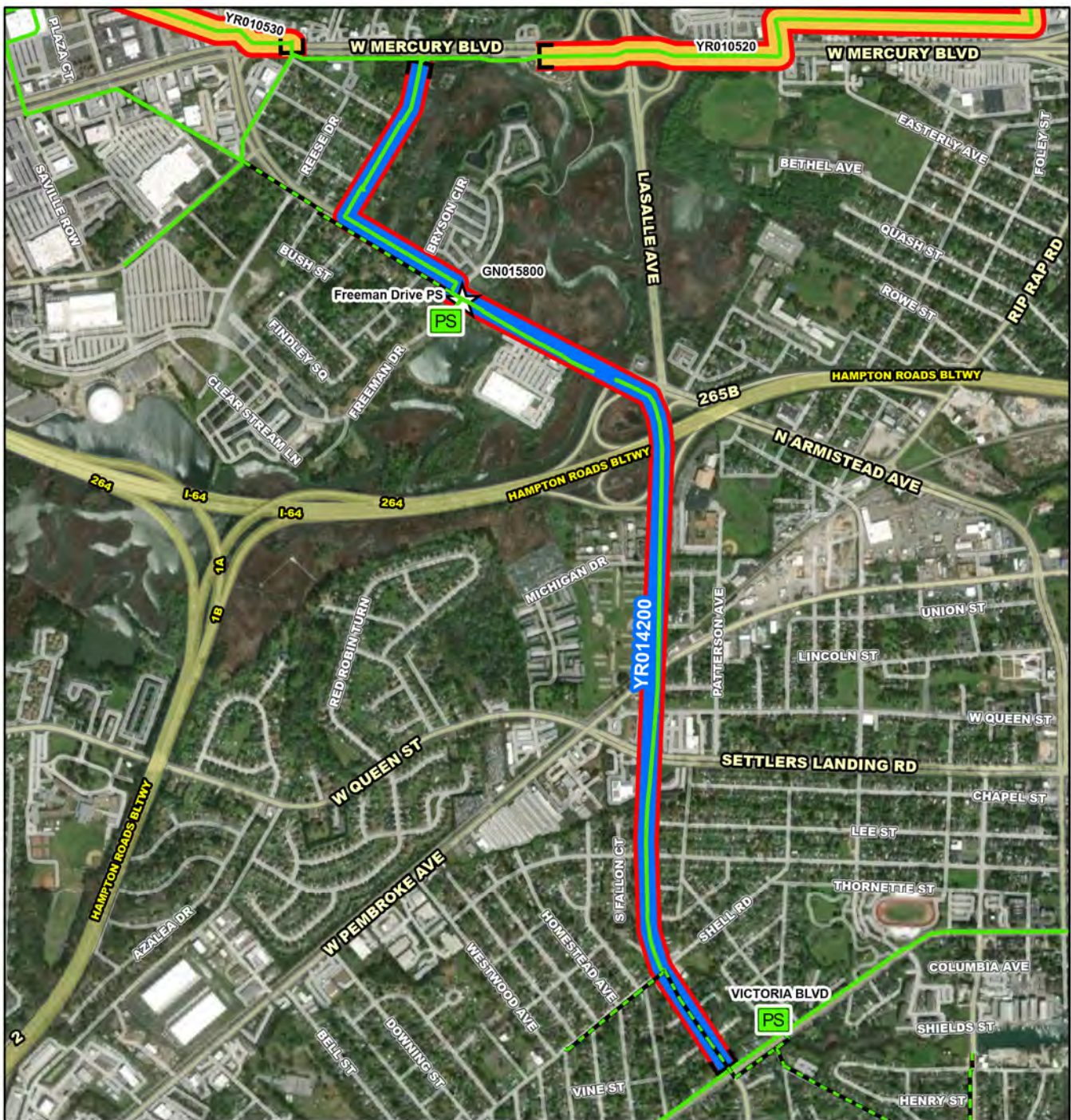
Contacts-Managing Dept: Engineering

PROPOSED SCHEDULE START DATE

PrePlanning	07/01/2020
PER	09/01/2020
Design Delay	04/01/2021
Design	03/01/2021
Bid Delay	02/01/2022
PreConstruction	02/01/2022
Construction	06/01/2022
Closeout	08/01/2024

COST ESTIMATE

Cost Estimate Class:	Class 1
PrePlanning	\$0
PER	\$39,730
Design	\$315,292
PreConstruction	\$7,182
Construction	\$7,522,840
Closeout	\$11,825
Est. Program Cost	\$7,896,869
Contingency Budget	\$373,593
Est. Project Costs	\$8,270,462



YR014200

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

Legend

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

0 500 1,000 2,000 3,000 4,000 Feet

YR014200

LaSalle Avenue Boat Harbor to York River
Interconnect Force Main

N
W E
S

CIP Location



**LaSalle Avenue Boat Harbor to York River Interconnect
Force Main**

PR_YR014200

System: York River
Type: Pipelines

Driver Category: Capacity Improvements
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
\$16,943	\$128	\$0	\$0	\$0	\$1,139	\$4,503	\$9,572	\$1,600	\$0	\$0	\$0

PROJECT DESCRIPTION

This project will involve the study, design and construction of 10,000 linear feet (LF) of 30-inch Interceptor Force Main (IFM) from the intersection of LaSalle Avenue and Victoria Boulevard to the intersection of LaSalle Avenue and Mercury Boulevard. A gravity interconnect will be installed between this new force main (FM) and NG-142 Ivy Home Shell Road Sewer Extension Division I and an interconnect between the proposed FM and the existing NF-77 LaSalle Avenue Sanitary Sewer IFM will allow for system flexibility.

PROJECT JUSTIFICATION

This newly proposed force main interconnect is needed to shift peak flows currently in the Boat Harbor Treatment Plant service area by diverting these flows through the Coliseum Pressure Reducing Station (PRS). With the scheduled future shutdown of the Boat Harbor Treatment Plant, this project will maximize the wet weather capabilities at York River Treatment Plant (YRTP) while minimizing the peak flows within the Boat Harbor system. This project, along with newly proposed storage tanks at Coliseum PRS, will allow for flows from the Bridge Street and Victoria Boulevard Pump Station service areas to be diverted north through the Coliseum PRS.

FUNDING TYPE

Funding Type: Revenue Bond

CONTACTS

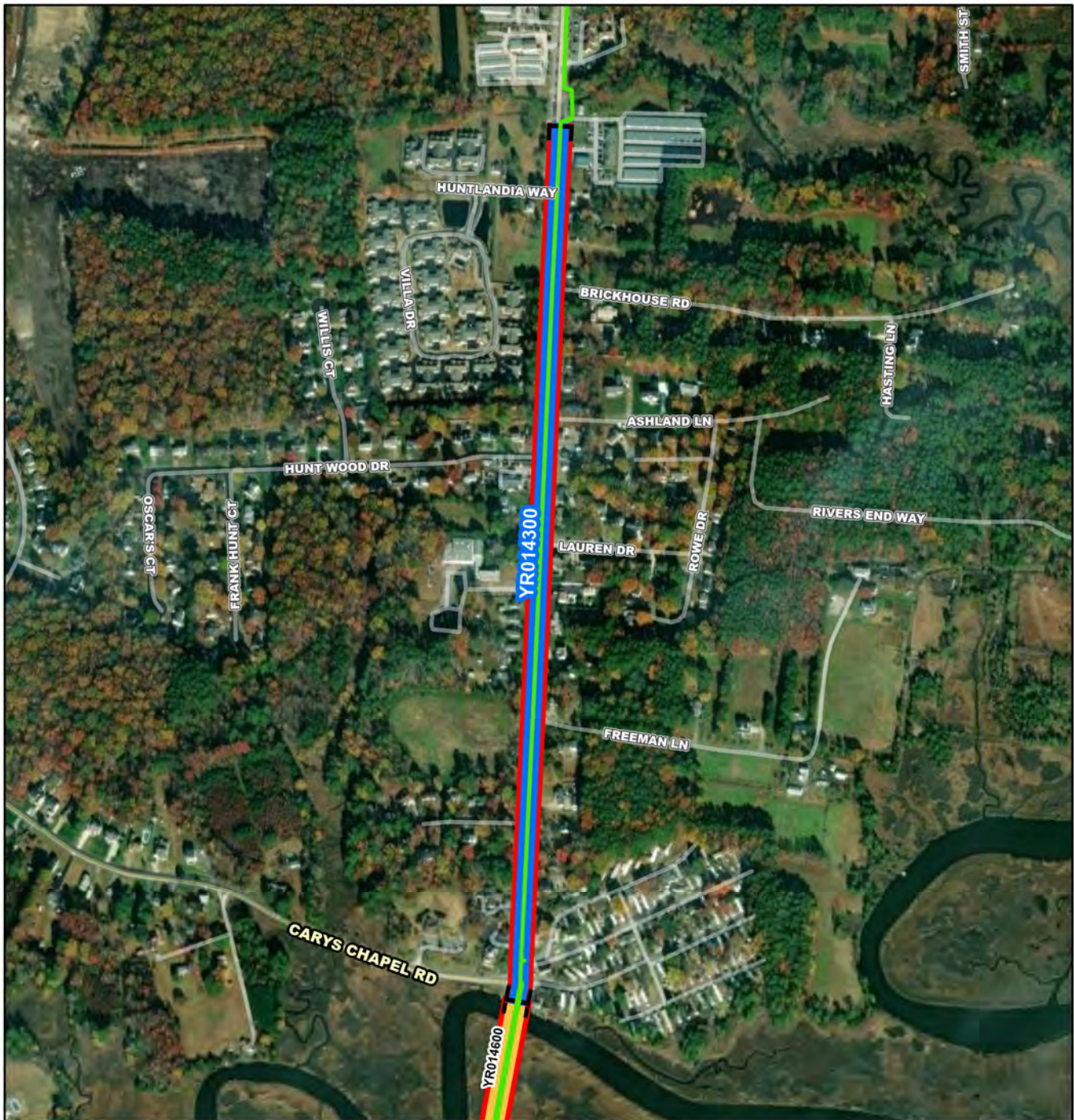
Contacts-Requesting Dept: Operations-Interceptors
Contacts-Dept Contacts: Ted Denny
Contacts-Managing Dept: Engineering

PROPOSED SCHEDULE START DATE

PrePlanning 03/26/2019
PER 12/02/2021
Design Delay 07/01/2023
Design 07/01/2027
Bid Delay 12/01/2028
PreConstruction 12/01/2028
Construction 02/01/2029
Closeout 09/01/2030

COST ESTIMATE

Cost Estimate Class: Class 5
PrePlanning \$1,454
PER \$125,580
Design \$1,615,000
PreConstruction \$40,000
Construction \$15,156,000
Closeout \$5,100
Est. Program Cost \$16,943,134
Contingency Budget \$2,692,000
Est. Project Costs \$19,635,134



YR014300

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

Legend

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

0 220 440 880 1,320 1,760 Feet

YR014300

Bethel-Poquoson Force Main Phase II (Wythe Creek Road) Replacement

N
W E
S

CIP Location



System: York River

Type: Pipelines

Driver Category: Aging Infrastructure/Rehabilitation

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
\$3,790	\$3,275	\$515	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

PROJECT DESCRIPTION

This project will require the replacement of approximately 3,700 linear feet (LF) of 20-inch prestressed concrete cylinder pipe (PCCP) along Wythe Creek Road from north of Huntlandia Way to Wythe Creek.

PROJECT JUSTIFICATION

On February 11, 2020, North Shore Operations personnel removed and replaced 16 feet of PCCP that failed. The failure was caused by severe crown corrosion. A CCTV inspection was performed during the repair, and approximately 80 LF downstream and 100 LF upstream the pipe was found to be severely corroded. The CCTV inspection showed additional areas of corrosion both upstream and downstream, specifically at pipe joints. During the repair, a steady flow of clear, unscented water was flowing out of the upstream pipe. The source of the clear, unscented water is unknown and unusual in a force main/pressurized system. The presence of the water is of concern as it may be the result of unknown upstream issues.

FUNDING TYPE

Funding Type: VCWRLF

CONTACTS

Contacts-Requesting Dept: Operations-Interceptors

Contacts-Dept Contacts: Shirley Smith

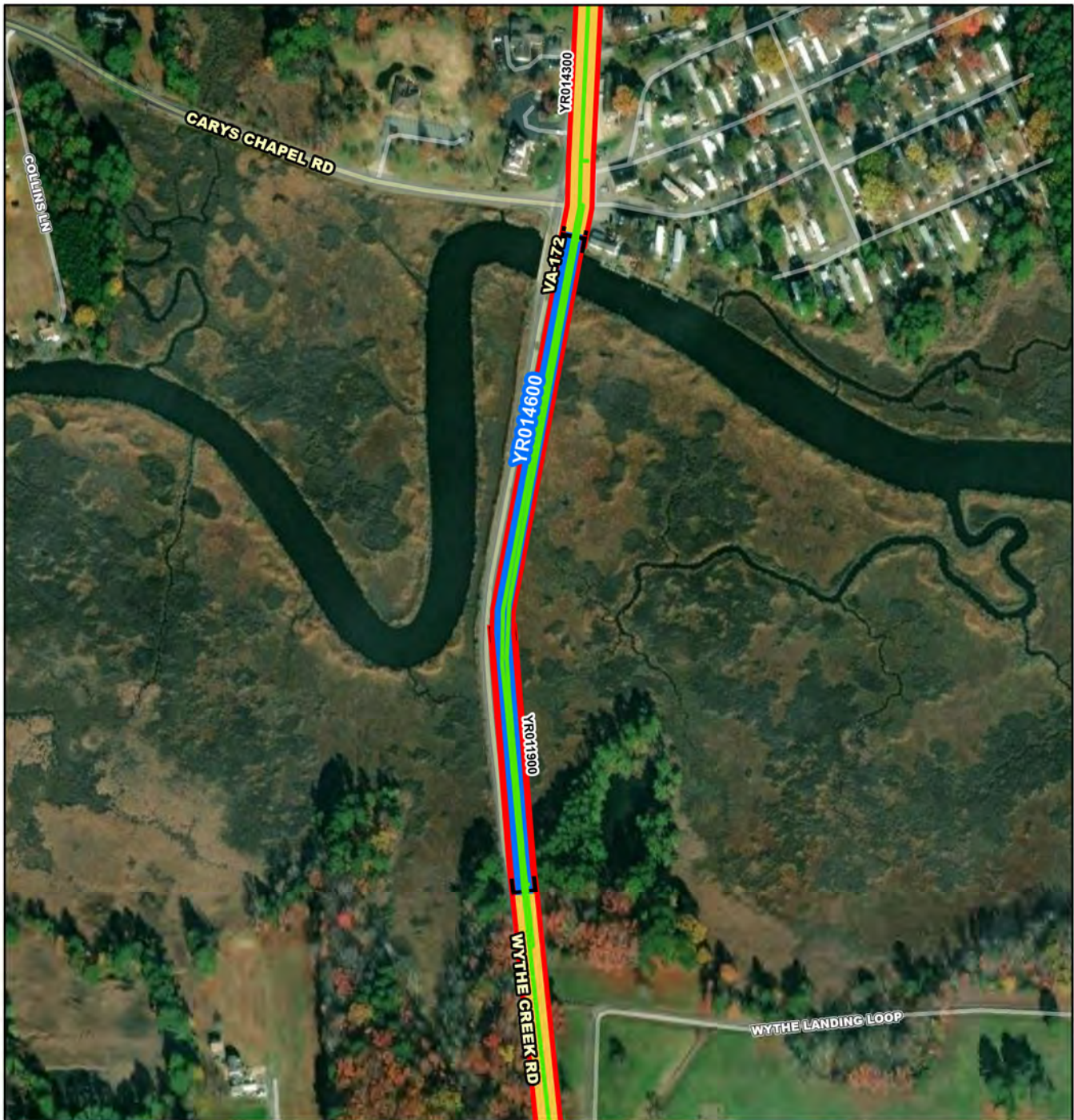
Contacts-Managing Dept: Engineering

PROPOSED SCHEDULE START DATE

PrePlanning	07/01/2020
PER	04/01/2019
Design Delay	09/01/2020
Design	10/01/2021
Bid Delay	10/01/2021
PreConstruction	10/01/2021
Construction	12/01/2021
Closeout	10/01/2024

COST ESTIMATE

Cost Estimate Class:	Class 1
PrePlanning	\$0
PER	\$71,681
Design	\$208,273
PreConstruction	\$14,290
Construction	\$3,315,966
Closeout	\$14,352
Est. Program Cost	\$3,624,562
Contingency Budget	\$500,000
Est. Project Costs	\$4,124,562



YR014600

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

Legend

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

0 112.5 225 450 675 900 Feet

YR014600

**Bethel-Poquoson Force Main Part IV Replacement-
Wythe Creek Exposed Crossing**

N
W E
S

CIP Location



**Bethel-Poquoson Force Main Part IV Replacement-
Wythe Creek Exposed Crossing**

PR_YR014600

System: York River
Type: Pipelines

Driver Category: Aging Infrastructure/Rehabilitation
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
\$3,436	\$2,728	\$708	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

PROJECT DESCRIPTION

This project will replace approximately 1,600 linear feet (LF) of 20-inch prestressed concrete cylinder pipe (PCCP) and approximately 1,600 LF of 18-inch HDPE pipe running above the marsh adjacent to the Wythe Creek Bridge. The existing cantilever beams will be removed and the original pile bents will be used for the replacement 20-inch HDPE pipe.

PROJECT JUSTIFICATION

In 2007, a temporary 18-inch HDPE force main was installed along the existing aerial crossing of New Market Creek on Wythe Creek Road in Hampton. This pipe was installed due to the failure of the adjacent 20-inch PCCP that was installed in the 1970s. At that time, the newer HDPE pipe was installed on the original aerial support system. This aerial support was utilized by extending wooden cantilever beams from the existing pile bents adjacent to the 20-inch PCCP. In December of 2019, Collins Engineering performed an inspection of the aerial crossing supports and found deterioration and defects along several pile supports and bents. The cantilevers have had numerous repairs over the last decade and are in need of repair again. The existing 18-inch HDPE pipe also requires the counterbalance weight of the PCCP pipeline to support the cantilever, thus requiring the old 20-inch PCCP to remain in place as long as this cantilever system exists. This project will remove the 20-inch PCCP along with the 18-inch HDPE pipelines, make repairs to the aerial crossing supports, and install a new 20-inch DIPS HDPE pipeline across Wythe Creek. Bethel-Poquoson Force Main Phase II (Wythe Creek Road) Replacement (YR014300) and Bethel-Poquoson Force Main Part III Replacement (YR011900) CIP projects will be replacing the existing 20-inch force main to the North and South of this section of pipe. YR011900 is being performed as part of the VDOT roadway widening project. The VDOT roadwork requires the closure of the Wythe Creek Bridge for an extended period of time. This closure provides an excellent opportunity to remove the existing pipelines and install the new replacement pipe, creating a completely revitalized interceptor system in this area.

FUNDING TYPE

Funding Type: Revenue Bond

CONTACTS

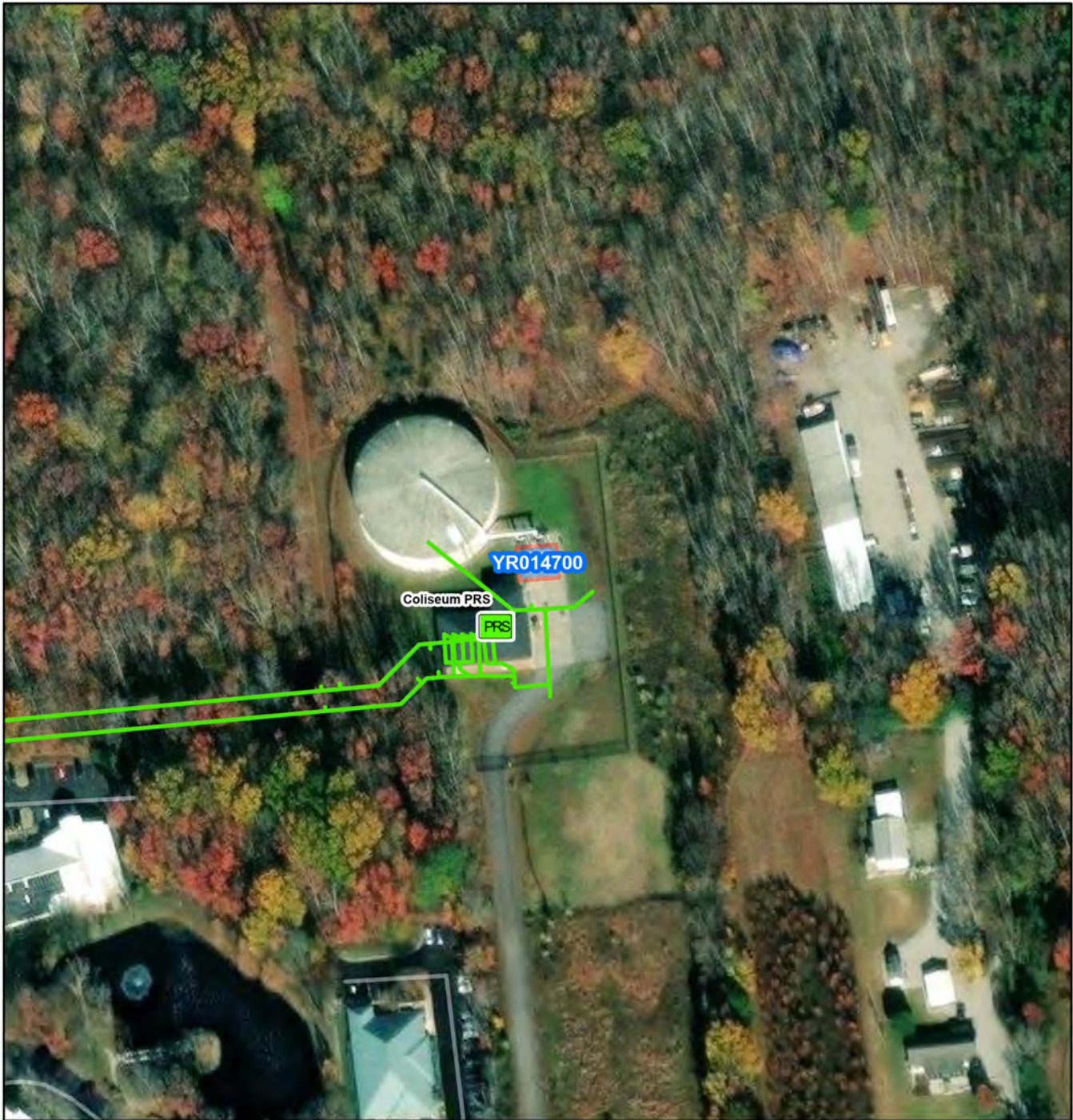
Contacts-Requesting Dept: Operations-Interceptors
Contacts-Dept Contacts: Shirley Smith
Contacts-Managing Dept: Engineering

PROPOSED SCHEDULE START DATE

PrePlanning	09/01/2021
PER	03/01/2021
Design Delay	04/01/2022
Design	04/01/2022
Bid Delay	10/01/2022
PreConstruction	04/01/2023
Construction	05/01/2023
Closeout	09/01/2024

COST ESTIMATE

Cost Estimate Class:	Class 1
PrePlanning	\$0
PER	\$17,945
Design	\$57,231
PreConstruction	\$2,822
Construction	\$3,341,920
Closeout	\$16,199
Est. Program Cost	\$3,436,118
Contingency Budget	\$97,191
Est. Project Costs	\$3,533,309



YR014700

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

Legend

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

0 50 100 200 300 400 Feet

YR014700

Coliseum PRS Off-Line Storage Tank Odor Control Upgrades

N
W E
S

CIP Location

York



System: York River

Type: Offline Storage

Driver Category: Performance Upgrades

Project Phase: Design

Regulatory: None

PROGRAM CASH FLOW PROJECTION (\$,000)

Prog Cost	Exp to Previous Year	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34
\$600	\$164	\$431	\$4	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

PROJECT DESCRIPTION

The project will include the design and construction of an access platform and jib crane for the existing carbon scrubber systems.

PROJECT JUSTIFICATION

The platform and jib crane will provide a much needed improvement to safety and access of the existing carbon units, both for carbon change out operations and for maintenance inspections.

FUNDING TYPE

Funding Type: Revenue Bond

CONTACTS

Contacts-Requesting Dept: Operations-Interceptors

Contacts-Dept Contacts: Ann Copeland

Contacts-Managing Dept: Engineering

PROPOSED SCHEDULE START DATE




PrePlanning	
PER	
Design Delay	
Design	03/01/2022
Bid Delay	04/01/2024
PreConstruction	04/01/2024
Construction	07/01/2024
Closeout	05/01/2025

COST ESTIMATE

Cost Estimate Class:	Class 2
PrePlanning	\$0
PER	\$39,600
Design	\$114,636
PreConstruction	\$10,185
Construction	\$430,300
Closeout	\$5,000
Est. Program Cost	\$599,721
Contingency Budget	\$86,000
Est. Project Costs	\$685,721



YR014900

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

Legend

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

0 45 90 180 270 360 Feet

YR014900

York River DEMON Upgrades



CIP Location





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	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34
\$551	\$121	\$287	\$143	\$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 nitrification 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 causes temporary shut downs 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	01/01/2026

COST ESTIMATE

Cost Estimate Class:	Class 3
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



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	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34
\$13,500	\$0	\$2,007	\$2,189	\$2,189	\$2,189	\$2,189	\$2,189	\$547	\$0	\$0	\$0

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: Sherman Pressey

Contacts-Managing Dept: Operations-E&I

PROPOSED SCHEDULE START DATE

PrePlanning	08/01/2024
PER	08/01/2024
Design Delay	08/01/2024
Design	08/01/2024
Bid Delay	08/01/2024
PreConstruction	08/01/2024
Construction	08/01/2024
Closeout	10/01/2030

COST ESTIMATE

Cost Estimate Class:	Class 5
PrePlanning	\$0
PER	\$0
Design	\$2,200,000
PreConstruction	\$0
Construction	\$11,300,000
Closeout	\$0
Est. Program Cost	\$13,500,000
Contingency Budget	\$1,350,000
Est. Project Costs	\$14,850,000