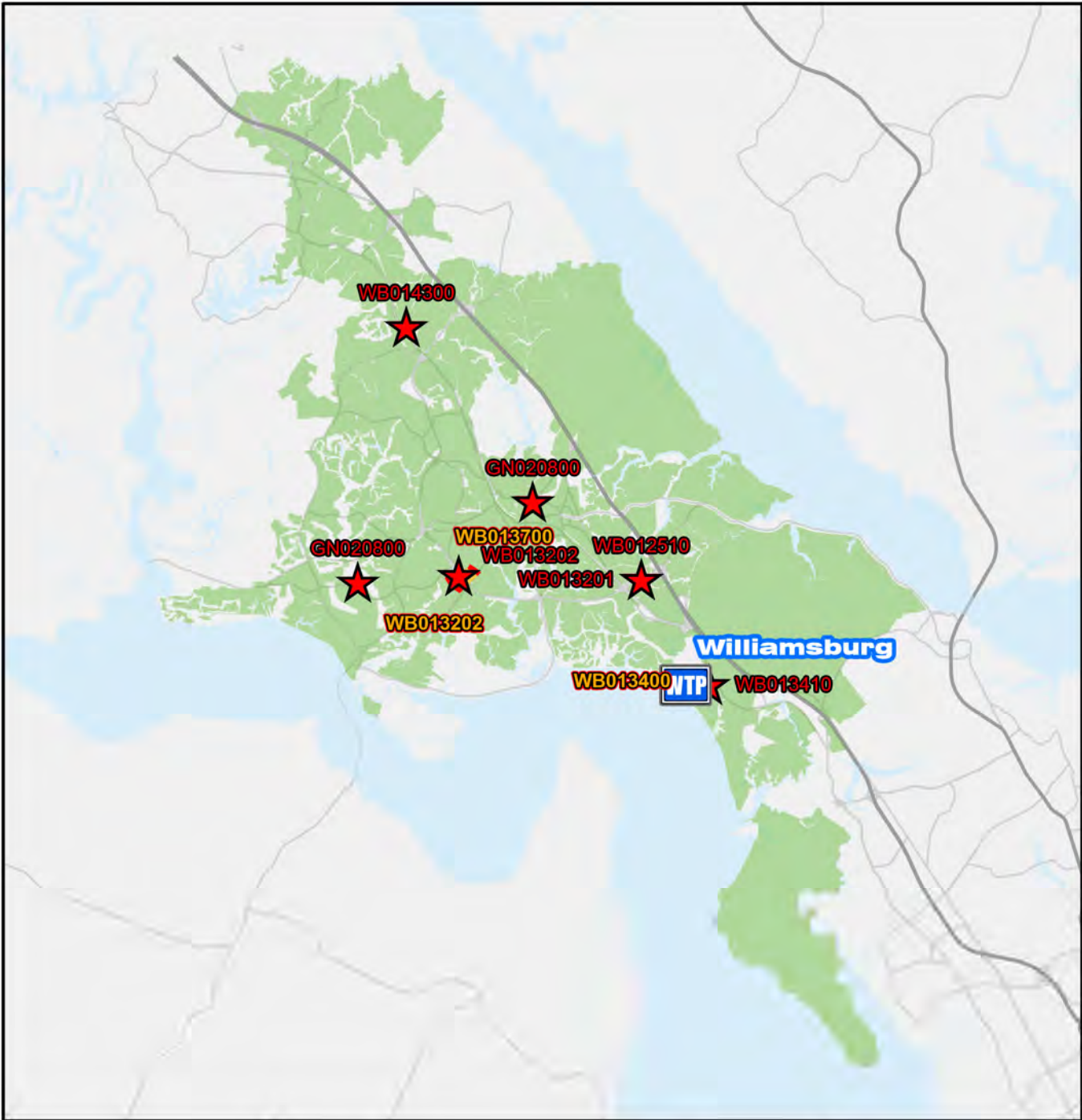


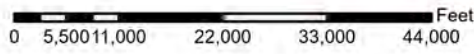


Williamsburg Treatment Plant



Legend

-  Williamsburg
-  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



Williamsburg Treatment Plant Service Area CIP Projects

Treatment Plant Projects

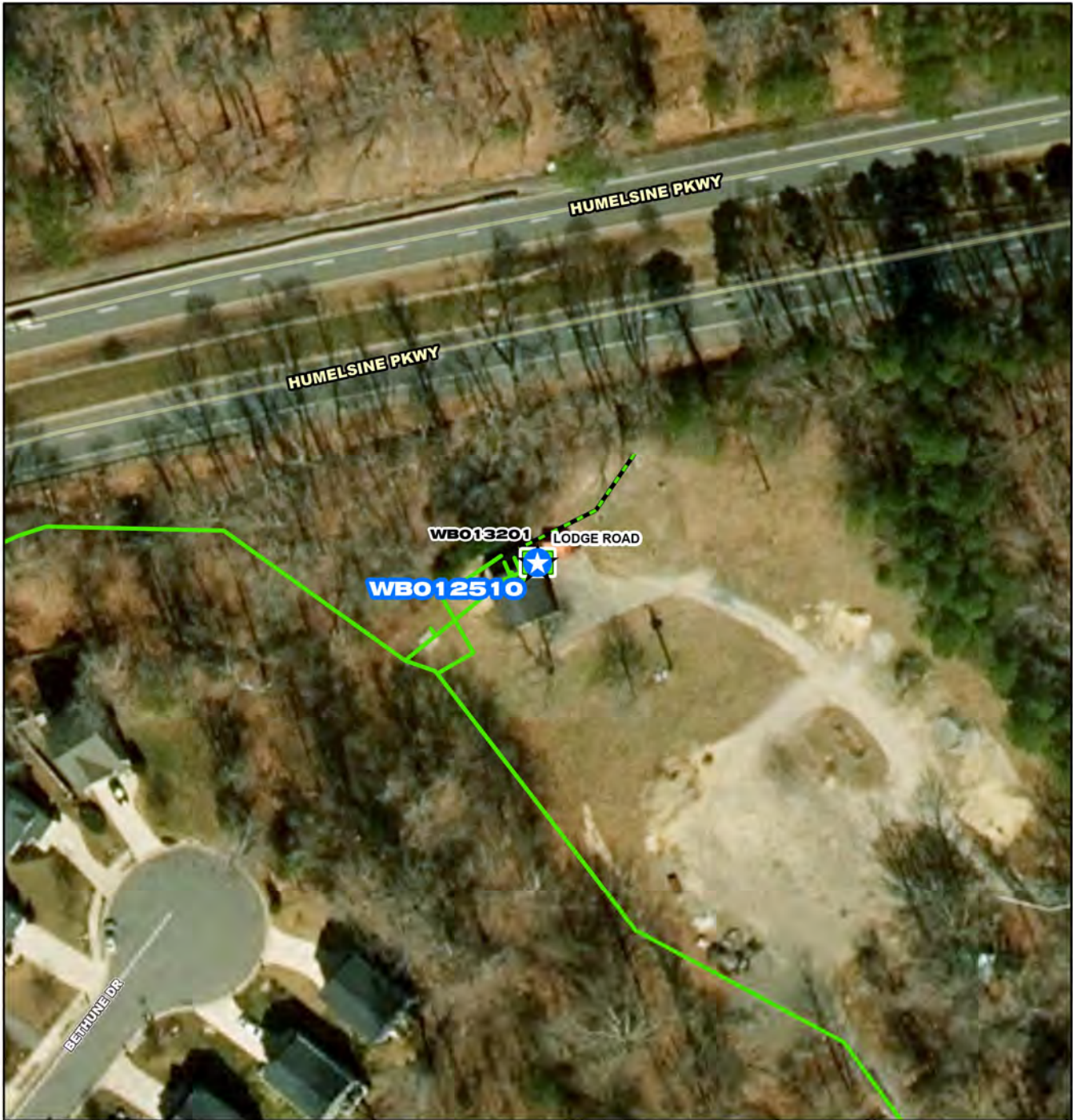
- | | |
|----------|----------|
| WB013400 | WB014100 |
| WB013500 | WB014410 |
| WB013800 | WB014500 |
| WB013810 | WB014600 |
| WB013900 | |



CIP Location



Service Area



WBO12510

- 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
- HRSD Treatment Plant
- HRSD Pressure Reducing Station
- HRSD Pump Station

0 25 50 100 150 200 Feet

WBO12510

Lodge Road Pump Station Upgrades Study

N
W E
S

CIP Location

System: Williamsburg
 Type: Pump Stations

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
\$150	\$0	\$0	\$125	\$25	\$0	\$0	\$0	\$0	\$0	\$0	\$0

PROJECT DESCRIPTION

The study will evaluate the condition and capacity of the existing Lodge Road Pump Station (PS) including all station pumps, controls, pipe, valves, and electrical infrastructure. The study will be used to scope, budget, and schedule any future identified capital improvements at this facility.

PROJECT JUSTIFICATION

This project will evaluate capacity needs to serve an area that has historically had wet weather capacity challenges. The study will recommend any required pumping upgrades and associated electrical service upgrades including the generator and controls. Lodge Road PS receives flow from Rolling Hills PS, several York County Pump Stations, and a local collection system. An interconnect was installed by North Shore Interceptors to allow Rolling Hills PS to discharge into the Lodge Road PS. Proposed upstream infiltration and inflow reduction will be considered when evaluating capacity at this facility. The study will provide a scope, budget, and schedule for any elements requiring capital improvements.

FUNDING TYPE

Funding Type: Cash

CONTACTS

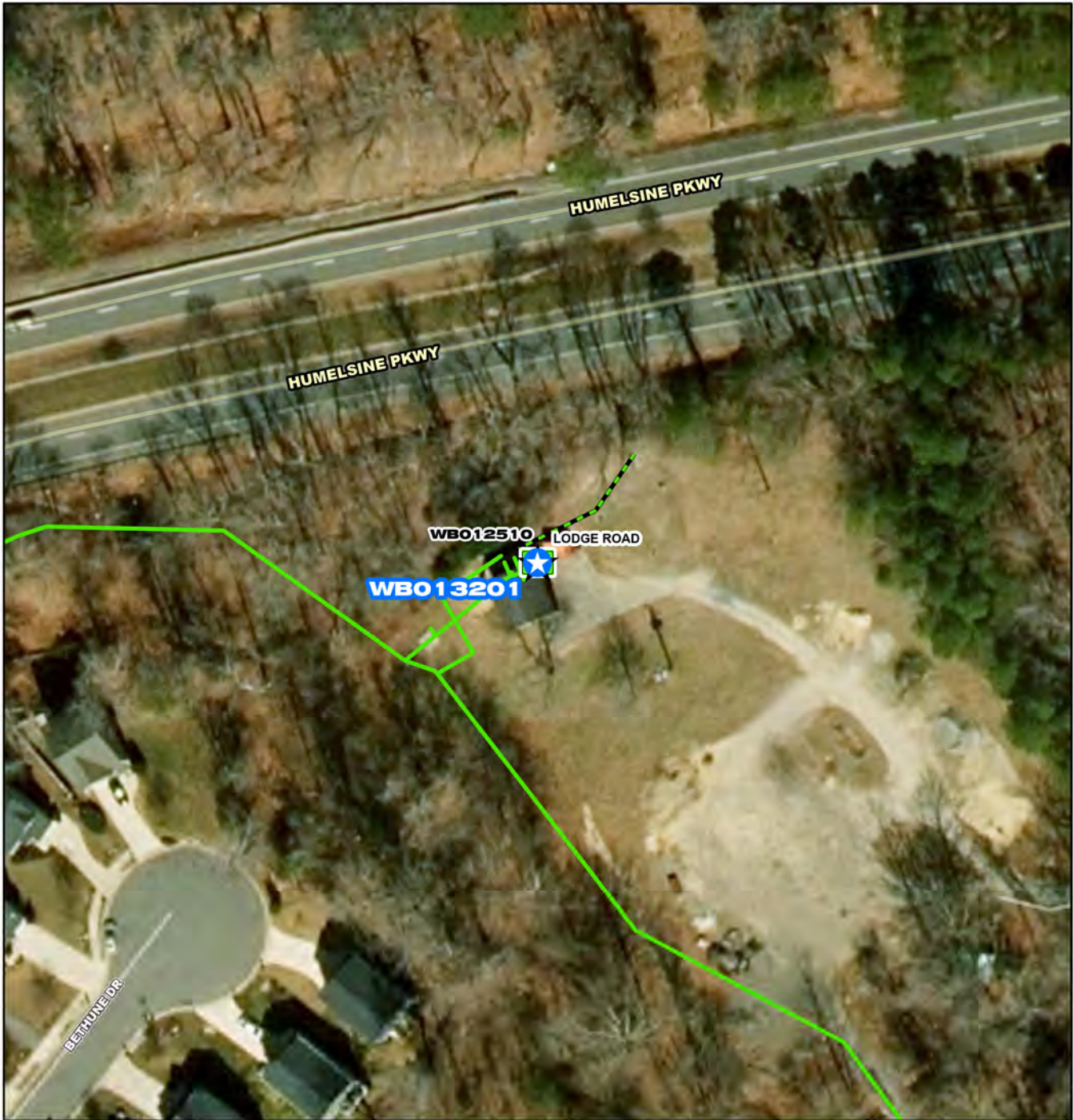
Contacts-Requesting Dept: Operations-Interceptors
 Contacts-Dept Contacts: Chris Stephan
 Contacts-Managing Dept: Engineering

PROPOSED SCHEDULE START DATE

PrePlanning	09/01/2027
PER	09/01/2028
Design Delay	09/01/2028
Design	09/01/2028
Bid Delay	09/01/2028
PreConstruction	09/01/2028
Construction	09/01/2028
Closeout	09/01/2028

COST ESTIMATE

Cost Estimate Class:	Class 5 (-20% to +100%)
PrePlanning	\$150,000
PER	\$0
Design	\$0
PreConstruction	\$0
Construction	\$0
Closeout	\$0
Est. Program Cost	\$150,000
Contingency Budget	\$0
Est. Project Costs	\$150,000



WBO13201

- 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
- HRSD Treatment Plant
- HRSD Pressure Reducing Station
- HRSD Pump Station

0 25 50 100 150 200 Feet

WBO 13201

Lodge Road Pump Station Extended Wet Well

N
W E
S

CIP Location

System: Williamsburg
 Type: Pump Stations

Driver Category: I&I Abatement-IP/RWWMP
 Project Phase: Proposed
 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
\$237	\$0	\$24	\$25	\$114	\$74	\$0	\$0	\$0	\$0	\$0	\$0

PROJECT DESCRIPTION

Increase Lodge Road Pump Station wet well storage volume by ~0.14 MG.

PROJECT JUSTIFICATION

As part of HRSD's Integrated Plan, a program of High Priority RWWMP Projects (HPP) will be constructed through 2030. These projects were selected based on their ability to provide the greatest environmental and human health benefits. Further, this \$200+ million investment will significantly reduce sanitary sewer overflow (SSO) volume at the 5-year level of service by 47 percent.

FUNDING TYPE

Funding Type: Revenue Bond

CONTACTS

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

PROPOSED SCHEDULE START DATE

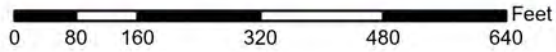
PrePlanning	07/01/2026
PER	02/01/2027
Design Delay	02/01/2028
Design	02/01/2028
Bid Delay	11/02/2028
PreConstruction	02/01/2029
Construction	06/01/2029
Closeout	01/01/2031

COST ESTIMATE

Cost Estimate Class:	Class 10
PrePlanning	\$14,811
PER	\$14,811
Design	\$29,623
PreConstruction	\$0
Construction	\$177,735
Closeout	\$0
Est. Program Cost	\$236,980
Contingency Budget	\$59,245
Est. Project Costs	\$296,225



- WBO 13202**
- 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
 - HRSD Treatment Plant
 - HRSD Pressure Reducing Station
 - HRSD Pump Station



WBO 13202

Williamsburg Crossing Pressure Reducing Station, Force Main and Storage Tank Improvements



System: Williamsburg
Type: Offline Storage

Driver Category: I&I Abatement-IP/RWWMP
Project Phase: Proposed
Regulatory: Integrated Plan-HPP 2

PROGRAM CASH FLOW PROJECTION (\$,000)

Prog Cost	Exp to Previous Year	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34	FY35	FY36
\$18,013	\$0	\$0	\$0	\$0	\$0	\$1,501	\$1,358	\$1,716	\$3,145	\$5,147	\$5,147

PROJECT DESCRIPTION

High Priority Project (HPP) Round 2 Project 1 consists of the following Regional Wet Weather Management Plan (RWWMP) Project ID and general description: WB-RWWMP-02 Williamsburg Crossing Pressure Reducing Station, Force Main and Storage Tank

PROJECT JUSTIFICATION

As part of the RWWMP submitted to the DEQ and EPA, HRSD developed an approach to recognize the highest-priority system improvements with the greatest relative environmental benefit. The result being the identification of High-Priority Projects (HPPs). Rounds 1 and 2 of High-Priority Projects were scheduled with consecutive 10-year implementation periods starting with Round 1 being completed between plan approval and 2030. Prior to commencement, HRSD will review the Round 2 projects to confirm that they are still expected to meet the desired result and confirm this in a check in with the EPA/DEQ. To modify the list of specific Round 2 HPP projects, HRSD will show that the revised set of projects will attain a minimum of the same percent reduction, or better.

FUNDING TYPE

Funding Type: Revenue Bond

CONTACTS

Contacts-Requesting Dept: Engineering
Contacts-Dept Contacts: John Dano
Contacts-Managing Dept: Engineering

PROPOSED SCHEDULE START DATE

PrePlanning	07/01/2030
PER	05/02/2031
Design Delay	05/03/2032
Design	05/03/2032
Bid Delay	11/02/2033
PreConstruction	11/02/2033
Construction	01/02/2034
Closeout	01/02/2037

COST ESTIMATE

Cost Estimate Class:	Class 10
PrePlanning	\$1,286,648
PER	\$1,286,648
Design	\$2,573,296
PreConstruction	\$0
Construction	\$15,439,777
Closeout	\$0
Est. Program Cost	\$20,586,369
Contingency Budget	\$5,146,592
Est. Project Costs	\$25,732,961

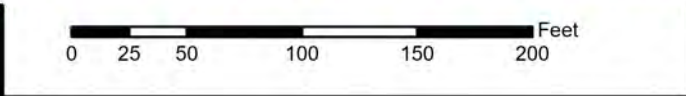


WBO13400

- 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
- HRSD Treatment Plant
- HRSD Pressure Reducing Station
- HRSD Pump Station



WBO 13400

Williamsburg Treatment Plant Headworks Influent and Effluent Pipe Rehabilitation

CIP Location

System: Williamsburg
Type: Pipelines

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
\$6,540	\$129	\$0	\$450	\$5,928	\$33	\$0	\$0	\$0	\$0	\$0	\$0

PROJECT DESCRIPTION

This project will include work to be completed at three locations upstream from the Williamsburg Treatment Plant headworks. The first location for this project will replace a non-operational main line valve at the Williamsburg Treatment Plant control valve vault (WB1001A-3). The second location will replace a section (approximately 350 linear feet) of the 30-inch prestressed concrete pressure pipe (PCCP) force main (NF-006) between the Kingsmill control valve vault and the Williamsburg Treatment Plant headworks. The third location will be the addition of six (6) 36-inch plug valves, two (2) 36-inch tees, and piping for two new emergency pump connections on each influent pipes just upstream the headworks building.

PROJECT JUSTIFICATION

Location 1: This phase will facilitate system feasibility for sending flow between the Williamsburg Treatment Plant and James River Treatment Plant service areas by reconstructing the interconnect for NF-007, NF-172, and NF-192. Location 2: The mainline valve WB1001A-3, the bypass for the Williamsburg Treatment Plant control valve vault, is non-operational. If a failure occurs at the control valve, WB1001A-3 is the only valve that could be used to avoid a catastrophic situation. Location 3: The replacement of approximately 350 linear feet of 36-inch PCCP is necessary due to potential conditional issues. This pipeline was installed in the 1970s and there was a period of time when the Williamsburg Treatment Plant injected chemicals into this section of piping. The interior condition of the piping is unknown, but the entirety of the upstream pipe was replaced in 2016. Location 4: In September 2020, the York River Treatment Plant experienced a catastrophic failure on the gravity pipeline that discharges from the grit removal building to the primary clarifiers. If an emergency pump connection were present at this location, the emergency repair would have been greatly simplified, less costly, and would have reduced the amount of sewage not recovered. These new emergency connections at the Williamsburg Treatment Plant could also be used for condition assessment work at the headworks and provide cost savings for future projects.

FUNDING TYPE

Funding Type: Revenue Bond

CONTACTS

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

PROPOSED SCHEDULE START DATE

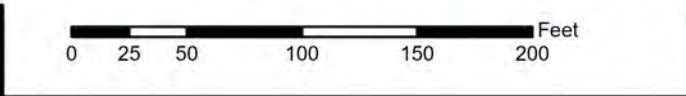
PrePlanning	07/01/2024
PER	07/09/2024
Design Delay	01/30/2025
Design	01/01/2028
Bid Delay	09/01/2028
PreConstruction	01/01/2029
Construction	03/01/2029
Closeout	06/01/2029

COST ESTIMATE

Cost Estimate Class:	Class 5 (-20% to +100%)
PrePlanning	\$0
PER	\$129,153
Design	\$600,000
PreConstruction	\$500,000
Construction	\$5,275,000
Closeout	\$36,000
Est. Program Cost	\$6,540,153
Contingency Budget	\$960,000
Est. Project Costs	\$7,500,153



- WBO13410**
- 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
 - HRSD Treatment Plant
 - HRSD Pressure Reducing Station
 - HRSD Pump Station



WBO13410

Ron Springs Drive Valve Improvements (W1004)

N
W E
S

CIP Location

System: Williamsburg
 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
\$5,900	\$0	\$0	\$521	\$5,347	\$32	\$0	\$0	\$0	\$0	\$0	\$0

PROJECT DESCRIPTION

This project will include work to be completed upstream from the Williamsburg Treatment Plant headworks on Ron Springs Road near the intersection of Ron Springs Road and Magruder Avenue. The work to be completed at this location will include removing six valves installing six new valves and reconfiguring the alignment of the existing piping.

PROJECT JUSTIFICATION

This project will restore system flexibility for sending flow between the Williamsburg Treatment Plant and James River Treatment Plant service areas by reconstructing the interconnect for NF-007 NF-172 and NF-192.

FUNDING TYPE

Funding Type: Revenue Bond

CONTACTS

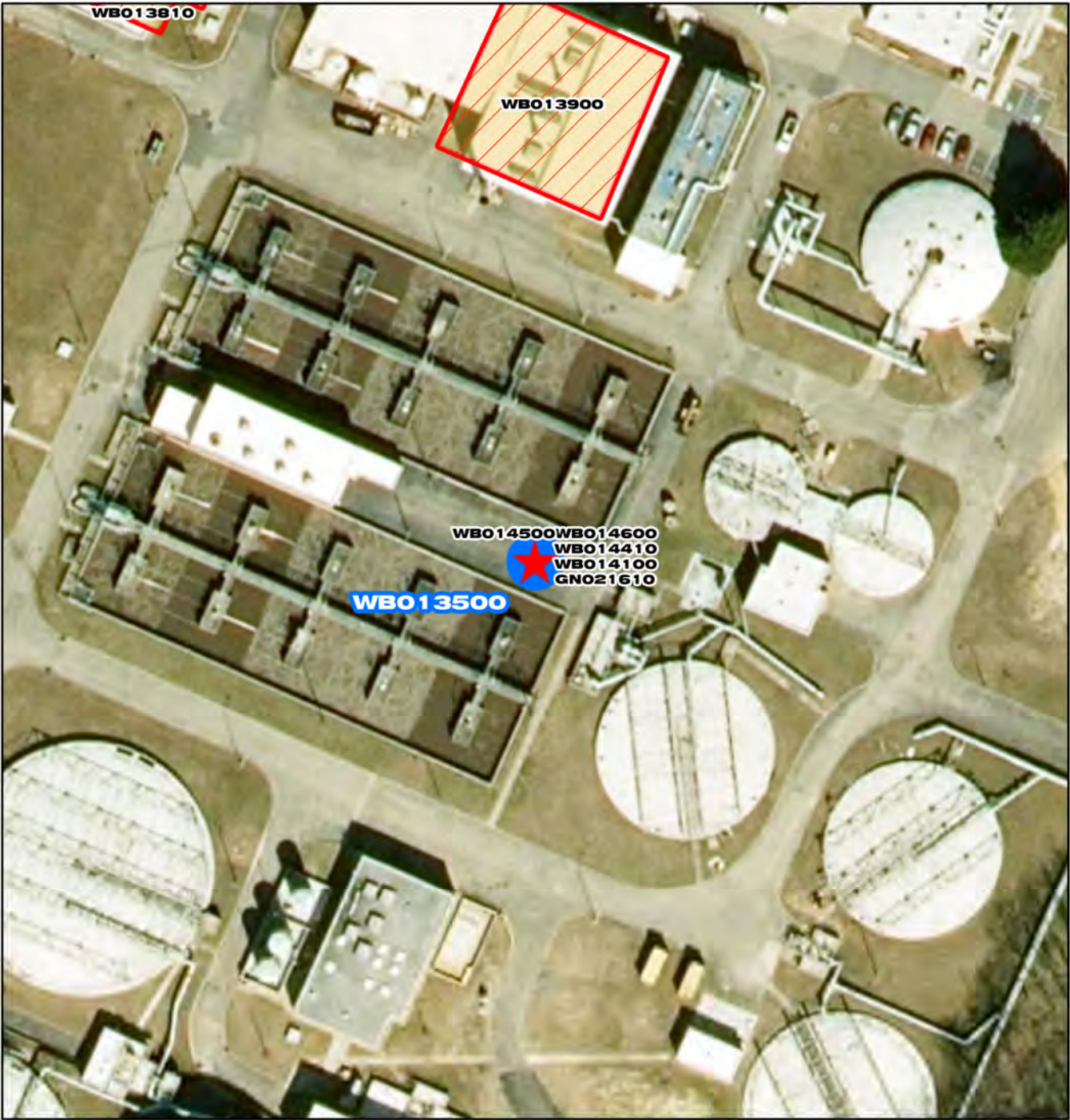
Contacts-Requesting Dept: Operations-Interceptors
 Contacts-Dept Contacts: Donald Jennings
 Contacts-Managing Dept: Engineering

PROPOSED SCHEDULE START DATE

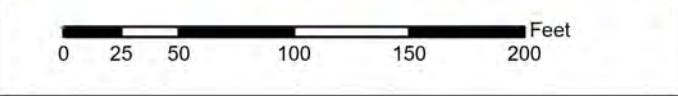
PrePlanning	07/01/2024
PER	07/01/2024
Design Delay	07/01/2024
Design	07/01/2025
Bid Delay	11/01/2025
PreConstruction	04/01/2028
Construction	06/01/2028
Closeout	06/01/2029

COST ESTIMATE

Cost Estimate Class:	Class 4 (-15% to +50%)
PrePlanning	\$0
PER	\$0
Design	\$0
PreConstruction	\$35,000
Construction	\$5,830,000
Closeout	\$35,000
Est. Program Cost	\$5,900,000
Contingency Budget	\$750,000
Est. Project Costs	\$6,650,000



- WBO13500**
- 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
 - HRSD Treatment Plant
 - HRSD Pressure Reducing Station
 - HRSD Pump Station



WBO 13500

**Williamsburg Treatment Plant
Intermediate Clarifier Wet Weather
and Phosphorus Removal System
Improvements**



System: Williamsburg
Type: Wastewater Treatment

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

PROGRAM CASH FLOW PROJECTION (\$,000)

Prog Cost	Exp to Previous Year	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34	FY35	FY36
\$14,093	\$1,080	\$2,060	\$8,200	\$2,747	\$7	\$0	\$0	\$0	\$0	\$0	\$0

PROJECT DESCRIPTION

This project will recommend process modifications, cost and an implementation schedule for wet weather flow management and phosphorus removal optimization by evaluating a method to convey intermediate clarifier effluent (ICE) to the chlorine contact tanks to manage secondary clarifier solids loading during wet weather conditions. This project will also evaluate options to convey and equally split ICE to each of four aeration tanks for improved phosphorus removal.

PROJECT JUSTIFICATION

Williamsburg Treatment Plant (WBTP) is currently rated at 45 million gallons per day (MGD) peak hydraulic per original design documents. In 2016, as part of the Regional Wet Weather Management Plan evaluation work, Brown and Caldwell performed hydraulic modeling of WBTP which showed that the plant is capable of handling 55 MGD from a hydraulic standpoint. The problem with the 55 MGD condition is that process modeling demonstrated that an additional secondary clarifier would be needed to avoid significant solids washout during peak flow events. Recent very high peak flow events, which resulted from interceptor system upgrades, have demonstrated that the conclusion of the 2016 evaluation was indeed accurate. This project provides a cost-effective solution for better managing wet weather flows and secondary clarifier solids loading at WBTP and avoids the construction of an additional secondary clarifier or storage tanks in the interceptor system. The intermediate clarifier effluent contains nitrate/nitrite, has a low chemical oxygen demand, and is high in dissolved oxygen. These wastewater characteristics degrade the performance of biological phosphorus removal when returned to its current location upstream of aeration tank anaerobic zones. Returning intermediate clarifier effluent to the first anoxic zone of each aeration tank will bypass the anaerobic zones and improve biological phosphorus removal stability. Improved biological phosphorus removal is needed to meet more stringent regulatory phosphorus removal requirements in 2028.

FUNDING TYPE

Funding Type: Revenue Bond

CONTACTS

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

PROPOSED SCHEDULE START DATE

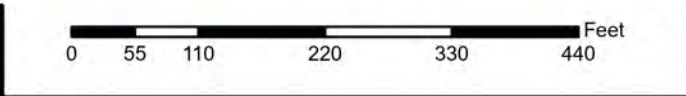
PrePlanning	08/10/2023
PER	02/03/2025
Design Delay	01/16/2026
Design	02/01/2026
Bid Delay	02/01/2027
PreConstruction	02/01/2027
Construction	05/01/2027
Closeout	11/01/2028

COST ESTIMATE

Cost Estimate Class:	Class 3 (-10% to +30%)
PrePlanning	\$232,125
PER	\$359,486
Design	\$1,171,339
PreConstruction	\$10,000
Construction	\$12,300,000
Closeout	\$20,000
Est. Program Cost	\$14,092,949
Contingency Budget	\$2,831,571
Est. Project Costs	\$16,924,520



- WBO 13700**
- 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
 - HRSD Treatment Plant
 - HRSD Pressure Reducing Station
 - HRSD Pump Station



WBO 13700

**North Trunk Interceptor Force Main
Part A (NF-002) Replacement**



System: Williamsburg
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
\$2,140	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$186	\$1,138	\$816

PROJECT DESCRIPTION

This project will replace approximately 1,200 liner feet of 24-inch ductile iron pipe. The specific section of piping to be replaced is located along Route 199 in Williamsburg, Virginia.

PROJECT JUSTIFICATION

During the Fiscal Year 2024, condition assessment work was completed on NF-002. It was discovered during this investigation that this section of NF-002 had excessive pipe wall loss due to interior and exterior corrosion. This discovery and the location of this section of the piping from station 008+00 to 020+00 are the basis for replacing the force main.

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	07/01/2033
PER	09/02/2033
Design Delay	03/02/2034
Design	03/02/2034
Bid Delay	12/04/2034
PreConstruction	12/04/2034
Construction	02/02/2035
Closeout	11/02/2035

COST ESTIMATE

Cost Estimate Class: Class 5 (-20% to +100%)	
PrePlanning	\$0
PER	\$90,156
Design	\$214,656
PreConstruction	\$5,366
Construction	\$1,824,576
Closeout	\$5,366
Est. Program Cost	\$2,140,120
Contingency Budget	\$429,312
Est. Project Costs	\$2,569,432



WBO13800

- 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
- HRSD Treatment Plant
- HRSD Pressure Reducing Station
- HRSD Pump Station

0 25 50 100 150 200 Feet

WBO 13800

Williamsburg Treatment Plant Distributed Control System Improvements

N
W E
S

CIP Location



System: Williamsburg
Type: Software and Technology

Driver Category: Performance Upgrades
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
\$5,323	\$0	\$0	\$135	\$421	\$4,361	\$407	\$0	\$0	\$0	\$0	\$0

PROJECT DESCRIPTION

This project will replace and install Distributed Control System (DCS) cabinets in the headworks and odor control station, and a Remote Input and Output (RIO) control panel in the Fat, Oil, and Grease building. Scope includes acquisition of equipment, installation, and programming.

PROJECT JUSTIFICATION

DCS and RIO panels were installed in the 1980s and early 1990s and need to be upgraded to current technology standards.

FUNDING TYPE

Funding Type: Revenue Bond

CONTACTS

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

PROPOSED SCHEDULE START DATE

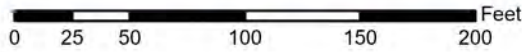
PrePlanning	11/01/2027
PER	11/01/2027
Design Delay	05/01/2028
Design	05/01/2028
Bid Delay	04/01/2029
PreConstruction	04/01/2029
Construction	08/02/2029
Closeout	08/02/2030

COST ESTIMATE

Cost Estimate Class:	Class 10
PrePlanning	\$0
PER	\$42,931
Design	\$504,442
PreConstruction	\$10,733
Construction	\$4,754,630
Closeout	\$10,733
Est. Program Cost	\$5,323,469
Contingency Budget	\$1,322,818
Est. Project Costs	\$6,646,286



- WBO13810**
- 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
 - HRSD Treatment Plant
 - HRSD Pressure Reducing Station
 - HRSD Pump Station



WBO13810

**Williamsburg Treatment Plant
Distributed Control System
Improvements (Gravity Thickener
Building)**



System: Williamsburg
Type: Software and Technology

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
\$613	\$0	\$0	\$613	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

PROJECT DESCRIPTION

This project will replace and install the Distributed Control System (DCS) cabinet in the gravity belt thickening building. Scope includes installation and programming. The DCS control panel has already been acquired due the deteriorated condition of the equipment. Operation of at least two gravity belt thickeners (GBT) will need to be maintained during the construction and connection phase of GBTs to the new control panel.

PROJECT JUSTIFICATION

DCS and RIO panels were installed in the 1980s and early 1990s and need to be upgraded to current technology standards. The gravity thickener building panel is in a deteriorated condition.

FUNDING TYPE

Funding Type: Revenue Bond

CONTACTS

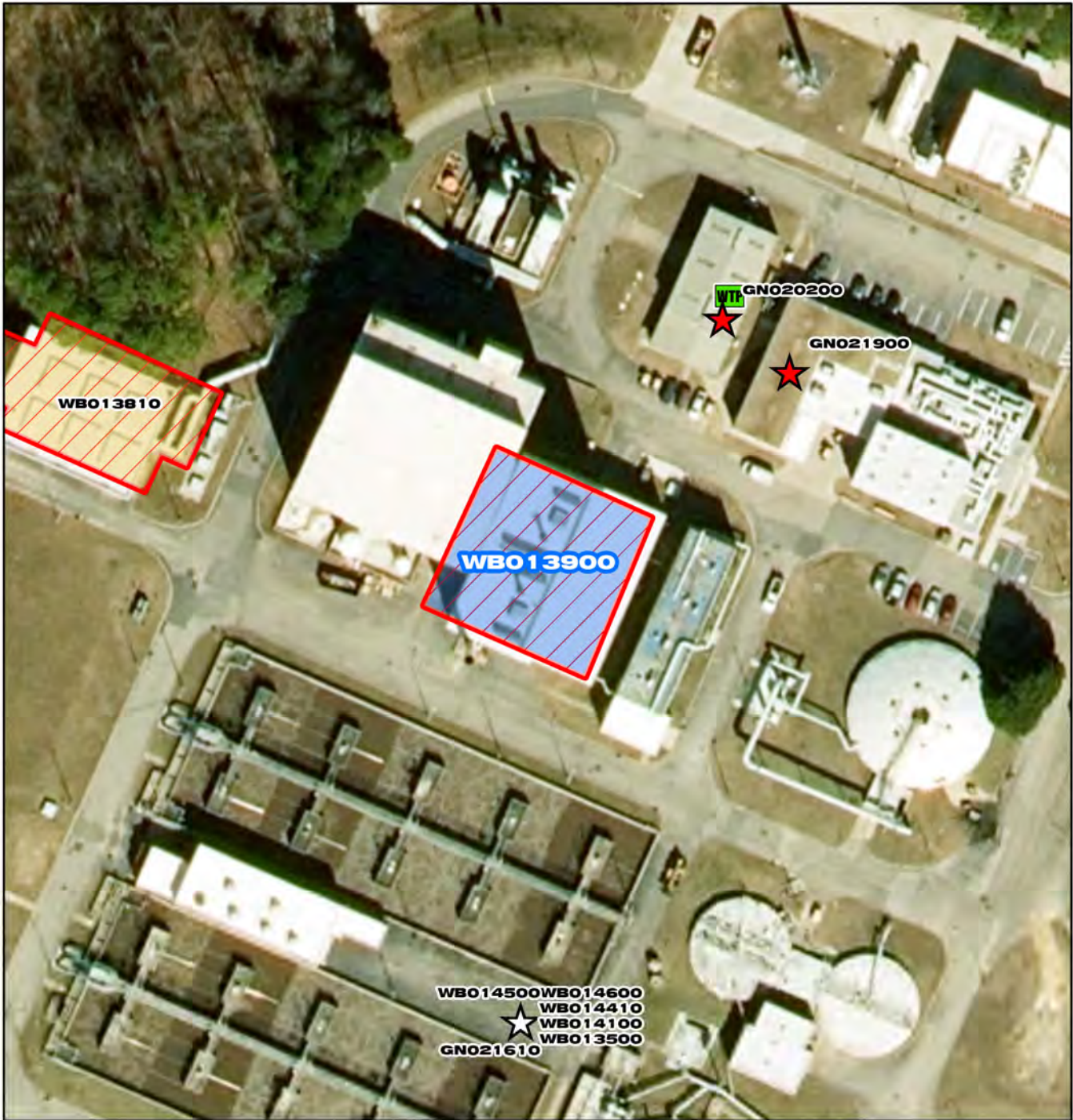
Contacts-Requesting Dept: Operations-Treatment
Contacts-Dept Contacts: Shawn Hawley
Contacts-Managing Dept: Operations-E&I

PROPOSED SCHEDULE START DATE

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

COST ESTIMATE

Cost Estimate Class:	Class 10
PrePlanning	\$0
PER	\$0
Design	\$0
PreConstruction	\$0
Construction	\$613,188
Closeout	\$0
Est. Program Cost	\$613,188
Contingency Budget	\$160,992
Est. Project Costs	\$774,180



WBO13900

- 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
- HRSD Treatment Plant
- HRSD Pressure Reducing Station
- HRSD Pump Station

0 25 50 100 150 200 Feet

WBO13900

Williamsburg Treatment Plant Solids Handling Improvements

N
W E
S

CIP Location

System: Williamsburg
 Type: Biosolids

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
\$63,771	\$1,455	\$3,529	\$4,816	\$19,000	\$19,000	\$15,854	\$116	\$0	\$0	\$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 CONTACTS

Funding Type: Revenue Bond

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

PROPOSED SCHEDULE START DATE COST ESTIMATE

PrePlanning	02/03/2025
PER	08/01/2025
Design Delay	07/01/2026
Design	07/01/2026
Bid Delay	12/01/2027
PreConstruction	02/01/2028
Construction	05/01/2028
Closeout	05/01/2031

Cost Estimate Class:	Class 5 (-20% to +100%)
PrePlanning	\$0
PER	\$1,455,323
Design	\$5,000,000
PreConstruction	\$179,053
Construction	\$57,000,000
Closeout	\$136,743
Est. Program Cost	\$63,771,119
Contingency Budget	\$6,219,200
Est. Project Costs	\$69,990,319

System: Williamsburg
 Type: Wastewater Treatment

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
\$33,625	\$0	\$0	\$9	\$1,993	\$3,280	\$3,086	\$8,848	\$8,848	\$7,498	\$62	\$0

PROJECT DESCRIPTION

This project will construct a solids receiving facility for accepting and ultimately disposing cake solids from non-incinerator plants and provide improvements to the Fat, Oil, and Grease (FOG) system. In addition, non-potable water (NPW) piping serving solids handling will be replaced. FOG improvements will include installation of a FOG receiving and screening station, replacement of carbon steel rakes, skimmers, troughs, and support structures with corrosion resistant materials, and modification existing pipes and tanks for redundancy.

PROJECT JUSTIFICATION

The solids receiving facility will provide a solids disposal alternative for HRSD's non-incinerator plants and reduce risks associated with contracted cake solids disposal. The Williamsburg Treatment Plant receives approximately 5.2 million gallons of FOG each year, representing almost half of all FOG received at HRSD treatment plants. The existing FOG system is comprised of gravity and flotation thickeners that were no longer needed for solids thickening but were not designed to meet current demands. Improvements will provide a more effective and efficient FOG system with the capacity to meet current and projected needs. The cast iron NPW piping system has experienced numerous breaks resulting in the loss of all solids handling operations.

FUNDING TYPE

Funding Type: Revenue Bond

CONTACTS

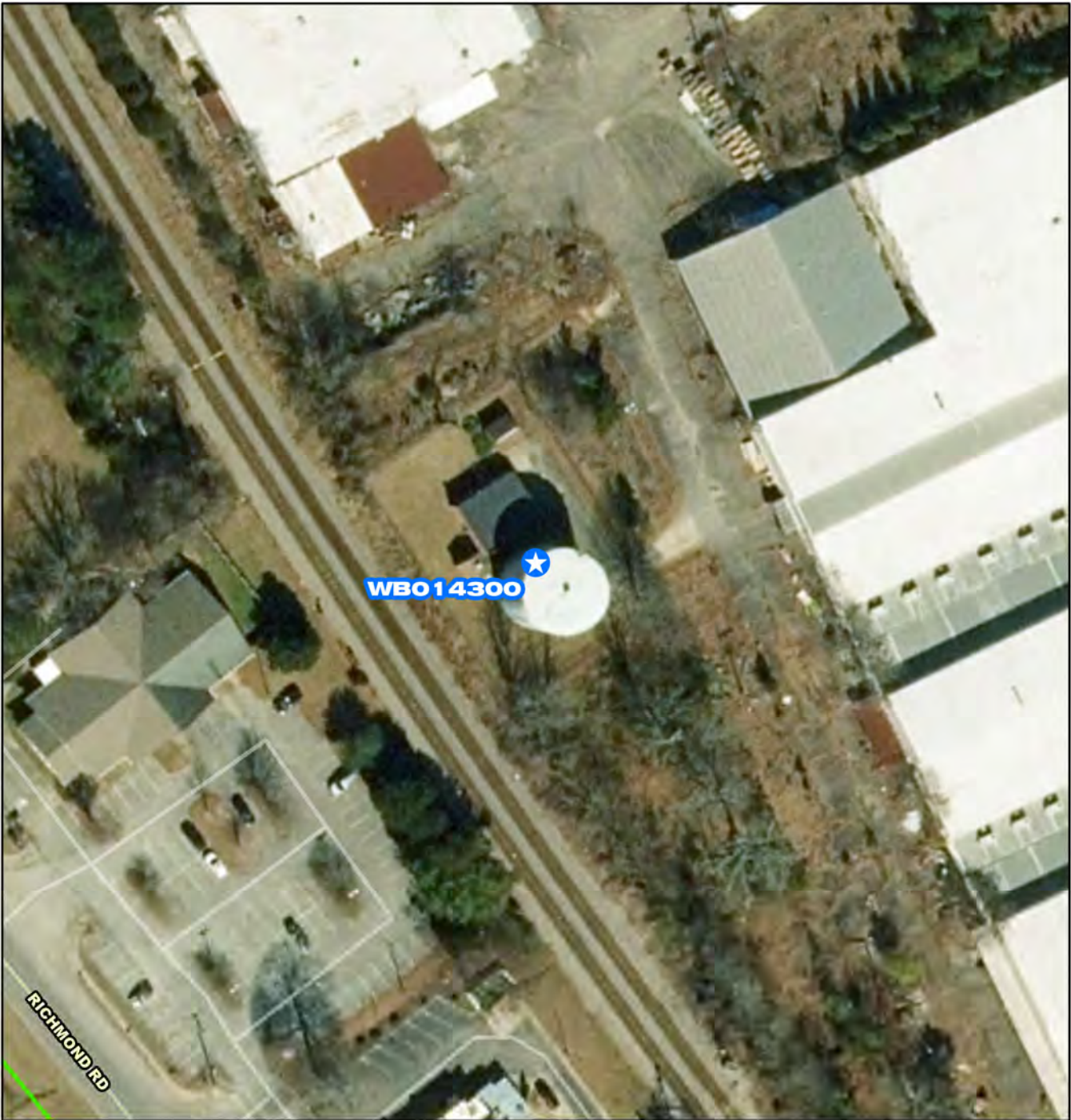
Contacts-Requesting Dept: Operations-Treatment
 Contacts-Dept Contacts: Robert Rutherford
 Contacts-Managing Dept: Engineering

PROPOSED SCHEDULE START DATE

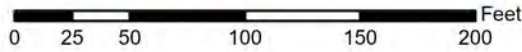
PrePlanning	02/01/2028
PER	08/02/2028
Design Delay	05/02/2029
Design	07/03/2029
Bid Delay	12/02/2030
PreConstruction	02/03/2031
Construction	05/02/2031
Closeout	05/03/2034

COST ESTIMATE

Cost Estimate Class:	Class 10
PrePlanning	\$10,733
PER	\$1,990,882
Design	\$4,647,164
PreConstruction	\$244,944
Construction	\$26,544,683
Closeout	\$187,065
Est. Program Cost	\$33,625,471
Contingency Budget	\$8,468,179
Est. Project Costs	\$42,093,650



- WBO14300**
- 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
 - HRSD Treatment Plant
 - HRSD Pressure Reducing Station
 - HRSD Pump Station



CIP Location



WBO 14300

Pottery Off-line Storage Facility



System: Williamsburg
 Type: Offline Storage

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
\$6,800	\$0	\$379	\$2,521	\$3,900	\$0	\$0	\$0	\$0	\$0	\$0	\$0

PROJECT DESCRIPTION

This project will repurpose the existing 500,000-gallon JCSA water tank by formally removing it from JCSA's potable water distribution system and constructing the facilities necessary to integrate the tank into the HRSD sanitary system for off-line storage. As part of this effort, JCSA will donate the existing tank, associated facilities, and property to HRSD. HRSD's capital investment will convert the tank into an off-line wet-weather storage asset serving the northern portion of the Williamsburg system, providing valuable capacity enhancements. To complete this conversion, the CIP will include approximately 550 feet of 12-inch connecting pipeline, interior tank recoating, structural tank upgrades, on-site electrical improvements, structural and site upgrades, underground piping, pumping equipment, SCADA/telemetry integration, and other site-specific improvements.

PROJECT JUSTIFICATION

HRSD and JCSA have a unique opportunity to deliver meaningful pressure relief and additional system capacity in the northern portion of the Williamsburg TP Service Area. JCSA has determined that its existing 500,000-gallon potable water tank is no longer required for drinking water distribution. Rather than investing capital funds to decommission and demolish the facility, JCSA has offered to transfer the tank and the associated property to HRSD at no cost, allowing the asset to be repurposed for capacity management for the regional sanitary sewer system. This portion of the Williamsburg system has historically experienced elevated pressure conditions and frequent sanitary sewer overflows (SSOs) during wet-weather events significantly below the 5-year level of service. By diverting peak wet-weather flows into this tank, HRSD can effectively reduce system pressures and help avoid JCSA SSOs during events below the 5-year threshold. Because the facility is already constructed, the cost per gallon of storage is substantially lower than building new infrastructure. Additionally, bringing this storage online will reduce the scale and cost of future improvements required to fully meet the 5-year level of service. Overall, this project represents a proactive, collaborative effort between HRSD and JCSA to deliver near-term capacity relief and improved system performance ahead of the final wet-weather solution.

FUNDING TYPE CONTACTS

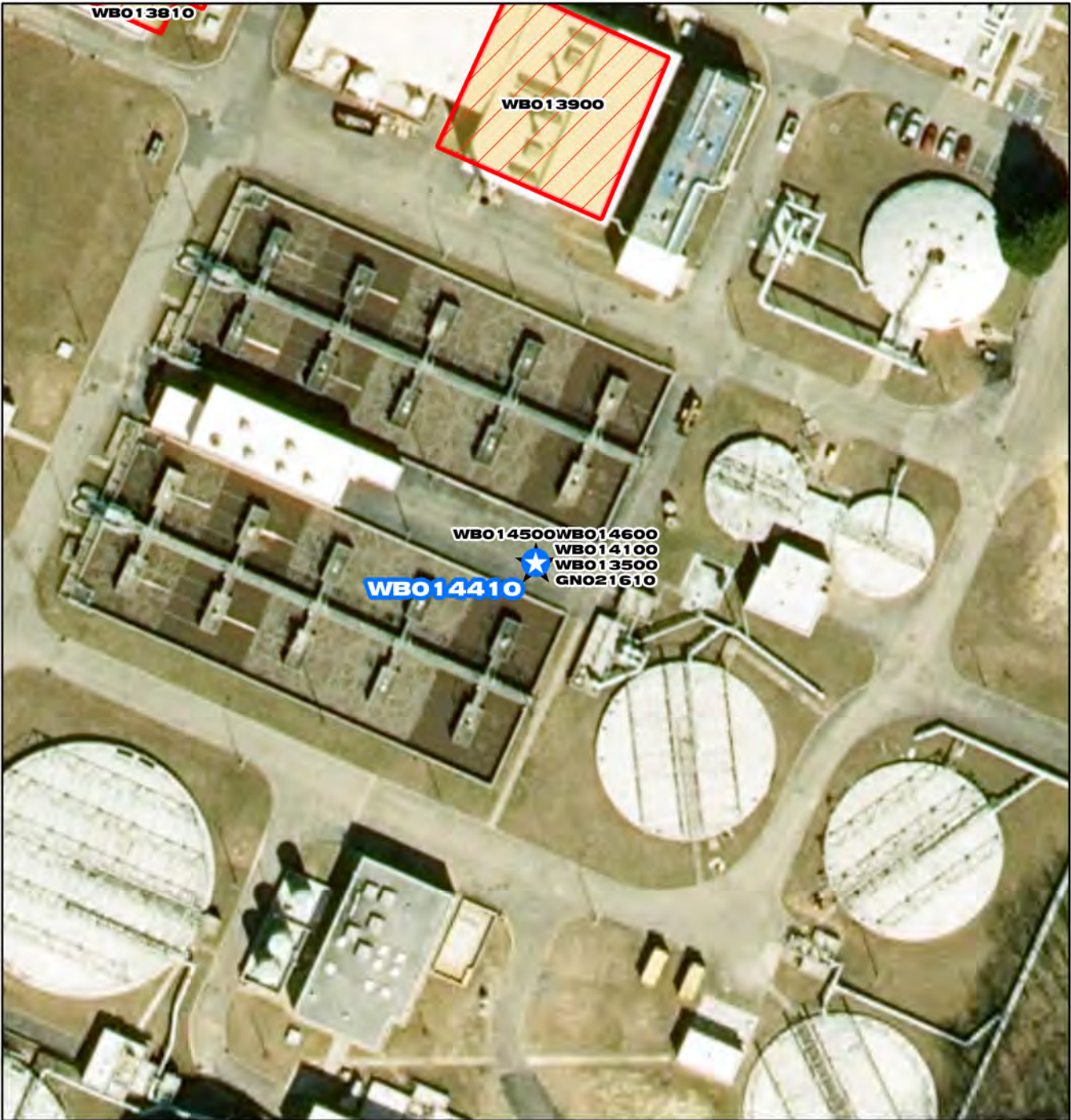
Funding Type: Revenue Bond

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

PROPOSED SCHEDULE START DATE COST ESTIMATE

PrePlanning	07/01/2026
PER	12/01/2026
Design Delay	06/01/2027
Design	06/01/2027
Bid Delay	01/01/2028
PreConstruction	01/01/2028
Construction	04/01/2028
Closeout	04/01/2029

Cost Estimate Class:	Class 5 (-20% to +100%)
PrePlanning	\$250,000
PER	\$0
Design	\$900,000
PreConstruction	\$500,000
Construction	\$5,000,000
Closeout	\$150,000
Est. Program Cost	\$6,800,000
Contingency Budget	\$1,200,000
Est. Project Costs	\$8,000,000

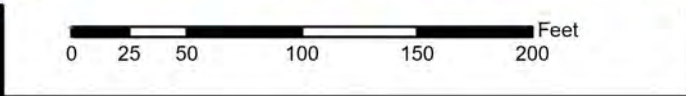


WBO14410

- 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
- HRSD Treatment Plant
- HRSD Pressure Reducing Station
- HRSD Pump Station



WBO14410

Williamsburg Treatment Plant Distributed Control System Improvements Study

CIP Location

System: Williamsburg
 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
\$100	\$0	\$100	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

PROJECT DESCRIPTION

The project is a study to properly scope, budget, and schedule Distributed Control System (DCS) equipment improvements at the Williamsburg Treatment Plant. This study scope will include evaluation of the replacement and installation of Distributed Control System (DCS)cabinets in the gravity belt thickening building, headworks, and odor control station, and a Remote Input and Output (RIO) control panel in the Fat, Oil, and Grease building. The study will consider elements related to acquisition of equipment, installation, programming, and maintenance of plant operations to inform updates to existing CIP projects WB013800 and WB013810.

PROJECT JUSTIFICATION

DCS and RIO panels were installed in the 1980s and early 1990s and need to be upgraded to current technology standards. One panel is in a deteriorated condition. A study is warranted to better scope, budget, and schedule the existing CIP projects.

FUNDING TYPE CONTACTS

Funding Type: Cash

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

PROPOSED SCHEDULE START DATE COST ESTIMATE

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 Class:
 PrePlanning \$100,000
 PER \$0
 Design \$0
 PreConstruction \$0
 Construction \$0
 Closeout \$0

Est. Program Cost \$100,000
 Contingency Budget \$0

Est. Project Costs \$100,000



System: Nansemond
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
\$1,491	\$0	\$0	\$0	\$0	\$0	\$1,491	\$0	\$0	\$0	\$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	07/01/2030
PER	07/01/2030
Design Delay	07/01/2030
Design	07/01/2030
Bid Delay	07/01/2030
PreConstruction	07/01/2030
Construction	07/01/2030
Closeout	07/01/2031

COST ESTIMATE

Cost Estimate Class: Class 5 (-20% to +100%)	
PrePlanning	\$0
PER	\$0
Design	\$0
PreConstruction	\$0
Construction	\$1,490,592
Closeout	\$0
Est. Program Cost	\$1,490,592
Contingency Budget	\$372,648
Est. Project Costs	\$1,863,240

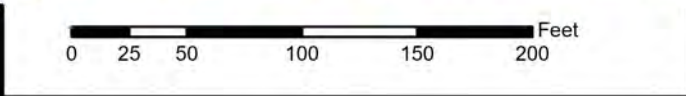


WBO14600

- 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
- HRSD Treatment Plant
- HRSD Pressure Reducing Station
- HRSD Pump Station



WBO 14600

**Williamsburg Treatment Plant
Erosion Mitigation**

N
W E
S

CIP Location

System: Williamsburg
 Type: Facilities, Buildings and Capital Equipment

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
\$2,380	\$0	\$141	\$155	\$961	\$1,116	\$7	\$0	\$0	\$0	\$0	\$0

PROJECT DESCRIPTION

This project will repair or replace various segments of five stormwater conveyance channels at the Williamsburg Treatment Plant. Where applicable, work will include new storm drain pipes, installation of riprap and best management practices (BMPs), redirecting of runoff to stabilized locations, tree clearing to accommodate access, stream channel restoration, and reforestation of disturbed areas.

PROJECT JUSTIFICATION

Severe erosion was identified at multiple segments of riprap, storm stormwater, conveyance channels resulting in degradation of surrounding soil and downstream sediment issues. Some areas are a threat to plant infrastructure and vegetation. Repairing the storm drain systems will provide continued compliance with the Virginia Erosion and Stormwater Management Act.

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	06/01/2025
PER	08/01/2026
Design Delay	04/01/2027
Design	04/01/2027
Bid Delay	08/01/2028
PreConstruction	08/01/2028
Construction	02/01/2029
Closeout	01/01/2030

COST ESTIMATE

Cost Estimate Class: Class 5 (-20% to +100%)	
PrePlanning	\$0
PER	\$102,024
Design	\$207,200
PreConstruction	\$20,405
Construction	\$2,040,480
Closeout	\$10,202
Est. Program Cost	\$2,380,311
Contingency Budget	\$595,078
Est. Project Costs	\$2,975,389



System: Williamsburg
Type: Offline Storage

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
\$200	\$0	\$200	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

PROJECT DESCRIPTION

This project is for a study to plan and begin the initial design efforts, including land siting and acquisition, for at least one storage tank to reduce upstream pressures in the Williamsburg Treatment Plant Service Area. Initial location is assumed to be on IFM NF-001 near Longhill Rd.

PROJECT JUSTIFICATION

JCSA is experiencing high pressures in the HRSD system during rain events which cause SSOs in the locality system. Additionally, there are large differences between dry and wet weather operating conditions in the HRSD interceptor system that make it difficult to design a pump station to handle the large variations in pressures. This initial offline storage tank will reduce the pressure in the upper and thereby reduce some of the SSO's that occur in the upper portions of the Williamsburg Treatment Plant Service Area. This first tank will also decrease the pressure range for all the locality pump stations upstream of the tank improving operations.

FUNDING TYPE

Funding Type: Cash

CONTACTS

Contacts-Requesting Dept: Engineering
Contacts-Dept Contacts: Robert Martz
Contacts-Managing Dept: Engineering

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 \$200,000
PER \$0
Design \$0
PreConstruction \$0
Construction \$0
Closeout \$0

Est. Program Cost \$200,000
Contingency Budget \$0

Est. Project Costs \$200,000