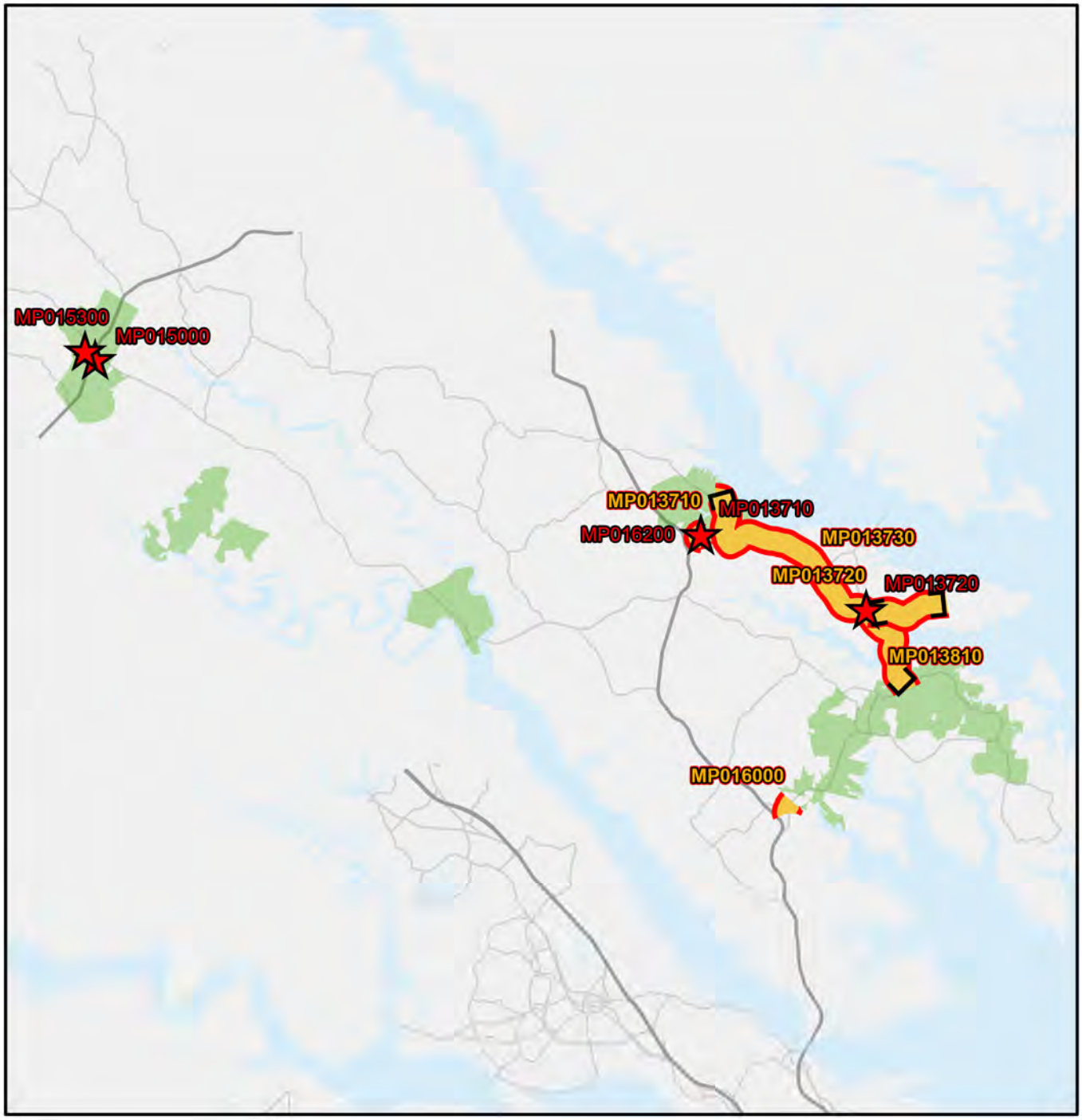
Middle Peninsula Treatment Plants



Legend

- Middle Peninsula
- 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 11,000 22,000 44,000 66,000 88,000 Feet

Middle Peninsula Treatment Plant Service Area CIP Projects

Treatment Plant Projects

MP013300
MP015500
MP015600
MP015610
MP015700
MP015800
MP016200
MP016500

HRSD

N

CIP Location

Service Area

Middle Peninsula Interceptor Systems PS Control and SCADA Upgrades/Enhancements

PR_MP011700

System: Mid-Peninsula
Type: Software and Technology

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
$4,795	$3,589	$557	$557	$93	$0	$0	$0	$0	$0	$0	$0

PROJECT DESCRIPTION

This project will include: An extension of the North Shore SCADA system to include the Middle Peninsula sites; pumping station improvements at all Middle Peninsula sites; an extension of the HRSD SCADA WAN to include the Middle Peninsula; upgraded remote site telemetry communications; and construction phase services. During the preliminary design phase of the Interceptor System SCADA project, the QST looked to expand the SCADA final design to the Middle Peninsula (MP). The SCADA Preliminary Engineering Report gave the costs for expansion to the MP at $3.3 million. This CIP is for the construction portion of this project. The design was included with the Interceptor Systems Pump Station Control and SCADA Upgrades and Enhancements (GN012800).

PROJECT JUSTIFICATION

There are multiple benefits to expanding the SCADA project to encompass the Middle Peninsula: Future trends for small communities appear to be decentralized/distributed wastewater treatment systems that will require SCADA for remote diagnosis and operational control; as time goes on, the cost of personnel and the cost of transportation will drive HRSD towards more supervisory control at both the treatment plants and pump stations, starting with the Mathews Transmission Force Main (TFM) pump stations; A major portion of the existing system is obsolete and needs replacement; There are Operational and Maintenance benefits to having the same SCADA system throughout the HRSD system: South Shore, North Shore, and the Middle Peninsula; The WAN microwave ring provides a reliable communication link and the existing communication lines could possibly function as a back-up; and, if the MP is added to the Consent Decree in the future, then the MP SCADA system would be upgraded to handle the reporting requirements.

FUNDING TYPE

Funding Type: Cash

CONTACTS

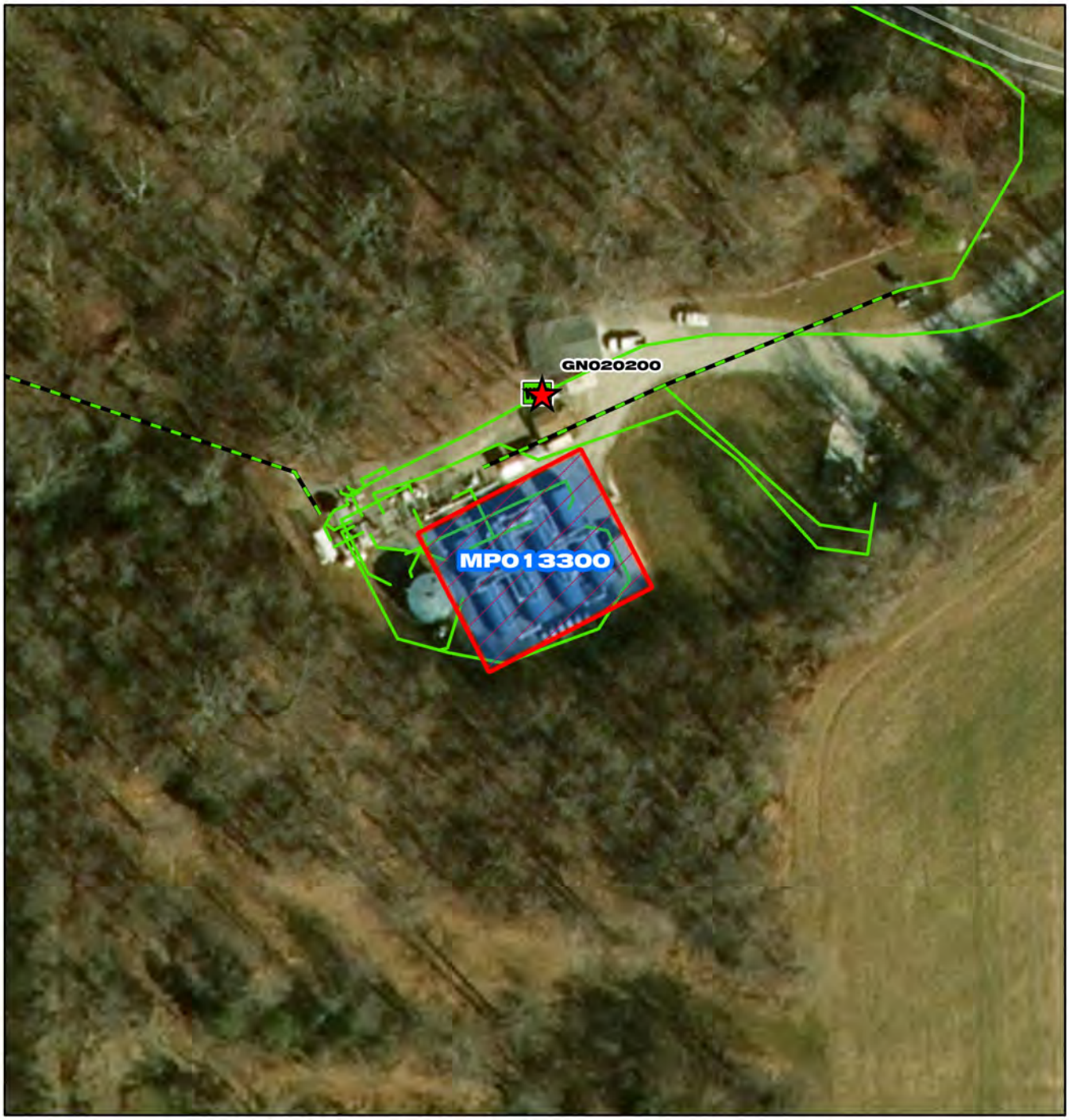
Contacts-Requesting Dept: Operations-Interceptors
Contacts-Dept Contacts: Chris Stephan
Contacts-Managing Dept: Operations-Interceptors

PROPOSED SCHEDULE START DATE

PrePlanning	01/01/2009
PER	01/29/2009
Design Delay	03/20/2009
Design	11/27/2009
Bid Delay	05/08/2013
PreConstruction	04/01/2015
Construction	04/01/2015
Closeout	09/04/2028

COST ESTIMATE

Cost Estimate Class:	**Class 1 (-3% to +15%)**
PrePlanning	$0
PER	$0
Design	$35,275
PreConstruction	$0
Construction	$4,759,725
Closeout	$0
Est. Program Cost	**$4,795,000**
Contingency Budget	$0
Est. Project Costs	**$4,795,000**



MP013300

- 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

MP013300

King William Treatment Plant Improvements Phase II

HRSD

N
W E
S

CIP Location

King William Treatment Plant Improvements Phase II

PR_MP013300

System: Mid-Peninsula
Type: Wastewater Treatment

Driver Category: Capacity Improvements
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
$7,975	$4,349	$3,624	$2	$0	$0	$0	$0	$0	$0	$0	$0

PROJECT DESCRIPTION

This project is intended to increase capacity for King William from 100,000 gallons per day (GPD) Average Daily Flow (ADF) to a firm capacity of 150,000 GPD ADF. Project includes site, civil, demolition, concrete pad, electrical and instrumentation as needed for installation, testing and start-up of pre-purchased Membrane System, as well as addressing known plant deficiencies needed to eliminate flow bottlenecks, improve plant reliability, and provide condition-based rehabilitation.

PROJECT JUSTIFICATION

King William Treatment Plant can currently treat 100,000 GPD ADF. Development in King William County has been accelerating in recent years. New subdivisions are planned and construction has ramped up in existing subdivisions with projected flows exceeding 150,000 GPD in addition to current flow. Buildout of approved subdivisions will require an expansion of capacity beyond 100,000 GPD ADF.

FUNDING TYPE

Funding Type: Revenue Bond

CONTACTS

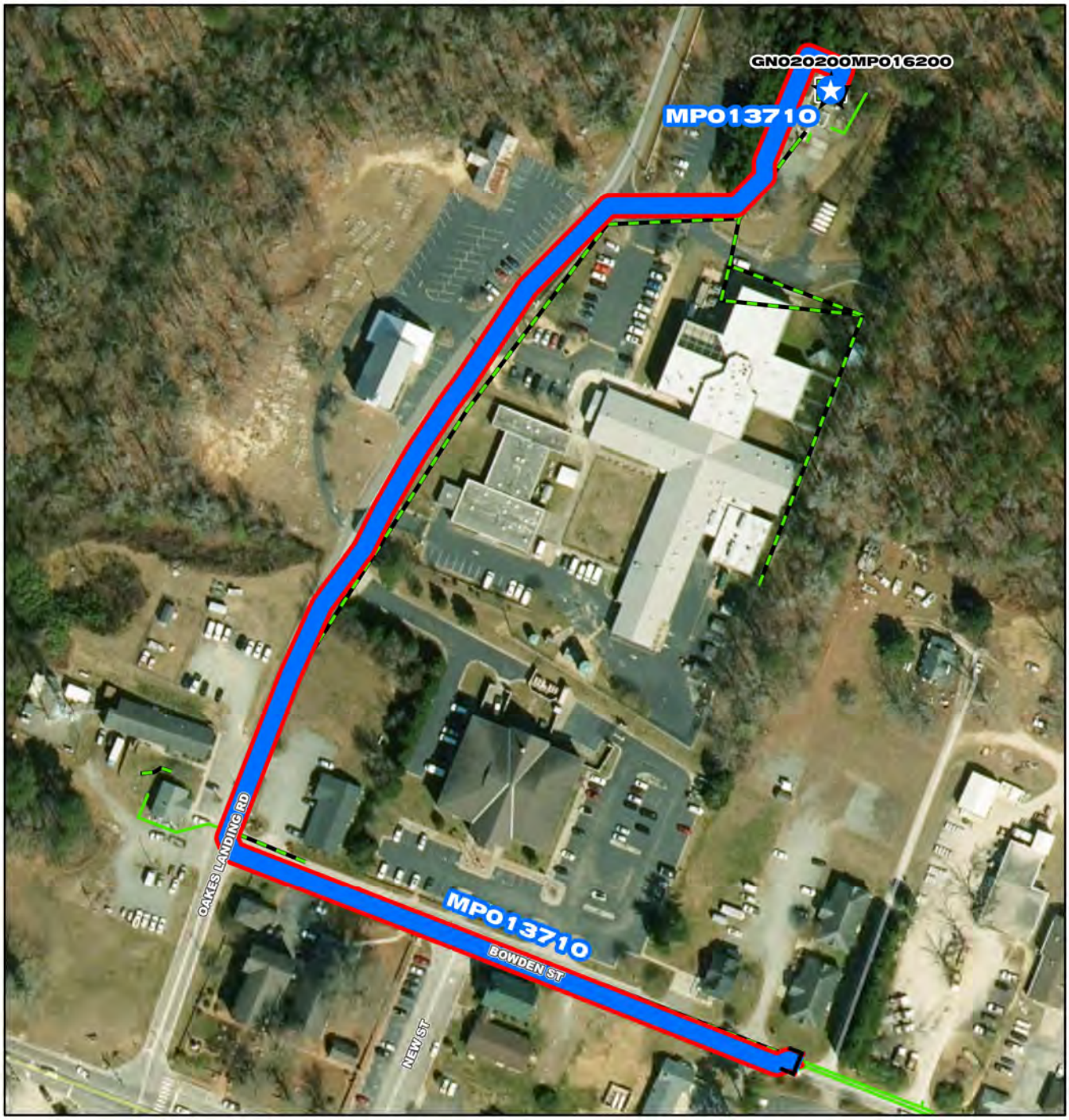
Contacts-Requesting Dept: Operations-Treatment
Contacts-Dept Contacts: Jeff Layne
Contacts-Managing Dept: Engineering

PROPOSED SCHEDULE START DATE

PrePlanning	05/03/2021
PER	07/23/2021
Design Delay	03/25/2024
Design	05/08/2023
Bid Delay	07/01/2025
PreConstruction	03/25/2024
Construction	04/01/2024
Closeout	06/01/2027

COST ESTIMATE

Cost Estimate Class:	**Class 2 (-5% to +20%)**
PrePlanning	$1,494
PER	$449,354
Design	$2,165,149
PreConstruction	$0
Construction	$5,354,000
Closeout	$5,000
Est. Program Cost	**$7,974,997**
Contingency Budget	$1,338,000
Est. Project Costs	**$9,312,997**



MP013710

- 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

MP013710

Middlesex Interceptor System Program Phase II-Saluda Pump Station

HRSD

N
W E
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CIP Location

Middlesex Interceptor System Program Phase II-Saluda Pump Station

PR_MP013710

System: Mid-Peninsula
Type: Pump Stations

Driver Category: Capacity Improvements
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
$7,049	$349	$0	$0	$0	$0	$2,171	$2,171	$2,171	$186	$0	$0

PROJECT DESCRIPTION

Middlesex Interceptor System Program Phase II-Urbanna to Mathews Transmission Force Main will be closed out after the PER phase of work has been completed and will create three new CIP projects. Two of the CIP projects will manage the reimbursement between HRSD and the County of Middlesex for the Middlesex Interceptor System Program Phase II-Middlesex Saluda Pump Station (MP013710) and for the Middlesex Interceptor System Program Phase II-Middlesex Hartfield Pump Station (MP013720). The third CIP project for the Middlesex Interceptor System Program Phase II-Transmission Force Main (MP013730) will be managed and funded by HRSD. This project consists of the construction of a new sanitary sewer pump station in Saluda, Virginia and approximately 1,700 linear feet of 3-inch sewer force main between the proposed Central Middlesex Treatment Plant pump station and the termination point of the Middlesex Interceptor Force Main (IFM) Phase I project and the decommissioning of HRSDs existing Central Middlesex Treatment Plant. The recommended alternative is to construct the new pump station within the limits of an existing parking area adjacent to the treatment plant. After the new pump station is placed into service, the existing treatment plant will be demolished and converted to a parking lot. The scope of work generally includes the design and permitting of the new pump station, force main, new parking lot, and developing demolition/decommissioning plans for the existing treatment plant. This project will be funded through the Virginia Clean Water Revolving Loan Fund program.

PROJECT JUSTIFICATION

Middlesex County is developing sewer service areas. In order to provide wastewater treatment, HRSD must expand existing Middlesex treatment plants, install decentralized treatment systems, and/or install conveyance from these service areas to existing wastewater treatment facilities. HRSD has two minor (100,000 gallons per day (GPD) or less) wastewater treatment facilities in Middlesex County that are near capacity. In addition, the Town of Urbanna has requested HRSD to eliminate surface water discharges. Currently, HRSD must purchase nutrient credits to discharge into the Rappahannock River basin. HRSD has wastewater treatment capacity at the York River Treatment Plant (YRTP). The life cycle cost of conveying sewage to the YRTP is less than the cost of constructing and operating multiple minor wastewater treatment plants in Middlesex County. A conveyance system to the YRTP service area mitigates the risk and expense of incremental expansions to existing treatment facilities and of more stringent permitting requirements associated with future development in Middlesex County. Consequently, HRSD's strategy is to convey flows from Middlesex to the YRTP.

FUNDING TYPE

Funding Type: Revenue Bond

CONTACTS

Contacts-Requesting Dept: Operations
Contacts-Dept Contacts: Jeremiah Burford
Contacts-Managing Dept: Engineering

PROPOSED SCHEDULE START DATE

PrePlanning	06/30/2025
PER	01/30/2026
Design Delay	01/06/2029
Design	11/24/2026
Bid Delay	11/22/2029
PreConstruction	11/22/2029
Construction	07/01/2030
Closeout	08/01/2033

COST ESTIMATE

Cost Estimate Class:	**Class 10**
PrePlanning	$0
PER	$0
Design	$335,992
PreConstruction	$13,091
Construction	$6,694,631
Closeout	$5,000
Est. Program Cost	**$7,048,714**
Contingency Budget	$920,044
Est. Project Costs	**$7,968,758**

MP013720

- 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

MP013720

Middlesex Interceptor System Program Phase II-Hartfield Pump Station

HRSD

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W E
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CIP Location

Middlesex Interceptor System Program Phase II-Hartfield Pump Station

PR_MP013720

System: Mid-Peninsula
Type: Pipelines

Driver Category: Capacity Improvements
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
$11,855	$435	$0	$0	$0	$3,805	$3,805	$3,805	$5	$0	$0	$0

PROJECT DESCRIPTION

Middlesex Interceptor System Program Phase II-Urbanna to Mathews Transmission Force Main (MP013700) will be closed out after the PER phase of work has been completed and three new CIP projects are being created. Two of the CIP projects will manage the reimbursement between HRSD and the County of Middlesex for the Middlesex Interceptor System Program Phase II-Middlesex Saluda Pump Station (MP013710) and for the Middlesex Interceptor System Program Phase II-Middlesex Hartfield Pump Station (MP013720). The third CIP project for the Middlesex Interceptor System Program Phase II-Transmission Force Main (MP013730) will be managed and funded by HRSD. This project generally consists of the construction of a new sanitary sewer pump station in the Hartfield area and approximately 1,500 linear feet of sewer force main along Wood Brothers Road to convey flow between the pump station and the Middlesex Transmission Force Main in General Puller Highway. This project will be funded through the Virginia Clean Water Revolving Loan Fund program.

PROJECT JUSTIFICATION

Middlesex County is developing sewer service areas. In order to provide wastewater treatment, HRSD must expand existing Middlesex treatment plants, install decentralized treatment systems, and/or install conveyance from these service areas to existing wastewater treatment facilities. HRSD has two minor (100,000 gallons per day (GPD) or less) wastewater treatment facilities in Middlesex County that are near capacity. In addition, the Town of Urbanna has requested HRSD to eliminate surface water discharges. Currently, HRSD must purchase nutrient credits to discharge into the Rappahannock River basin. HRSD has wastewater treatment capacity at the York River Treatment Plant (YRTP). The life cycle cost of conveying sewage to the YRTP is less than the cost of constructing and operating multiple minor wastewater treatment plants in Middlesex County. A conveyance system to the YRTP service area mitigates the risk and expense of incremental expansions to existing treatment facilities and of more stringent permitting requirements associated with future development in Middlesex County. Consequently, HRSDs strategy is to convey flows from Middlesex to the YRTP.

FUNDING TYPE

Funding Type: Revenue Bond

CONTACTS

Contacts-Requesting Dept: Operations
Contacts-Dept Contacts: Jeremiah Burford
Contacts-Managing Dept: Engineering

PROPOSED SCHEDULE START DATE

PrePlanning	06/30/2022
PER	01/30/2023
Design Delay	12/22/2025
Design	11/09/2023
Bid Delay	11/22/2026
PreConstruction	11/22/2026
Construction	07/01/2029
Closeout	07/01/2032

COST ESTIMATE

Cost Estimate Class:	**Class 10**
PrePlanning	$0
PER	$0
Design	$419,334
PreConstruction	$15,300
Construction	$11,415,839
Closeout	$5,000
Est. Program Cost	**$11,855,472**
Contingency Budget	$1,615,513
Est. Project Costs	**$13,470,985**

MP013730

- 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 2,530 5,060 10,120 15,180 20,240 Feet

MP013730

Middlesex Interceptor System Program Phase II-Transmission Force Main

HRSD

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CIP Location

Middlesex Interceptor System Program Phase II-Transmission Force Main

PR_MP013730

System: Mid-Peninsula
Type: Pipelines

Driver Category: Capacity Improvements
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
$71,929	$3,979	$0	$0	$0	$22,036	$22,036	$22,036	$1,841	$0	$0	$0

PROJECT DESCRIPTION

Urbanna to Mathews Transmission Force Main (MP013700) will be closed out after the PER phase of work has been completed and three new CIP projects are being created. Two of the CIP projects will manage the reimbursement between HRSD and the County of Middlesex for the Middlesex Interceptor System Program Phase II-Middlesex Saluda Pump Station (MP013710) and for the Middlesex Interceptor System Program Phase II-Middlesex Hartfield Pump Station (MP013720). The third CIP project for the Middlesex Interceptor System Program Phase II-Transmission Force Main (MP013730) will be managed and funded by HRSD. This project includes the construction of a 3.2 miles force main from Urbanna to Cook's Corner in addition to a 13 mile force main along Route 33 in Middlesex County from Cook's Corner to the existing Mathews Force Main. This creates the backbone of the Middlesex Force Main solution and includes a horizontal direction drill under the Piankatank River. This interceptor system will convey wastewater from Middlesex County to the York River Treatment Plant and allow for the decommissioning of the Urbanna Treatment Plant. The system will also include the construction of a new pump station(s). This project will also involve provisions for connection of the Topping service area near the intersection of Route 33 and Route 3 and for connection of the Deltaville service area near Hartfield along General Puller Highway.

PROJECT JUSTIFICATION

Middlesex County is developing sewer service areas. In order to provide wastewater treatment, HRSD must expand existing Middlesex treatment plants, install decentralized treatment systems, and/or install conveyance from these service areas to existing wastewater treatment facilities. HRSD has two minor (100,000 gallons per day (GPD) or less) wastewater treatment facilities in Middlesex County that are near capacity. In addition, the Town of Urbanna has requested HRSD to eliminate surface water discharges. Currently, HRSD must purchase nutrient credits to discharge into the Rappahannock River basin. HRSD has wastewater treatment capacity at the York River Treatment Plant (YRTP). The life cycle cost of conveying sewage to the YRTP is less than the cost of constructing and operating multiple minor wastewater treatment plants in Middlesex County. A conveyance system to the YRTP service area mitigates the risk and expense of incremental expansions to existing treatment facilities and of more stringent permitting requirements associated with future development in Middlesex County. Consequently, HRSDs strategy is to convey flows from Middlesex to the YRTP.

FUNDING TYPE

Funding Type: Revenue Bond

CONTACTS

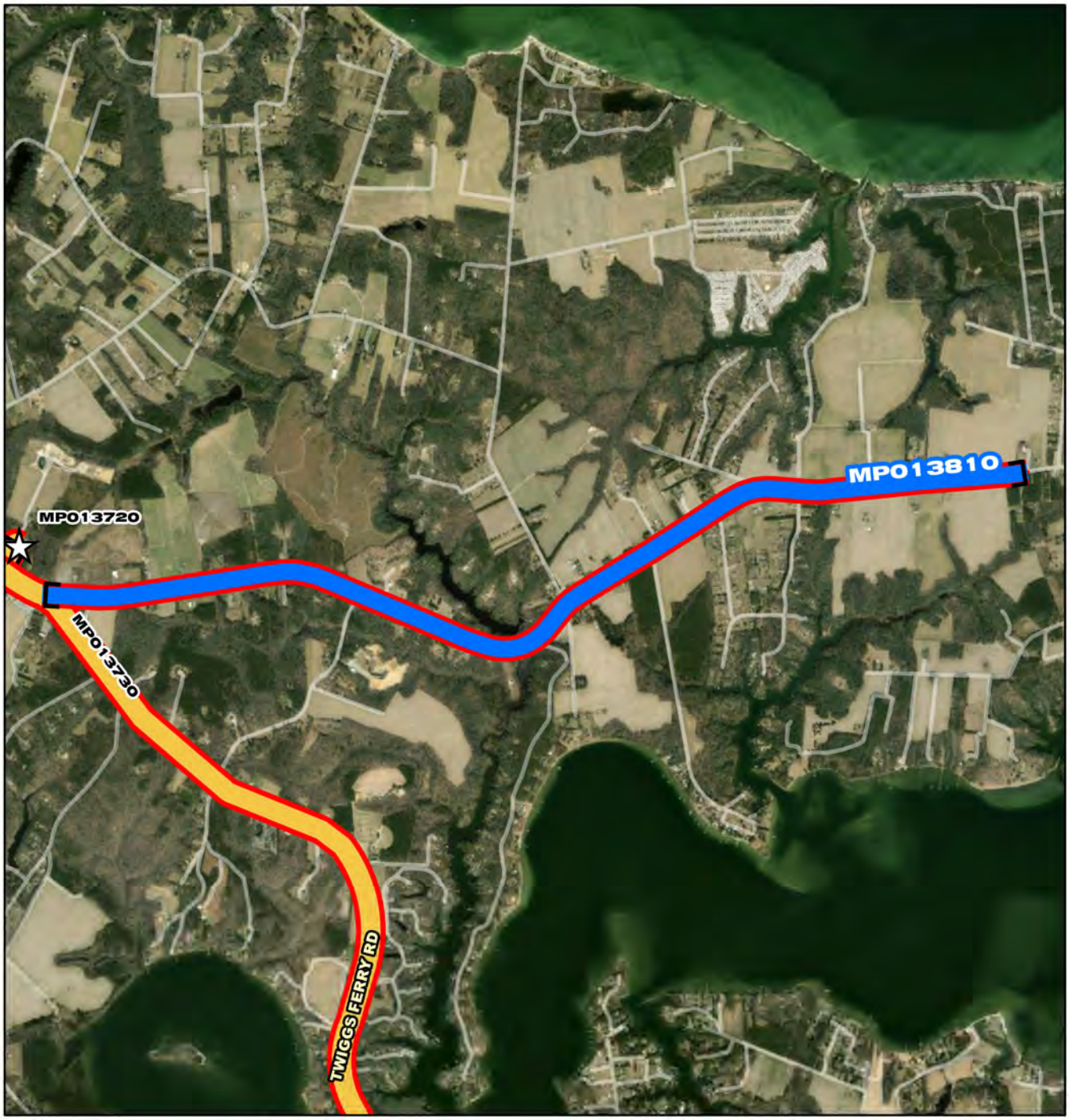
Contacts-Requesting Dept: Operations-Interceptors
Contacts-Dept Contacts: Jeremiah Burford
Contacts-Managing Dept: Engineering

PROPOSED SCHEDULE START DATE

PrePlanning	06/30/2022
PER	01/30/2023
Design Delay	11/23/2023
Design	11/23/2023
Bid Delay	11/22/2026
PreConstruction	11/22/2026
Construction	07/01/2029
Closeout	08/01/2032

COST ESTIMATE

Cost Estimate Class:	**Class 10**
PrePlanning	$0
PER	$0
Design	$3,884,091
PreConstruction	$63,200
Construction	$67,976,804
Closeout	$5,000
Est. Program Cost	**$71,929,095**
Contingency Budget	$9,712,020
Est. Project Costs	**$81,641,115**



MP013810

- 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 1,050 2,100 4,200 6,300 8,400 Feet

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W E
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CIP Location

MP013810

Middlesex Interceptor System Program Phase III (Deltaville)

HRSD

Middlesex Interceptor System Program Phase III (Deltaville)

PR_MP013810

System: Mid-Peninsula
Type: Pipelines

Driver Category: Capacity Improvements
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
$13,090	$471	$0	$0	$0	$5,261	$6,298	$1,060	$0	$0	$0	$0

PROJECT DESCRIPTION

This project calls for the design and construction of approximately 20,500 linear feet (LF) of a 6-inch arterial HDPE force main interceptor to serve the Deltaville service area in Middlesex County. The HRSD funded portion of the Deltaville interceptor will be approximately 20,500 LF traversing from Twiggs Ferry Road - Stampers Bay Road intersection north to General Puller Highway and terminating at the Parsons Lane intersection. The arterial force main will be connecting to the proposed Middlesex Regional Interceptor System slated to be completed in 2024.

PROJECT JUSTIFICATION

HRSD, in coordination with Middlesex County, developed a sewer master plan to design and construct a regional sewer infrastructure to collect and transmit sewer flows to the York River Treatment Plant for treatment via the existing Mathews force main interceptor system. As part of this effort, the existing Urbanna and Saluda treatment plants will be decommissioned and be replaced with new collection systems and pump stations to convey the flow to the regional force main interceptor. This project is the continuation of expanding the regional interceptor system to transmit flow from the Topping and Deltaville service areas. As part of the service agreement and cost sharing agreement executed between HRSD and Middlesex County, HRSD will front the capital cost for engineering services, construction and inspection; Middlesex County shall be responsible to reimburse HRSD for the cost of the interceptors which fall within 2-mile radius from the service area limits in conformance with HRSD's Service Area Expansion Policy.

FUNDING TYPE

Funding Type: Revenue Bond

CONTACTS

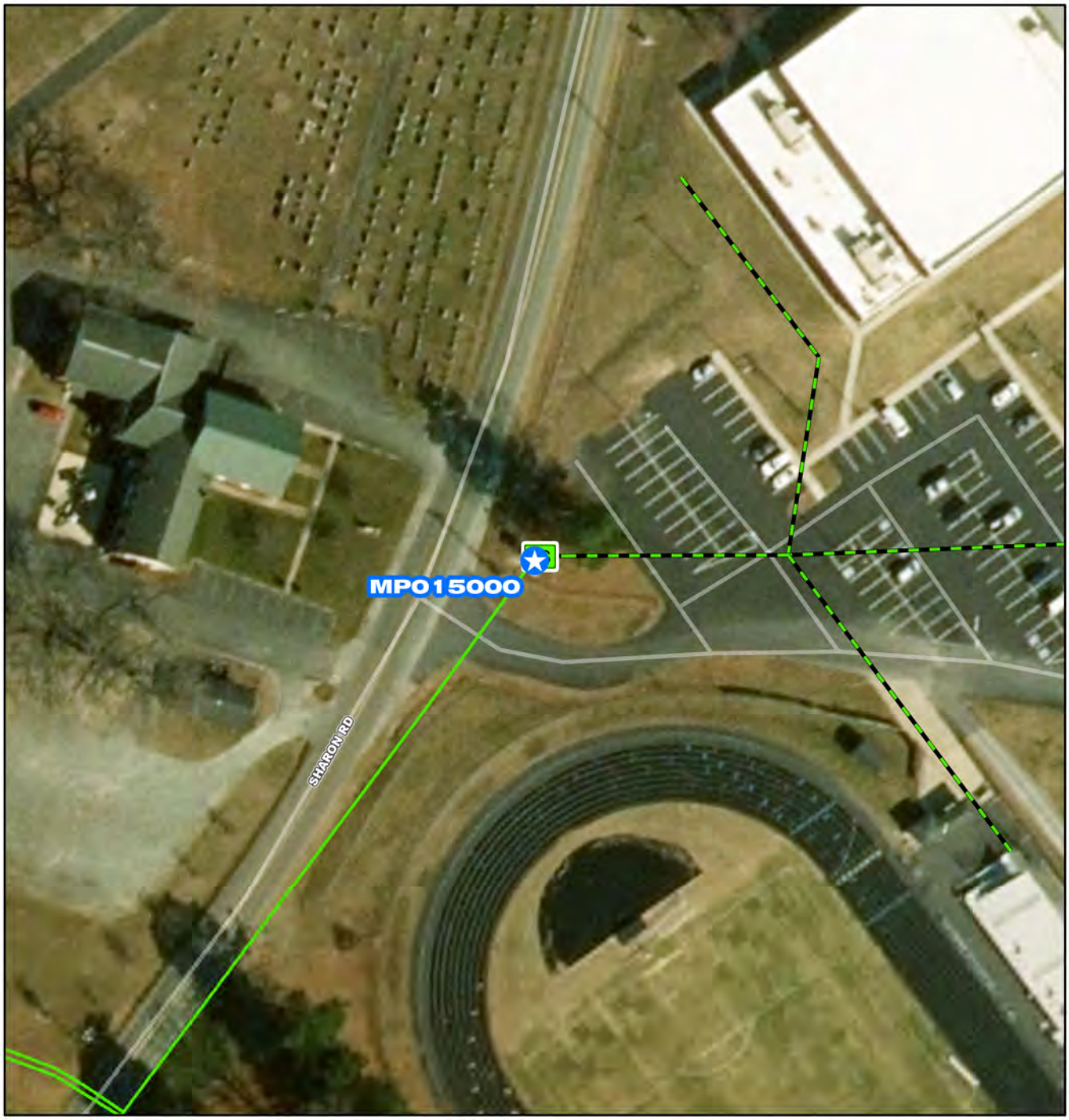
Contacts-Requesting Dept: Operations
Contacts-Dept Contacts: Jeremiah Burford
Contacts-Managing Dept: Engineering

PROPOSED SCHEDULE START DATE

PrePlanning	01/01/2022
PER	01/29/2022
Design Delay	03/17/2024
Design	03/17/2024
Bid Delay	02/05/2026
PreConstruction	07/01/2029
Construction	09/01/2029
Closeout	09/01/2031

COST ESTIMATE

Cost Estimate Class:	**Class 10**
PrePlanning	$0
PER	$78,248
Design	$393,225
PreConstruction	$11,840
Construction	$12,596,810
Closeout	$10,000
Est. Program Cost	**$13,090,124**
Contingency Budget	$1,717,746
Est. Project Costs	**$14,807,870**



MPO15000

- 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
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CIP Location

MPO15000

Sharon Road Gravity Sewer Improvements

HRSD

Sharon Road Gravity Sewer Improvements

PR_MP015000

System: Mid-Peninsula
Type: Pipelines

Driver Category: Risk Mitigation
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
$2,517	$205	$2,308	$4	$0	$0	$0	$0	$0	$0	$0	$0

PROJECT DESCRIPTION

The project was initially proposed to expand the Commerce Lane PS gravity collection system approximately 800 linear feet to connect the existing Sharon Road PS service area to an expanded Commerce Lane Pump Station service area. This project was intended to eliminate the need for and permanently abandon the Sharon Road Pump Station (currently located along the KH HS frontage). Sharon Road PS Rehabilitation was assessed being assessed as an alternative solution due to the cost and complexities associated with the gravity sewer alternative. During that effort an alternative gravity sewer alignment was also identified and adopted to be more in keeping with the initial project goal to take the existing station out of service.

PROJECT JUSTIFICATION

The Sharon Road Pump Station is a packaged type of submersible pump station that has been in operation for 20 years and needs rehabilitation.
The station is located on school grounds with no security fence. The alternative to extend the Commerce Lane gravity collection system was proposed to eliminate the operational need for any pump station on school property. However, the approximately $1.5M cost of the gravity sewer extension as well as the deep sewer runs required to connect by gravity makes the gravity sewer extension a less attractive alternative.

FUNDING TYPE

Funding Type: Cash

CONTACTS

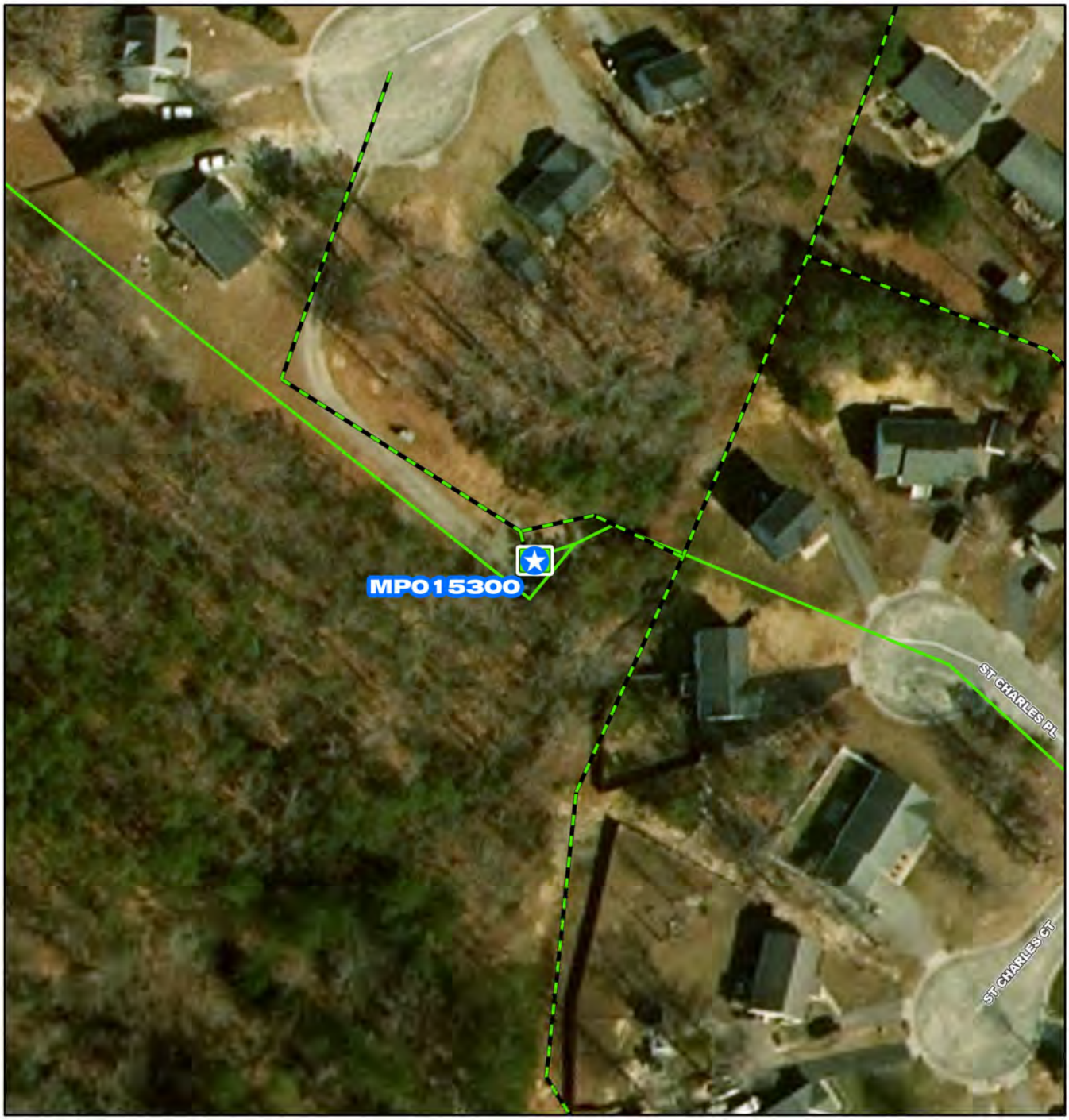
Contacts-Requesting Dept: Operations
Contacts-Dept Contacts: Donald Jennings
Contacts-Managing Dept: Engineering

PROPOSED SCHEDULE START DATE

PrePlanning	03/26/2019
PER	07/08/2020
Design Delay	10/21/2021
Design	10/01/2021
Bid Delay	04/01/2026
PreConstruction	06/01/2026
Construction	08/01/2026
Closeout	11/01/2026

COST ESTIMATE

Cost Estimate Class:	**Class 3 (-10% to +30%)**
PrePlanning	$0
PER	$55,932
Design	$149,317
PreConstruction	$0
Construction	$2,300,000
Closeout	$11,400
Est. Program Cost	**$2,516,649**
Contingency Budget	$208,000
Est. Project Costs	**$2,724,649**



MP015300

- 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

MP015300

King William Central Crossing Pump Station Rehabilitation

HRSD

N
W E
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CIP Location

King William Central Crossing Pump Station Rehabilitation

PR_MP015300

System: Mid-Peninsula
Type: Pump Stations

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
$2,102	$1,404	$696	$3	$0	$0	$0	$0	$0	$0	$0	$0

PROJECT DESCRIPTION

This project consists of rehabilitation of the existing Central Crossing pump station to include improvements to the pump system and controls, discharge monitoring, force main upsizing, emergency power supply, site improvements and other ancillary improvements.

PROJECT JUSTIFICATION

Failures have occurred on the pumping rail and connection system as well as the discharge force main with temporary repairs made to both. Additionally, there is no emergency power supply in cases of outages for the station and the current power rack is of timber construction and is also in need of replacement. Currently, operations has no means to isolate the discharge force main from a common pressure pipeline with multiple other pump station connections. There is no emergency bypass connection, and no means of monitoring station flows and pressures. This project will correct these deficiencies and bring this facility to current HRSD standards. King William is also experiencing substantial development growth. This station currently has development projects with master site plans that would exceed the capacity of the station. This project will provide for additional station pumping capacity to allow for future development and growth. Further, one bid for the previously approved plan was received at twice the OPCC. HRSD rejected the bid and will complete the majority of scaled down improvements with our Project Team.

FUNDING TYPE

Funding Type: Revenue Bond

CONTACTS

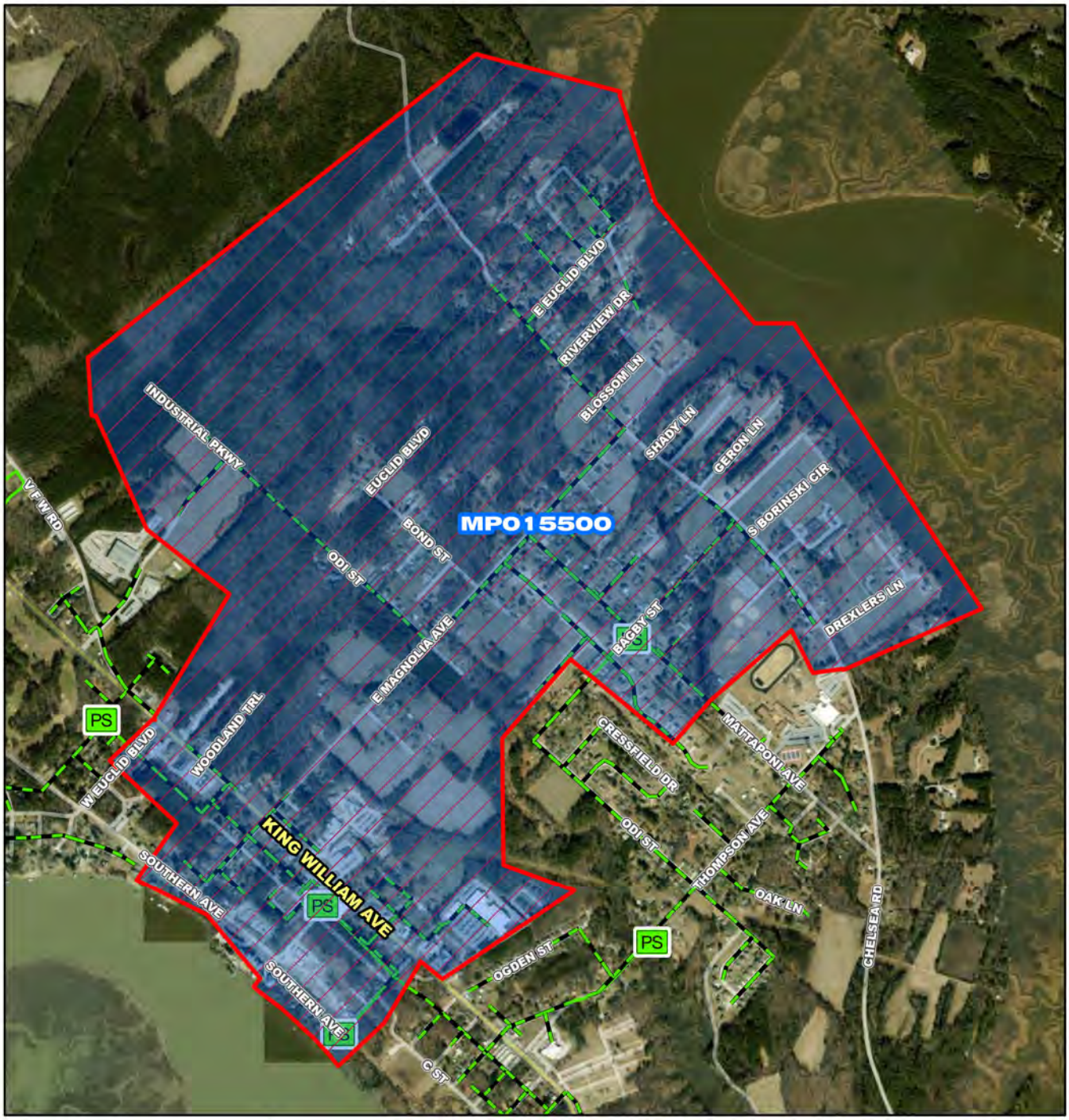
Contacts-Requesting Dept: Operations-Treatment
Contacts-Dept Contacts: Donald Jennings
Contacts-Managing Dept: Engineering

PROPOSED SCHEDULE START DATE

PrePlanning	07/03/2017
PER	08/24/2021
Design Delay	09/14/2022
Design	10/01/2025
Bid Delay	03/01/2025
PreConstruction	03/01/2025
Construction	03/01/2026
Closeout	10/01/2026

COST ESTIMATE

Cost Estimate Class:	**Class 3 (-10% to +30%)**
PrePlanning	$0
PER	$60,313
Design	$185,471
PreConstruction	$11,207
Construction	$1,835,000
Closeout	$10,000
Est. Program Cost	**$2,101,991**
Contingency Budget	$225,000
Est. Project Costs	**$2,326,991**



MP015500

- 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

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

N
W E
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CIP Location

MP015500

Small Communities Rehabilitation Phase VI

HRSD

Small Communities Rehabilitation Phase VI

PR_MP015500

System: Mid-Peninsula
Type: Pipelines

Driver Category: Aging Infrastructure/Rehabilitation
Project Phase: Construction
Regulatory: Consent Order West Point (2026-2028 Completion)

PROGRAM CASH FLOW PROJECTION ($,000)

Prog Cost	Exp to Previous Year	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34	FY35	FY36
$5,031	$2,640	$2,386	$5	$0	$0	$0	$0	$0	$0	$0	$0

PROJECT DESCRIPTION

This project will renew approximately 5,600 linear feet (LF) of gravity pipe and twelve (12) manholes in the service areas of West Point Pump Stations (PS) 5, 8 and 9. These facilities have been identified as large contributors to inflow and infiltration (I&I). Renewal methods include internal point repairs, external point repairs, and trenchless rehabilitation. External Point repairs will consist of dig-and-replace in kind with pipe of equal size. Rehabilitation may include one or more trenchless methods to reinforce existing pipelines with an internally installed liner or other seal to prevent I&I intrusion. Manholes will be lined and rehabilitated.

PROJECT JUSTIFICATION

The West Point Treatment Plant (WPTP) experiences significant increased flows during wet weather events. Since January 2019, the effluent flow monthly average has exceeded the Permitted Design Capacity (0.6 MGD) ten times to date, with 95% of capacity being exceeded for three consecutive months occurring twice in that timeframe. Each of the consecutive occurrences requires a written letter to VDEQ outlying HRSDs plan of action to address these increased flows. This project will continue HRSDs commitment to reducing I&I into the collection system in accordance with that plan of action. Analysis of gravity flow meter data collected from the West Point system was evaluated and identified the PS 5, 8 and 9 service areas as the highest contributors to I&I levels. Hazen and Sawyer completed a Sanitary Sewer Evaluation Survey (SSES) of these areas and identified multiple areas of rehabilitation and/or replacement of the collections system. This project will address the deficiencies identified in this SSES and generate a large reduction of I&I and provide for structural repairs on at-risk infrastructure.

FUNDING TYPE

Funding Type: Revenue Bond

CONTACTS

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

PROPOSED SCHEDULE START DATE

PrePlanning	07/03/2017
PER	08/29/2017
Design Delay	06/27/2022
Design	08/15/2022
Bid Delay	09/12/2025
PreConstruction	09/12/2025
Construction	01/01/2026
Closeout	01/01/2027

COST ESTIMATE

Cost Estimate Class:	**Class 1 (-3% to +15%)**
PrePlanning	$0
PER	$56,621
Design	$550,000
PreConstruction	$9,572
Construction	$4,394,652
Closeout	$20,000
Est. Program Cost	**$5,030,845**
Contingency Budget	$400,000
Est. Project Costs	**$5,430,845**

MP015600

- 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

MP015600

West Point Treatment Plant Final Effluent Pump Station Improvements

HRSD

West Point Treatment Plant Final Effluent Pump Station Improvements

PR_MP015600

System: Mid-Peninsula
Type: Pump Stations

Driver Category: Aging Infrastructure/Rehabilitation
Project Phase: Pre Construction
Regulatory: Consent Order West Point (2026-2028 Completion)

PROGRAM CASH FLOW PROJECTION ($,000)

Prog Cost	Exp to Previous Year	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34	FY35	FY36
$3,062	$663	$1,365	$1,034	$0	$0	$0	$0	$0	$0	$0	$0

PROJECT DESCRIPTION

This project consists of the rehabilitation of the existing West Point Treatment Plant Effluent Pump Station to include improvements to the pumping system and controls, discharge monitoring and access. The project will replace pump rail systems; rehabilitate and replace internal components of valve vault and emergency pump connection; install metering vault and associated components; upgrade alarms, pump controls and power panel and associated utility rack; and provide access to the station to drive up bypass pumps and equipment as necessary.

PROJECT JUSTIFICATION

The station suffered significant failure of both the mechanical and electrical systems in calendar year 2020. Emergency work was undertaken to make temporary repairs, however permanent repairs and improvements are still required to this critical piece of infrastructure to ensure continued reliability of the treatment plant process.

FUNDING TYPE

Funding Type: Revenue Bond

CONTACTS

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

PROPOSED SCHEDULE START DATE

PrePlanning	07/03/2017
PER	08/29/2017
Design Delay	07/19/2022
Design	07/25/2022
Bid Delay	11/01/2025
PreConstruction	01/01/2026
Construction	06/01/2026
Closeout	04/01/2028

COST ESTIMATE

Cost Estimate Class:	**Class 1 (-3% to +15%)**
PrePlanning	$0
PER	$49,812
Design	$455,024
PreConstruction	$40,950
Construction	$2,506,361
Closeout	$10,000
Est. Program Cost	**$3,062,147**
Contingency Budget	$260,000
Est. Project Costs	**$3,322,147**

MP015610

- 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

MP015610

West Point Treatment Plant Generator Installation

HRSD

West Point Treatment Plant Generator Installation

PR_MP015610

System: Mid-Peninsula
Type: Electrical

Driver Category: Risk Mitigation
Project Phase: Construction
Regulatory: Consent Order West Point (2026-2028 Completion)

PROGRAM CASH FLOW PROJECTION ($,000)

Prog Cost	Exp to Previous Year	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34	FY35	FY36
$1,862	$1,852	$10	$0	$0	$0	$0	$0	$0	$0	$0	$0

PROJECT DESCRIPTION

This project consists of the installation of a new 250KW generator at the West Point Treatment Plant (WPTP) along with the required site work. This project will be for the construction portion of the project only, as the PER and design phases were conducted under MP015600.

PROJECT JUSTIFICATION

The WPTP currently does not have complete plant backup power. This project will install the equipment necessary to provide backup power, including 480 V service. Previously, this work was included under MP015600, however, due to master planning efforts in the middle peninsula, most of that project has been delayed. The plant expressed urgency in continuing on with the generator portion of the project.

FUNDING TYPE

Funding Type: Revenue Bond

CONTACTS

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

PROPOSED SCHEDULE START DATE

PrePlanning	
PER	01/01/2025
Design Delay	01/01/2025
Design	01/01/2025
Bid Delay	01/01/2025
PreConstruction	01/01/2025
Construction	09/01/2025
Closeout	07/01/2026

COST ESTIMATE

Cost Estimate Class:	**Class 1 (-3% to +15%)**
PrePlanning	$0
PER	$0
Design	$0
PreConstruction	$0
Construction	$1,852,149
Closeout	$10,000
Est. Program Cost	**$1,862,149**
Contingency Budget	$185,215
Est. Project Costs	**$2,047,364**

West Point Treatment Plant Secondary Clarifier Improvements

PR_MP015700

System: Mid-Peninsula
Type: Wastewater Treatment

Driver Category: Aging Infrastructure/Rehabilitation
Project Phase: Pre Construction
Regulatory: Consent Order West Point (2026-2028 Completion)

PROGRAM CASH FLOW PROJECTION ($,000)

Prog Cost	Exp to Previous Year	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34	FY35	FY36
$2,690	$405	$1,300	$985	$0	$0	$0	$0	$0	$0	$0	$0

PROJECT DESCRIPTION

This project consists of the rehabilitation of the existing Secondary Clarifier System at the West Point Treatment Plant to include improvements to the waste pumping system and controls; raising the wall height on secondary clarifier #2; replacement of waste valving on both clarifiers; complete replacement of internal components; site improvements and rehabilitation of effluent weirs and skimmer wasting wells.

PROJECT JUSTIFICATION

The Secondary Clarifier system of West Point Treatment Plant has seen significant degradation since original installations in the 1950s and 1970s. Small scale improvement projects have been completed over the lifespan of the system to upgrade and repair various components. Conditional assessment of the system has shown several portions of the clarifiers are in need of repair or replacement in order to continue to treat wastewater effectively and reliably in accordance with the regulated permit. Additionally, the hydraulic profile of the plant flow creates a restriction on secondary clarifier #2, resulting in premature diversion to the plant holding pond. Raising of the clarifier wall will allow increased treatment capacity through the clarifier while drastically reducing the risk of an overflow.

FUNDING TYPE

Funding Type: Revenue Bond

CONTACTS

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

PROPOSED SCHEDULE START DATE

PrePlanning	07/03/2017
PER	08/29/2017
Design Delay	07/19/2022
Design	07/25/2022
Bid Delay	01/01/2025
PreConstruction	01/01/2026
Construction	06/01/2026
Closeout	04/01/2028

COST ESTIMATE

Cost Estimate Class:	**Class 1 (-3% to +15%)**
PrePlanning	$0
PER	$52,373
Design	$232,807
PreConstruction	$11,702
Construction	$2,383,072
Closeout	$10,000
Est. Program Cost	**$2,689,954**
Contingency Budget	$240,000
Est. Project Costs	**$2,929,954**

MP015800

- 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
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CIP Location

MP015800

King William Main Pump Station Improvements

HRSD

King William Main Pump Station Improvements

PR_MP015800

System: Mid-Peninsula
Type: Pump Stations

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
$1,275	$632	$640	$3	$0	$0	$0	$0	$0	$0	$0	$0

PROJECT DESCRIPTION

This project will provide a Technical Memorandum to study the new alternative of utilizing an existing 10" force main from Rt 360 to the King William Treatment Plant (KWTP), thereby eliminating the need for a replacement King William Pump Station. The study will include the 10" force main connection design and survey work, inspection for oversite of the condition assessment of the existing 10" force main, hydraulic analysis of the system and KWTP. The Condition Assessment work will include excavating, pressure testing, and site restoration of the exiting 10" force main. Contingent on pressure test results, this project will put the existing 10" force main in service.

PROJECT JUSTIFICATION

Small Communities Division (SCD) and North Shore (NS) Engineering staff revisited the original Scope of this CIP project and identified an alternative solution that would eliminate the need for a replacement King William Main Pump Station by reactivating and tying in an existing 10" force main from Route 360 to the King William Treatment Plant (KWTP). Testing proved this solution is viable, which eliminates the need for a new King William Main Pump Station.

FUNDING TYPE

Funding Type: Revenue Bond

CONTACTS

Contacts-Requesting Dept: Operations
Contacts-Dept Contacts: Jeff Layne
Contacts-Managing Dept: Engineering

PROPOSED SCHEDULE START DATE

PrePlanning	07/01/2022
PER	01/30/2023
Design Delay	07/28/2023
Design	09/01/2024
Bid Delay	07/01/2026
PreConstruction	04/01/2026
Construction	05/01/2026
Closeout	11/01/2026

COST ESTIMATE

Cost Estimate Class:	**Class 2 (-5% to +20%)**
PrePlanning	$0
PER	$117,256
Design	$188,200
PreConstruction	$10,000
Construction	$950,000
Closeout	$10,000
Est. Program Cost	**$1,275,456**
Contingency Budget	$377,000
Est. Project Costs	**$1,652,456**

MP016000

- 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

0 165 330 660 990 1,320 Feet

N
W E
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CIP Location

MP016000

Beaver Dam Discharge Force Main Replacement

HRSD

Beaver Dam Discharge Force Main Replacement

PR_MP016000

System: Mid-Peninsula
Type: Pipelines

Driver Category: Capacity Improvements
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
$3,288	$0	$33	$105	$116	$758	$2,098	$179	$0	$0	$0	$0

PROJECT DESCRIPTION

This project involves the replacement of approximately 3,600 linear feet of 6-inch ductile iron pipe. The replacement will occur along the section of piping located on the discharge side of the Beaver Dam Pump Station, extending to 6936 Main Street in Gloucester County.

PROJECT JUSTIFICATION

Due to anticipated growth and development in Middlesex, Mathews, and Gloucester County, the existing 6-inch ductile iron force main is expected to become undersized and will be approaching the end of its useful life. To accommodate the projected increase in flow, it will be necessary to upgrade the force main to a larger size. Over the next 10 years, the system is projected to experience an additional 150 GPM from the villages of Topping, Deltaville, and Hartfield. Furthermore, our local partners are currently facing hydraulic challenges within their systems, which may further impact the overall efficiency and performance of the regional infrastructure. Upgrading the force main will address these issues and ensure the system can reliably handle future demand.

FUNDING TYPE

Funding Type: Revenue Bond

CONTACTS

Contacts-Requesting Dept: Operations-Treatment
Contacts-Dept Contacts: Jeremiah Burford
Contacts-Managing Dept: Operations

PROPOSED SCHEDULE START DATE

PrePlanning	07/01/2026
PER	10/04/2027
Design Delay	06/02/2028
Design	06/02/2028
Bid Delay	12/03/2029
PreConstruction	12/03/2029
Construction	03/01/2030
Closeout	08/04/2031

COST ESTIMATE

Cost Estimate Class:	**Class 5 (-20% to +100%)**
PrePlanning	$41,280
PER	$86,688
Design	$173,376
PreConstruction	$10,320
Construction	$2,972,160
Closeout	$4,128
Est. Program Cost	**$3,287,952**
Contingency Budget	$433,440
Est. Project Costs	**$3,721,392**

King William Collection System Capacity Improvements

PR_MP016100

System: Mid-Peninsula
Type: Offline Storage

Driver Category: Capacity Improvements
Project Phase: Pre Planning
Regulatory: None

PROGRAM CASH FLOW PROJECTION ($,000)

Prog Cost	Exp to Previous Year	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34	FY35	FY36
$5,790	$84	$248	$463	$2,064	$2,064	$865	$3	$0	$0	$0	$0

PROJECT DESCRIPTION

This Project will study, design and construct needed capacity improvements throughout the King William Collection System to accommodate for increased population and flow projections. This Project will include Storage Tank(s), automated valves, purchase of diesel bypass pumps, treatment plant headworks upgrades, and the construction of a duplex pump station and corresponding interceptor pipeline to intercept Purina flows so that the King William Main Pump Station rehab project can be eliminated and 7200lf of associated gravity system can be abandoned and I&I reduced from the overall system.

PROJECT JUSTIFICATION

With the construction of the new Orchards Development, over 800 new homes will be added to the King William collection system with an Average Daily Flow of 272,000 gallons per day (gpd). The existing King William main pump station is undersized for this increased flow and with the current flows near 100,000 gpd relies on diesel bypass pumps to run multiple times a day to keep the station from overflowing. Even with the new membranes being installed at the King William Treatment Plant, flows will need to be stored in both the collection system and storage tanks to help flatline flow through the treatment plant and allow for maintenance activities on process equipment at the treatment plant without having excessive pump and haul operations throughout the collection system. A small duplex pump station with corresponding force main would allow for the abandonment of the King William main pump station and associate 7,200 linear feet of gravity main and eliminate the need for CIP MP015800. (King William Main Pump Station Rehabilitation Project).

FUNDING TYPE

Funding Type: Revenue Bond

CONTACTS

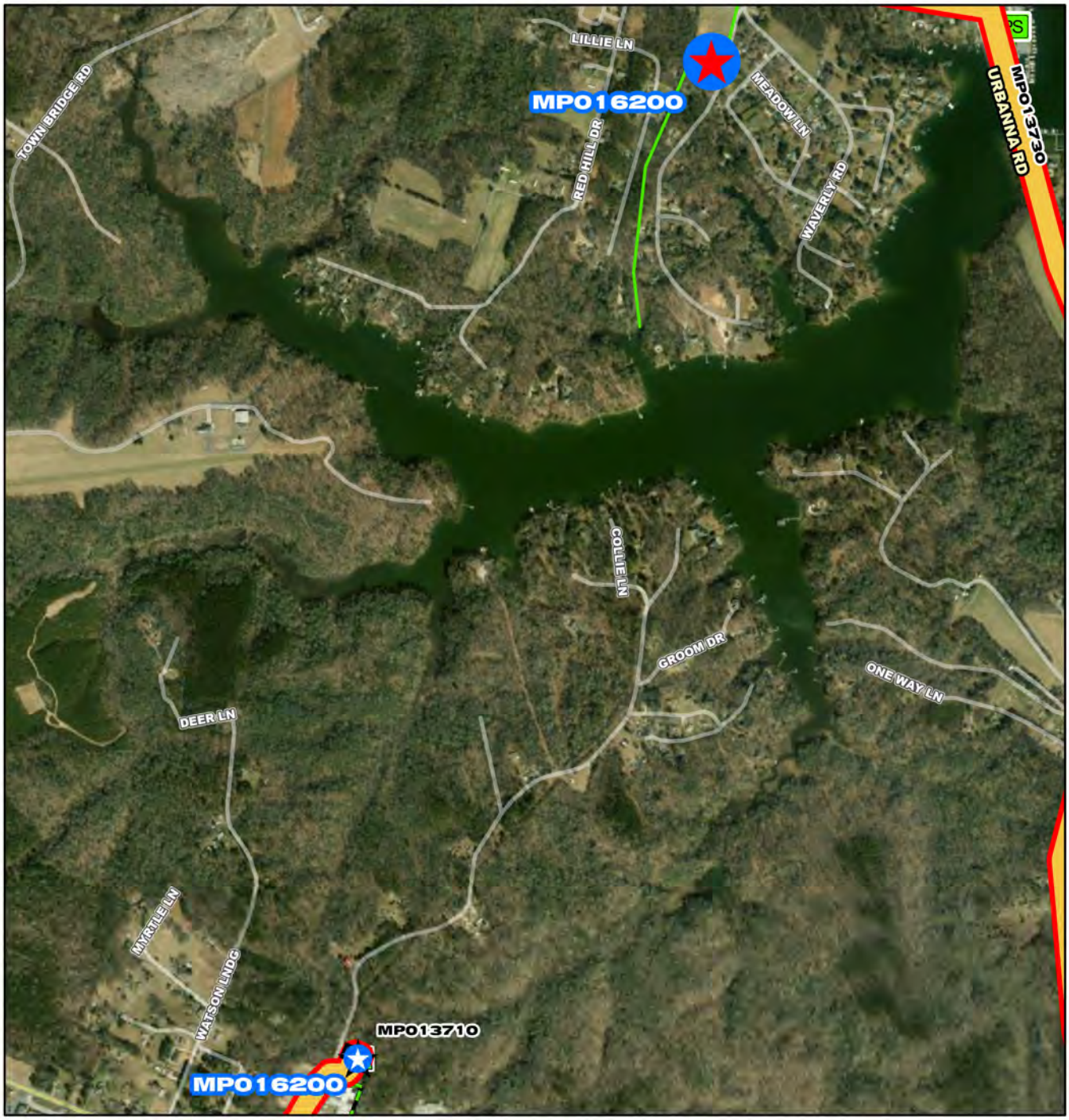
Contacts-Requesting Dept: Operations
Contacts-Dept Contacts: Jeff Layne
Contacts-Managing Dept: Engineering

PROPOSED SCHEDULE START DATE

PrePlanning	07/01/2025
PER	06/01/2026
Design Delay	03/01/2027
Design	03/01/2027
Bid Delay	03/01/2028
PreConstruction	03/01/2028
Construction	06/01/2028
Closeout	12/01/2030

COST ESTIMATE

Cost Estimate Class:	**Class 10**
PrePlanning	$70,000
PER	$123,840
Design	$412,800
PreConstruction	$15,480
Construction	$5,160,000
Closeout	$8,256
Est. Program Cost	**$5,790,376**
Contingency Budget	$600,000
Est. Project Costs	**$6,390,376**



MP016200

- 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

0 445 890 1,780 2,670 3,560 Feet

N
W E
S

CIP Location

MP016200

Urbanna and Central Middlesex Wastewater Treatment Plant Rehabilitation

HRSD

Urbanna and Central Middlesex Wastewater Treatment Plant Rehabilitation

PR_MP016200

System: Mid-Peninsula
Type: Facilities, Buildings and Capital Equipment

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
$9,537	$581	$948	$6,403	$1,604	$1	$0	$0	$0	$0	$0	$0

PROJECT DESCRIPTION

This project will improve resiliency and/or replace the existing Urbanna and Central Middlesex Treatment Plant several process assets identified in the Urbanna and Central Middlesex Treatment Plant (WWTP) Rehabilitation Cost Planning Study - Critical items.

PROJECT JUSTIFICATION

Screening and Equalization, BNR Process, Secondary Clarifiers, RAS/WAS Pumping, Digesters, UV Disinfection, sand filters, clear well, Effluent Manhole and Parshall Flume, Effluent Storage and Pumping, Solids Drying Beds, Polymer System, Administration Building and Miscellaneous, Electrical, and Instrumentation and Control have reached the end of their useful life. This project will correct these deficiencies and bring both the Urbanna and Central Middlesex Treatment Plants to current HRSD standards.

FUNDING TYPE

Funding Type: Revenue Bond

CONTACTS

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

PROPOSED SCHEDULE START DATE

PrePlanning	07/01/2025
PER	07/01/2025
Design Delay	07/01/2026
Design	07/01/2026
Bid Delay	03/01/2027
PreConstruction	03/01/2027
Construction	06/01/2027
Closeout	10/01/2028

COST ESTIMATE

Cost Estimate Class:	**Class 4 (-15% to +50%)**
PrePlanning	$0
PER	$393,863
Design	$561,447
PreConstruction	$40,017
Construction	$8,537,000
Closeout	$5,000
Est. Program Cost	**$9,537,327**
Contingency Budget	$1,501,955
Est. Project Costs	**$11,039,282**

Urbanna to West Point Alignment Study

PR_MP016300

System: Mid-Peninsula
Type: Pipelines

Driver Category: Capacity Improvements
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
$341	$0	$0	$0	$341	$0	$0	$0	$0	$0	$0	$0

PROJECT DESCRIPTION

This project consists of studying and identifying the best alignment for a transmission force main from Urbanna and Central Middlesex Treatment Plants to West Point. In addition to the transmission force main, this project will need to identify the location of necessary pump stations, pressure reducing stations, and / or storage tanks.

PROJECT JUSTIFICATION

This project will convey flows from Middlesex County through West Point to the Williamsburg Treatment Plant. This would enable the Urbanna and Central Middlesex Treatment Plants to be decommissioned. This project was recommended in the Middle Peninsula Master Plan.

FUNDING TYPE

Funding Type: Cash

CONTACTS

Contacts-Requesting Dept: Engineering
Contacts-Dept Contacts: Korey Kendall
Contacts-Managing Dept: Engineering

PROPOSED SCHEDULE START DATE

PrePlanning	07/03/2028
PER	08/02/2028
Design Delay	05/02/2029
Design	05/02/2029
Bid Delay	05/02/2029
PreConstruction	05/02/2029
Construction	05/02/2029
Closeout	05/02/2029

COST ESTIMATE

Cost Estimate Class:	**Class 1 (-3% to +15%)**
PrePlanning	$30,960
PER	$309,600
Design	$0
PreConstruction	$0
Construction	$0
Closeout	$0
Est. Program Cost	**$340,560**
Contingency Budget	$30,960
Est. Project Costs	**$371,520**

West Point Treatment Plant Solid Handling and Site Improvements

PR_MP016500

System: Mid-Peninsula
Type: Biosolids

Driver Category: Capacity Improvements
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
$803	$0	$157	$643	$3	$0	$0	$0	$0	$0	$0	$0

PROJECT DESCRIPTION

This project will involve the planning, design, and construction of improvements to the solids handling operations and bulk material storage systems at the West Point Treatment Plant (WPTP) in West Point, Virginia. The scope of work also includes minor site improvements necessary to support the upgraded facilities, enhance operational efficiency, and ensure safe and reliable long-term performance of the treatment plant.

PROJECT JUSTIFICATION

The West Point Treatment Plant (WPTP) requires upgrades to its solids handling operations and bulk material storage facilities to maintain reliable, safe, and efficient treatment performance. The existing system is mobile and is impacted by various weather condition and no longer fully supports current operational demands, increasing the risk of equipment failures, material handling inefficiencies, and safety concerns. The proposed project will modernize solids processing and storage infrastructure, improving operational reliability, reducing maintenance requirements, and enhancing worker safety. Minor site improvements will address access, drainage, and operational flow, ensuring compatibility with the upgraded systems.

FUNDING TYPE

Funding Type: Revenue Bond

CONTACTS

Contacts-Requesting Dept: Operations
Contacts-Dept Contacts: Sam McAdoo
Contacts-Managing Dept: Engineering

PROPOSED SCHEDULE START DATE

PrePlanning	07/01/2026
PER	07/01/2026
Design Delay	10/01/2026
Design	10/01/2026
Bid Delay	04/01/2027
PreConstruction	04/01/2027
Construction	06/01/2027
Closeout	06/01/2028

COST ESTIMATE

Cost Estimate Class:	**Class 5 (-20% to +100%)**
PrePlanning	$0
PER	$28,000
Design	$56,000
PreConstruction	$15,000
Construction	$700,000
Closeout	$4,000
Est. Program Cost	**$803,000**
Contingency Budget	$140,000
Est. Project Costs	**$943,000**