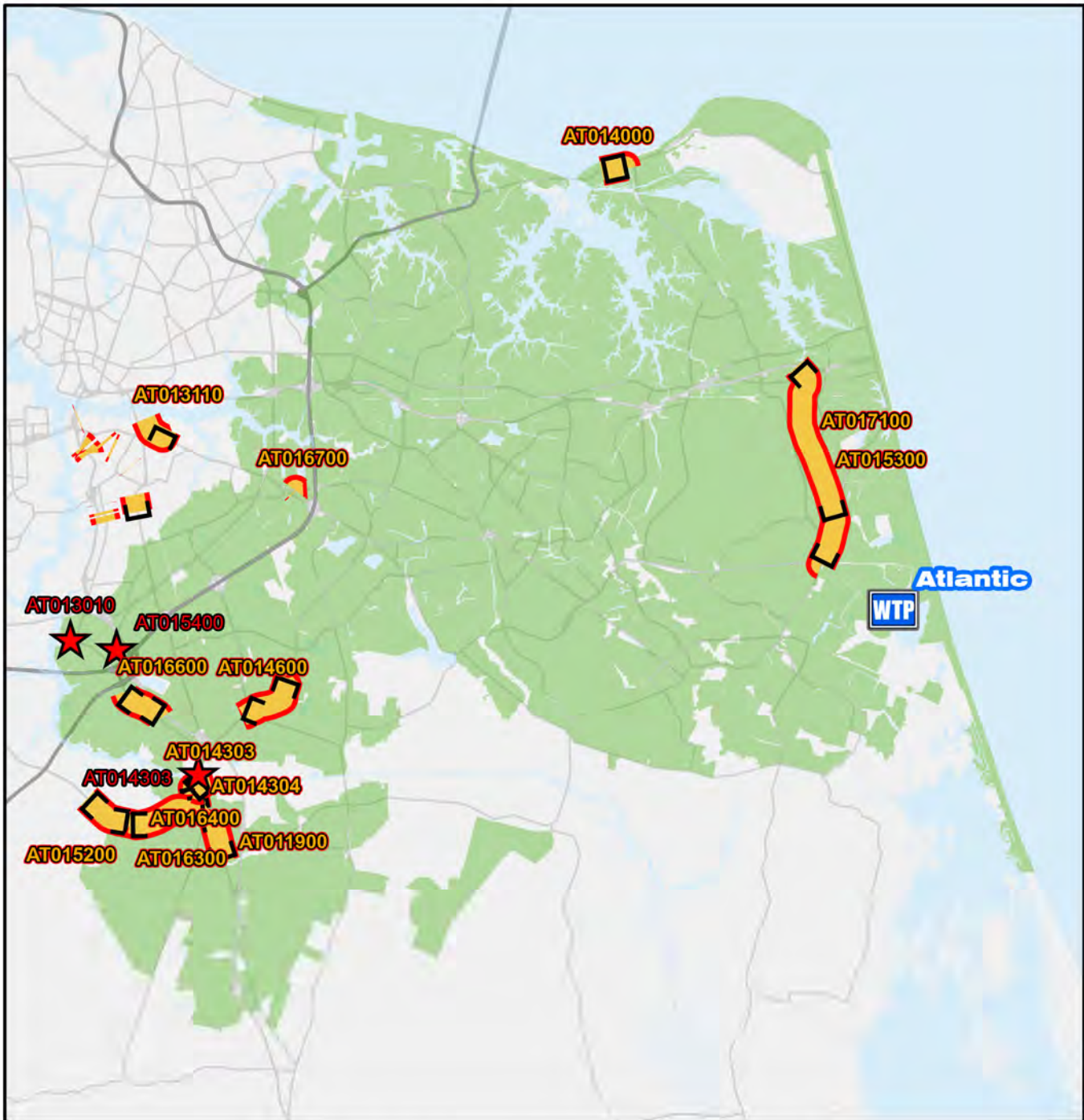




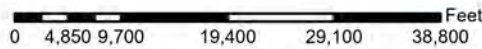
Atlantic Treatment Plant



Legend

WTP Atlantic Treatment

- 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



**Atlantic Treatment Plant Service Area
CIP Projects**

Treatment Plant Projects

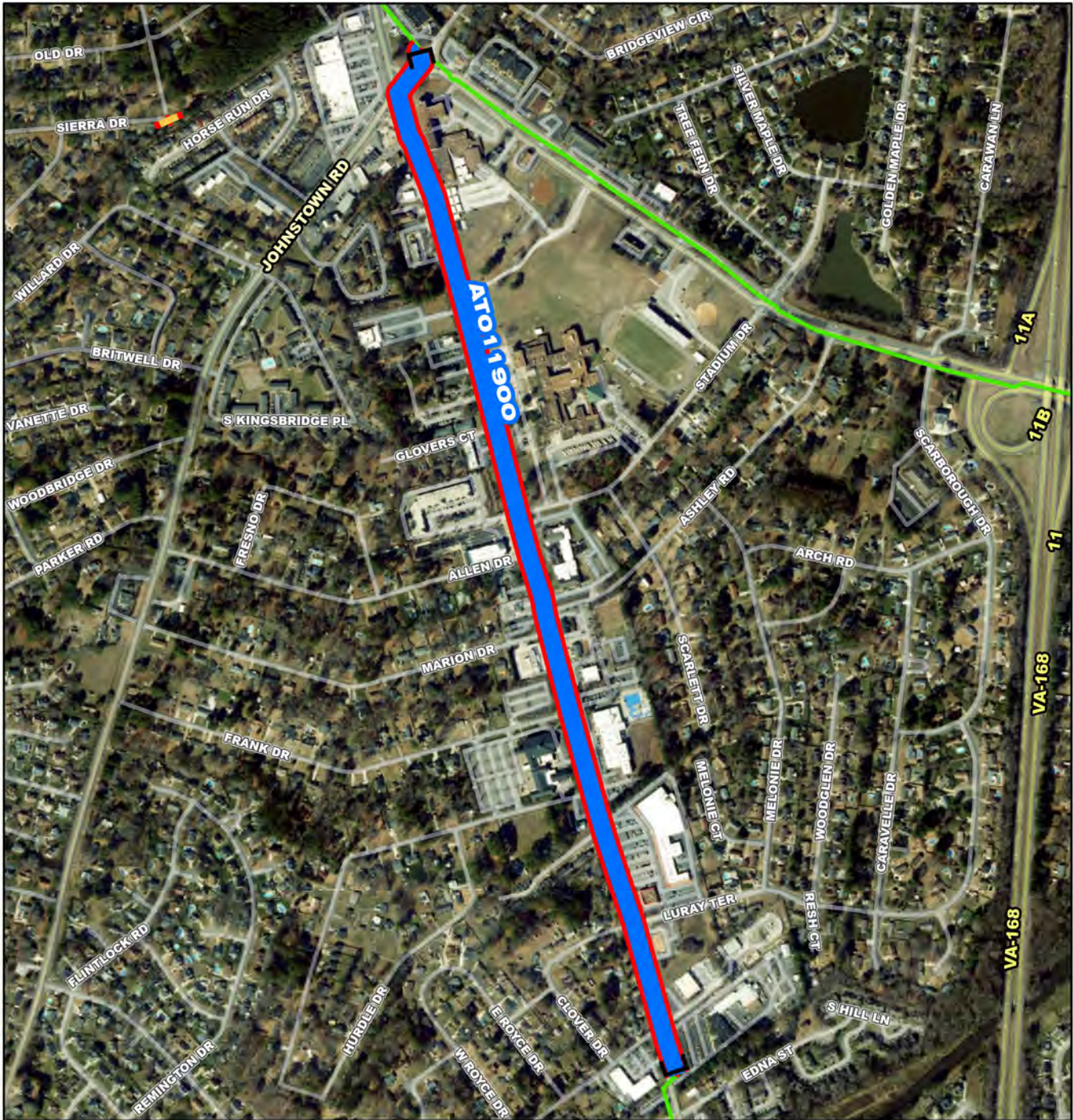
AT012920
AT016000
GN017900



CIP Location



Service Area

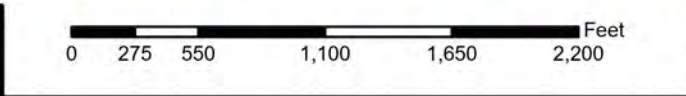


ATO11900

- 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



ATO 11900

Great Bridge Interceptor Extension 16-Inch Replacement

CIP Location

System: Atlantic
 Type: Pipelines

Driver Category: I&I Abatement-Rehabilitation Plan
 Project Phase: Design
 Regulatory: Rehab Plan Phase Two

PROGRAM CASH FLOW PROJECTION (\$,000)

Prog Cost	Exp to Previous Year	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34	FY35	FY36
\$19,345	\$700	\$17,082	\$1,563	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

PROJECT DESCRIPTION

This project will address eleven (11) full circle clamps and approximately 5,585 linear feet of pipe on the 16-inch asbestos concrete Great Bridge Interceptor Extension Force Main (SF-184) along Battlefield Boulevard in Chesapeake. The 16-inch pipe will be replaced with 24-inch pipe.

PROJECT JUSTIFICATION

This project will address stress cracks and coupling failures. There are eleven (11) documented full circle clamps used in the initial installation instead of standard adapters and couplings. The clamp hardware poses a material risk of failure. The main line valve, AT-1161-2, needs to be replaced due to inability to get spare parts. Since 1989, there have been six (6) documented failures along this force main. The most recent was in September of 2016. Condition assessment activities completed in early 2017 indicated that only the full circle clamps and the southernmost portion of this force main are a material risk of failure. However, the pipe also requires upsizing to allow industrial flows to be shifted to the Atlantic Treatment Plant in order to protect the Nansemond Treatment Plant's SWIFT facility.

FUNDING TYPE

Funding Type: Revenue Bond

CONTACTS

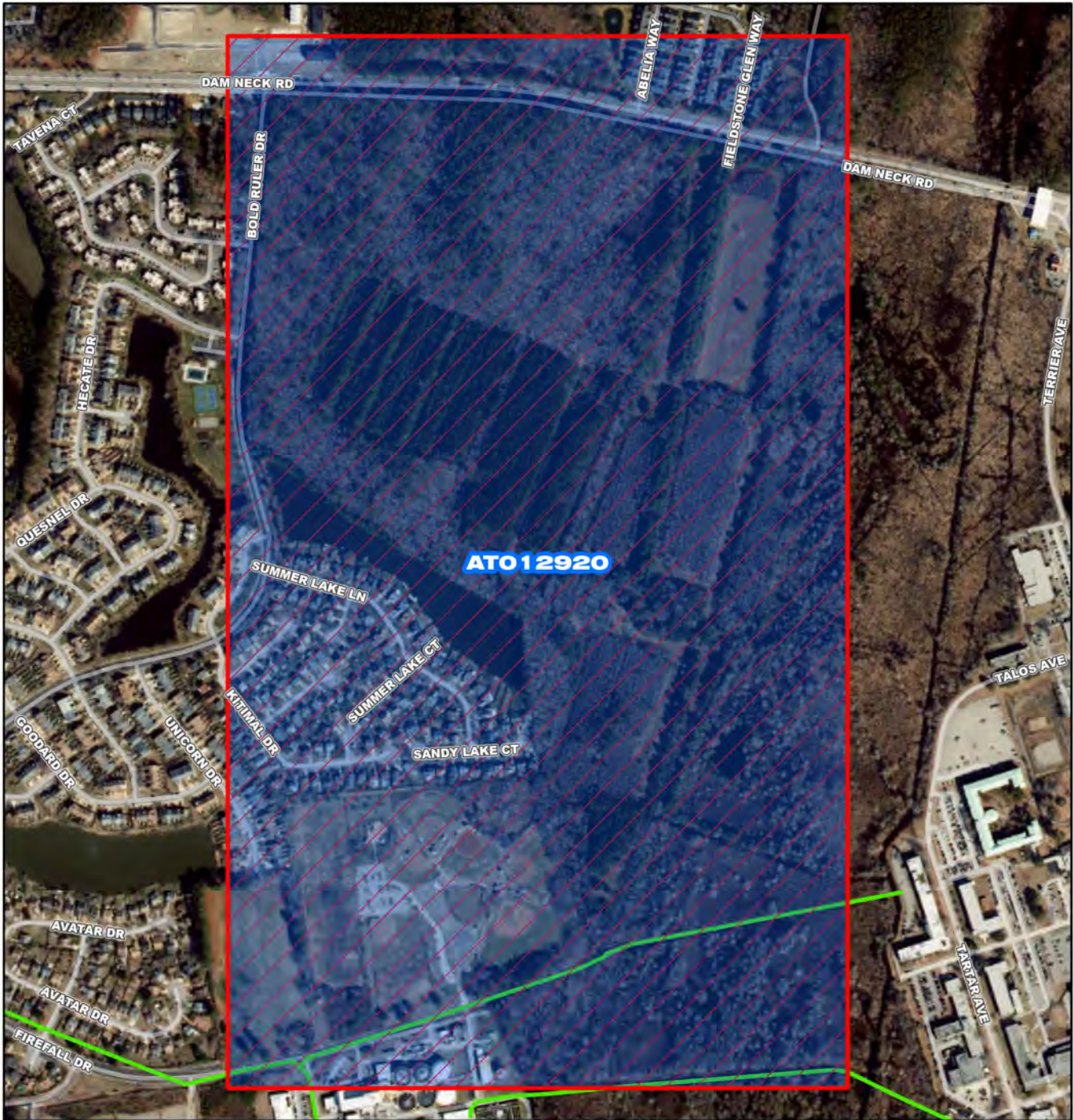
Contacts-Requesting Dept: Operations-Interceptors
 Contacts-Dept Contacts: Nick Taschner
 Contacts-Managing Dept: Engineering

PROPOSED SCHEDULE START DATE

PrePlanning	03/01/2021
PER	06/23/2021
Design Delay	01/14/2022
Design	05/01/2022
Bid Delay	04/01/2026
PreConstruction	04/01/2026
Construction	08/01/2026
Closeout	08/01/2027

COST ESTIMATE

Cost Estimate Class:	Class 2 (-5% to +20%)
PrePlanning	\$0
PER	\$198,740
Design	\$490,325
PreConstruction	\$15,000
Construction	\$18,630,446
Closeout	\$10,000
Est. Program Cost	\$19,344,511
Contingency Budget	\$1,280,000
Est. Project Costs	\$20,624,511

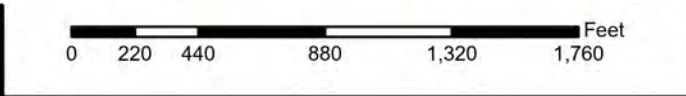


ATO 12920

- 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



ATO 12920

**Atlantic Treatment Plant Access
Road Extension**

N
W E
S

CIP Location

System: Atlantic
 Type: Facilities, Buildings and Capital Equipment

Driver Category: Performance Upgrades
 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
\$25,668	\$1,041	\$0	\$0	\$0	\$1,285	\$1,007	\$11,192	\$11,051	\$92	\$0	\$0

PROJECT DESCRIPTION

This project is to provide a second vehicle access road into the Atlantic Treatment Plant. The new private two lane road will connect Firefall Drive to Dam Neck Road.

PROJECT JUSTIFICATION

The rerouting of flow from the Chesapeake Elizabeth Treatment Plant (CETP) to the Atlantic Treatment Plant will increase bio-solids production; consequently, truck traffic will increase. In addition, the new Fats, Oils, and Grease (FOG) Receiving Facility will result in an increase of truck traffic. Rerouting operations and construction related truck traffic from the residential streets adjacent to the Atlantic Treatment Plant will improve public safety and HRSDs public image. A new access road would also facilitate construction and operation of an expansion to the thermal hydrolysis process.

FUNDING TYPE

Funding Type: Revenue Bond

CONTACTS

Contacts-Requesting Dept: Operations-Treatment
 Contacts-Dept Contacts: Rebecca Currall
 Contacts-Managing Dept: Engineering

PROPOSED SCHEDULE START DATE

PrePlanning	07/02/2018
PER	08/01/2018
Design Delay	07/01/2026
Design	07/01/2029
Bid Delay	03/01/2031
PreConstruction	06/01/2031
Construction	08/01/2031
Closeout	06/01/2033

COST ESTIMATE

Cost Estimate Class:	Class 5 (-20% to +100%)
PrePlanning	\$0
PER	\$205,000
Design	\$2,978,352
PreConstruction	\$300,000
Construction	\$22,084,800
Closeout	\$100,000
Est. Program Cost	\$25,668,152
Contingency Budget	\$5,522,000
Est. Project Costs	\$31,190,152

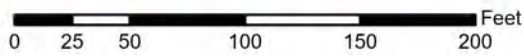


ATO13010

- 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



ATO13010

Washington District Pump Station Replacement



CIP Location



System: Atlantic
 Type: Pump Stations

Driver Category: Performance Upgrades
 Project Phase: Construction
 Regulatory: Rehab Plan Phase Two

PROGRAM CASH FLOW PROJECTION (\$,000)

Prog Cost	Exp to Previous Year	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34	FY35	FY36
\$15,801	\$8,408	\$7,393	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

PROJECT DESCRIPTION

This project will construct a new Washington District Pump Station (PS) in order to meet the 100-year flood plain and will need to raise the finished floor in order to meet this until 2070 at elevation 11 ft being the finished floor. The PS will be on the same property owned by HRSD.

PROJECT JUSTIFICATION

This pump station is part of the Environmental Protection Agency (EPA) Rehabilitation Action Plan Phase II and is due May 5, 2027.

FUNDING TYPE

Funding Type: Revenue Bond

CONTACTS

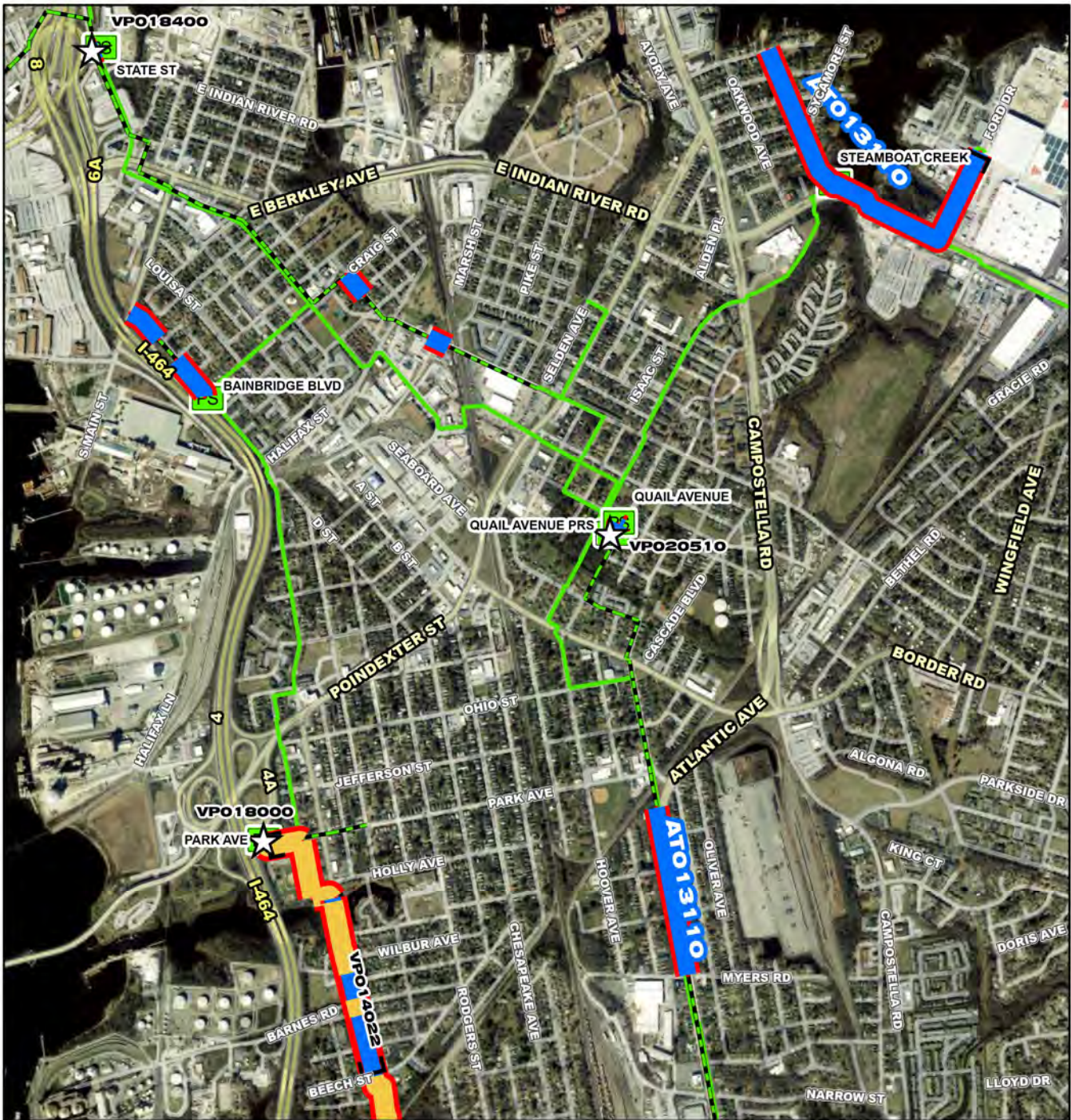
Contacts-Requesting Dept: Engineering
 Contacts-Dept Contacts: Phil Hubbard
 Contacts-Managing Dept: Engineering

PROPOSED SCHEDULE START DATE

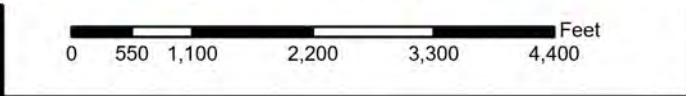
PrePlanning	
PER	06/01/2021
Design Delay	10/06/2021
Design	04/01/2022
Bid Delay	10/06/2021
PreConstruction	04/01/2024
Construction	07/01/2025
Closeout	04/01/2027

COST ESTIMATE

Cost Estimate Class:	Class 1 (-3% to +15%)
PrePlanning	\$0
PER	\$189,458
Design	\$819,231
PreConstruction	\$16,482
Construction	\$14,626,196
Closeout	\$150,000
Est. Program Cost	\$15,801,367
Contingency Budget	\$1,500,000
Est. Project Costs	\$17,301,367



- AT013110**
- 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



AT013110

South Norfolk Area Gravity Sewer Improvements, Phase II





System: Atlantic
Type: Pipelines

Driver Category: I&I Abatement-Rehabilitation Plan
Project Phase: Construction
Regulatory: Rehab Plan Phase Two

PROGRAM CASH FLOW PROJECTION (\$,000)

Prog Cost	Exp to Previous Year	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34	FY35	FY36
\$15,890	\$15,313	\$577	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

PROJECT DESCRIPTION

This project will rehabilitate and/or replace gravity sewer segments and manholes in the South Norfolk area of Chesapeake. Refer to the Rehab Plan for full listing of all affected assets. The pipeline under I-264 in South Norfolk adjacent to State Street Pump Station was addressed under a separate CIP project, AT013100 South Norfolk Area Gravity Sewer Improvements, Phase I (Interstate Crossing).

PROJECT JUSTIFICATION

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

FUNDING TYPE

Funding Type: Revenue Bond

CONTACTS

Contacts-Requesting Dept: Operations-Interceptors
Contacts-Dept Contacts: Nick Taschner
Contacts-Managing Dept: Engineering

PROPOSED SCHEDULE START DATE

PrePlanning	02/03/2020
PER	08/24/2020
Design Delay	09/28/2021
Design	09/28/2021
Bid Delay	10/15/2023
PreConstruction	11/15/2023
Construction	02/01/2025
Closeout	08/01/2026

COST ESTIMATE

Cost Estimate Class: Class 1 (-3% to +15%)	
PrePlanning	\$0
PER	\$185,360
Design	\$582,730
PreConstruction	\$19,270
Construction	\$15,102,580
Closeout	\$0
Est. Program Cost	\$15,889,940
Contingency Budget	\$2,437,500
Est. Project Costs	\$18,327,440



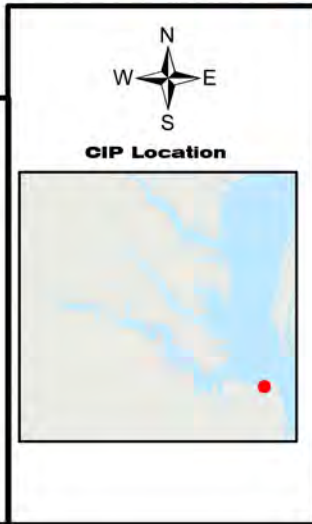
- ATO 14000**
- Project Interceptor Line
 - Project Interceptor Point
 - Project Location Point
 - Project Area
- Legend**
- CIP Interceptor Point
 - CIP Pump Station Point
 - CIP Interceptor Line
 - CIP Abandonment
 - CIP Project Area
 - HRSD Interceptor Force Main
 - HRSD Interceptor Gravity Main
 - HRSD Treatment Plant
 - HRSD Pressure Reducing Station
 - HRSD Pump Station

Feet

0 165 330 660 990 1,320

ATO 14000

Lynnhaven-Great Neck IFM (SF-021) Relocation



System: Atlantic
 Type: Pipelines

Driver Category: Relocation
 Project Phase: Construction
 Regulatory: None

PROGRAM CASH FLOW PROJECTION (\$,000)

Prog Cost	Exp to Previous Year	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34	FY35	FY36
\$3,743	\$358	\$3,385	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

PROJECT DESCRIPTION

The project will abandon the existing 16-inch HRSD Asbestos Cement (AC) Force Main (FM), SF-021, in E. Shore Drive and SF-022 to the north of Valve Guide CE5030. The total length to be abandoned is approximately 3,600 linear feet (LF). Service to City of Virginia Beach (City) Pump Station 200 will be provided by a new force main installed in the Shore Drive corridor as part of the City's Shore Drive Corridor Improvements. The City will manage the design and construction of the new force main and will assume ownership of this facility and all associated appurtenances. This project also includes the relocation of valve complex CE5030 due to a proposed physical conflict.

PROJECT JUSTIFICATION

During the Lesner Bridge replacement, HRSD abandoned the force main to the west leaving only a single City sewer pump station utilizing this line. Due to multiple physical conflicts with proposed storm drainage infrastructure, it is in the best interest of HRSD and the City to replace the existing force main with a new and appropriately sized pipe given the changed system conditions. The construction of this force main (~3,200 LF) would be at the discretion of the City. HRSD will enter a cost sharing agreement to fund the new sewer infrastructure under the condition that it will be dedicated to Virginia Beach Department of Public Utilities (DPU) for ownership, operation, and maintenance.

FUNDING TYPE

Funding Type: Cash

CONTACTS

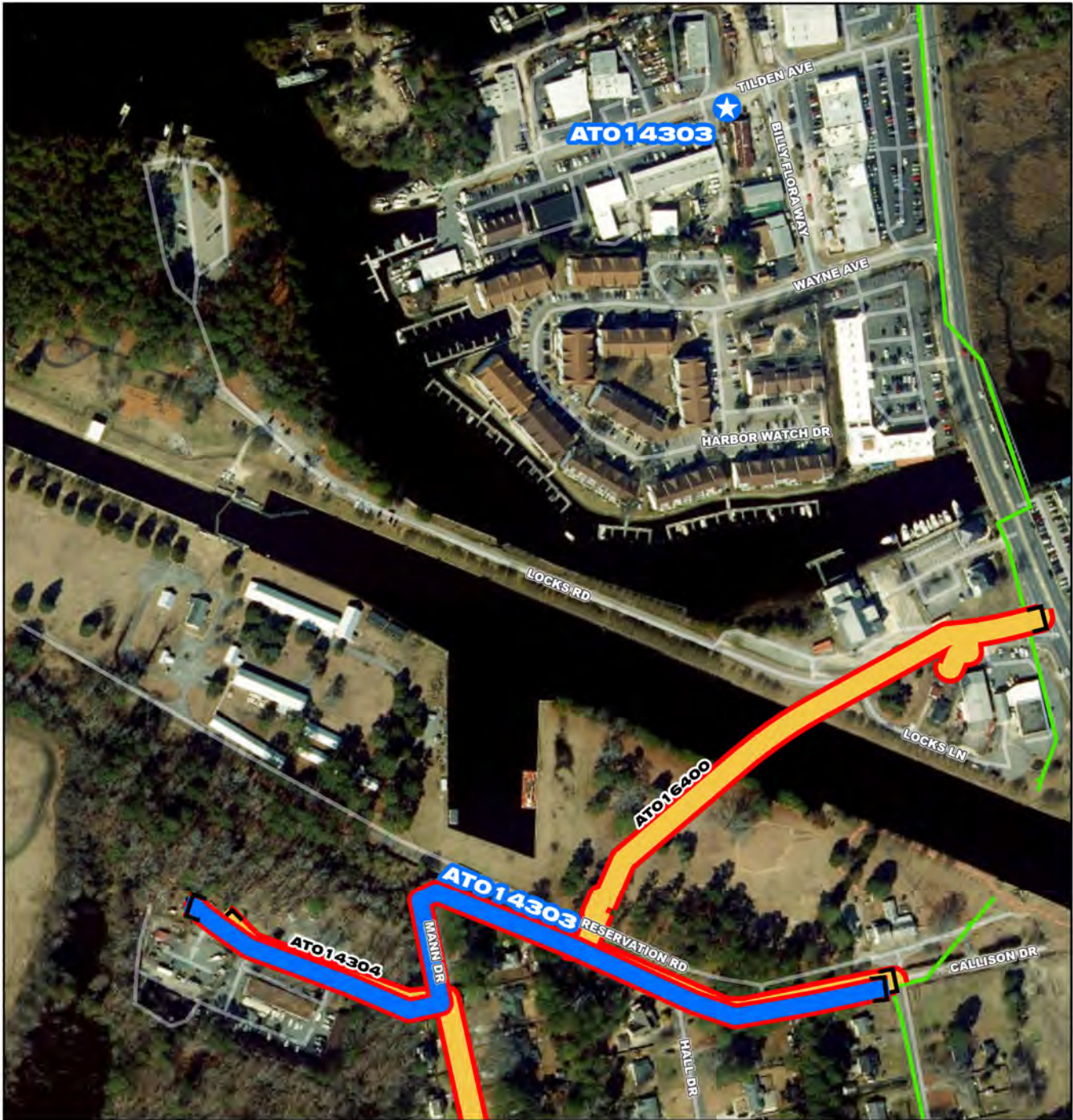
Contacts-Requesting Dept: Engineering
 Contacts-Dept Contacts: Shirley Smith
 Contacts-Managing Dept: Engineering

PROPOSED SCHEDULE START DATE

PrePlanning	06/01/2017
PER	06/29/2017
Design Delay	08/18/2017
Design	04/27/2018
Bid Delay	10/01/2024
PreConstruction	10/11/2024
Construction	04/01/2025
Closeout	05/01/2026

COST ESTIMATE

Cost Estimate Class:	Class 1 (-3% to +15%)
PrePlanning	\$0
PER	\$0
Design	\$27,063
PreConstruction	\$0
Construction	\$3,697,450
Closeout	\$18,487
Est. Program Cost	\$3,743,000
Contingency Budget	\$369,745
Est. Project Costs	\$4,112,745



ATO14303

- 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

0 110 220 440 660 880 Feet

ATO 14303

Chesapeake Pump Station Capacity Improvements (AT-HPP-01C)

N
W E
S

CIP Location



System: Atlantic
 Type: Locality and Private Property

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
\$56	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$19	\$37

PROJECT DESCRIPTION

Chesapeake Pump Station Upgrade PS072; Install 1,930 linear feet (LF) of 10-inch discharge force main downstream of Chesapeake Pump Station 067 (114 Mann Drive).

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

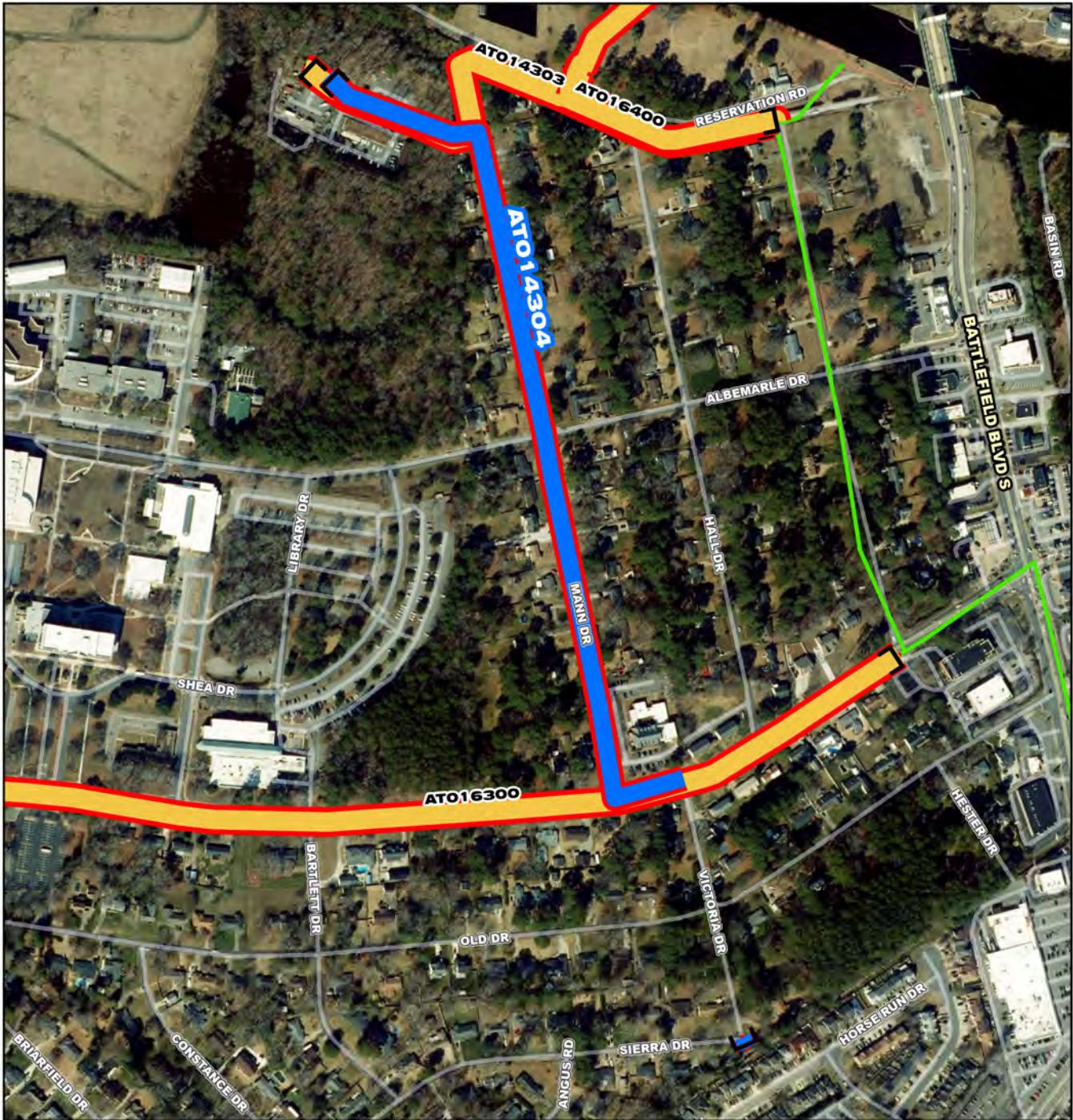
Contacts-Requesting Dept: Engineering
 Contacts-Dept Contacts: John Dano
 Contacts-Managing Dept: Engineering

PROPOSED SCHEDULE START DATE

PrePlanning	01/03/2028
PER	11/02/2034
Design Delay	11/02/2035
Design	11/02/2035
Bid Delay	11/02/2037
PreConstruction	11/02/2037
Construction	01/04/2038
Closeout	01/02/2041

COST ESTIMATE

Cost Estimate Class:	Class 10
PrePlanning	\$0
PER	\$29,058
Design	\$80,938
PreConstruction	\$22,689
Construction	\$973,382
Closeout	\$0
Est. Program Cost	\$1,106,066
Contingency Budget	\$243,345
Est. Project Costs	\$1,349,412

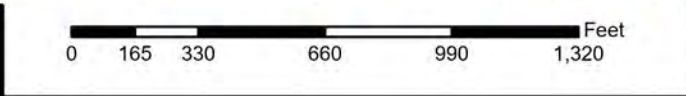


ATO14304

- 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



ATO 14304

Chesapeake Gravity Main Capacity Improvements

N
W E
S

CIP Location

System: Atlantic
 Type: Locality and Private Property

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
\$412	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$103	\$155	\$155

PROJECT DESCRIPTION

CHES-067 gravity main capacity improvements including installing 280 LF of 12" GM & 2,760 LF of 16" GM.

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 CONTACTS

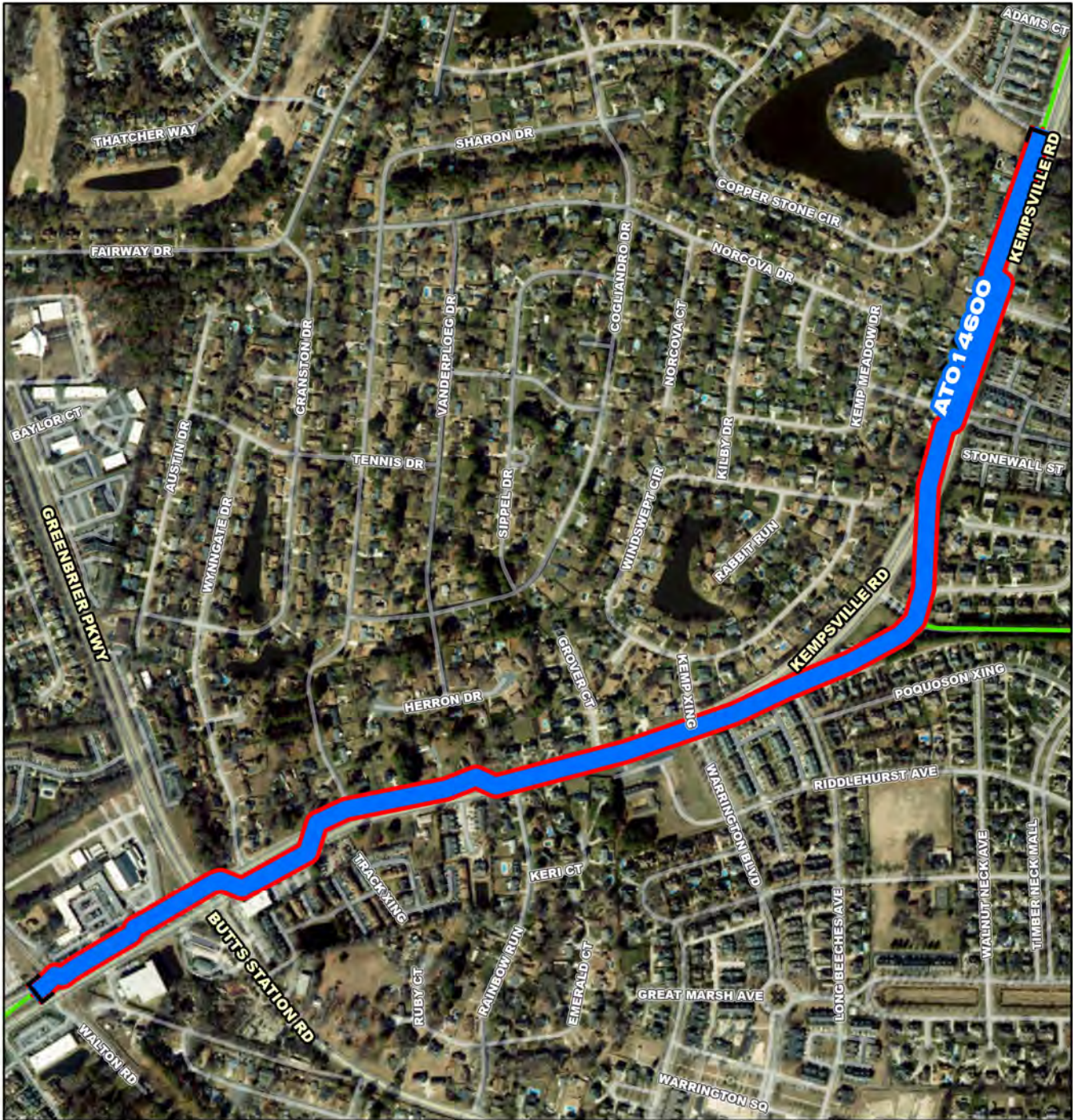
Funding Type: Revenue Bond

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

PROPOSED SCHEDULE START DATE COST ESTIMATE

PrePlanning	11/01/2033
PER	11/02/2034
Design Delay	11/01/2035
Design	11/01/2035
Bid Delay	11/02/2037
PreConstruction	11/02/2037
Construction	01/04/2038
Closeout	12/03/2040

Cost Estimate Class:	Class 10
PrePlanning	\$154,552
PER	\$154,552
Design	\$309,105
PreConstruction	\$0
Construction	\$1,854,628
Closeout	\$0
Est. Program Cost	\$2,472,837
Contingency Budget	\$618,209
Est. Project Costs	\$3,091,046



ATO14600

- 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

Feet

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

ATO 14600

Kempsville Interceptor Force Main Replacement - Phase I

CIP Location

7415.64015893105

System: Atlantic
 Type: Pipelines

Driver Category: Risk Mitigation
 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
\$9,922	\$381	\$728	\$538	\$5,904	\$2,371	\$0	\$0	\$0	\$0	\$0	\$0

PROJECT DESCRIPTION

This project will replace 5,700 feet of 24 and 30-inch ductile iron pipe along Kempsville Road between Hunningdon Lakes Boulevard and Walton Road.

PROJECT JUSTIFICATION

The interceptor force main (IFM) along Kempsville Road has experienced multiple failures due to internal and external corrosion. This 33,000 foot long IFM was installed between 1972 and 1999 and consists of prestressed concrete cylinder pipe (PCCP) and ductile iron pipe (DIP). Recent breaks near Hunningdon Lakes Boulevard have reconnected to ductile iron pipe that shows significant evidence of internal corrosion, which is why this section of the IFM is being addressed first. Approximately 1,700 feet of this alignment was replaced in 1997 with a VDOT Project and is not included in the replacement work. Recent failures along this corridor have been more than \$400,000 each.

FUNDING TYPE

Funding Type: Revenue Bond

CONTACTS

Contacts-Requesting Dept: Operations-Interceptors
 Contacts-Dept Contacts: Nick Taschner
 Contacts-Managing Dept: Engineering

PROPOSED SCHEDULE START DATE

PrePlanning	09/01/2022
PER	02/01/2026
Design Delay	02/01/2027
Design	03/01/2027
Bid Delay	06/01/2028
PreConstruction	08/01/2028
Construction	09/01/2028
Closeout	11/01/2029

COST ESTIMATE

Cost Estimate Class: Class 5 (-20% to +100%)	
PrePlanning	\$0
PER	\$913,200
Design	\$733,160
PreConstruction	\$16,292
Construction	\$8,242,964
Closeout	\$16,292
Est. Program Cost	\$9,921,909
Contingency Budget	\$1,629,244
Est. Project Costs	\$11,551,153

System: Atlantic
 Type: Pipelines

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

PROGRAM CASH FLOW PROJECTION (\$,000)

Prog Cost	Exp to Previous Year	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34	FY35	FY36
\$7,198	\$0	\$0	\$3	\$3	\$183	\$435	\$1,798	\$3,150	\$1,600	\$26	\$0

PROJECT DESCRIPTION

This project will replace and upsize 5,800 feet of 16-inch ductile iron pipe along Cedar Road from valve AT-1159R-1 at Las Gaviotas Boulevard to valve AT-1159L-1 near Charleston Street. The existing pipeline will up upsized to 24-inch pipe.

PROJECT JUSTIFICATION

The interceptor force main (IFM) along Cedar Road was installed in 1983 and has experienced multiple failures due to internal and external corrosion. Several of these failures showed signs of graphitization of the pipe wall that have raised concerns over the integrity of this section of pipeline. The repairs performed on this pipeline have been full-circle clamps, thus only addressing the immediate leak and not the larger problem of pipeline integrity. The remaining pipe wall thickness on most of this pipe is not precisely known but is assumed to be very similar to that of the pieces that failed in 2019/2020. More than half of this pipeline is High risk and nearly a third is Extreme risk, as described in the HRSD Risk Guidelines (February 2018). Thus, urgent action is needed to minimize the risk of this pipeline failing again. Proposed development in this area of Chesapeake necessitate the upsize from 16-inch to 24-inch pipe. The remainder of this pipeline to Battlefield Boulevard will be upsized to 24-inch under AT016300.

FUNDING TYPE CONTACTS

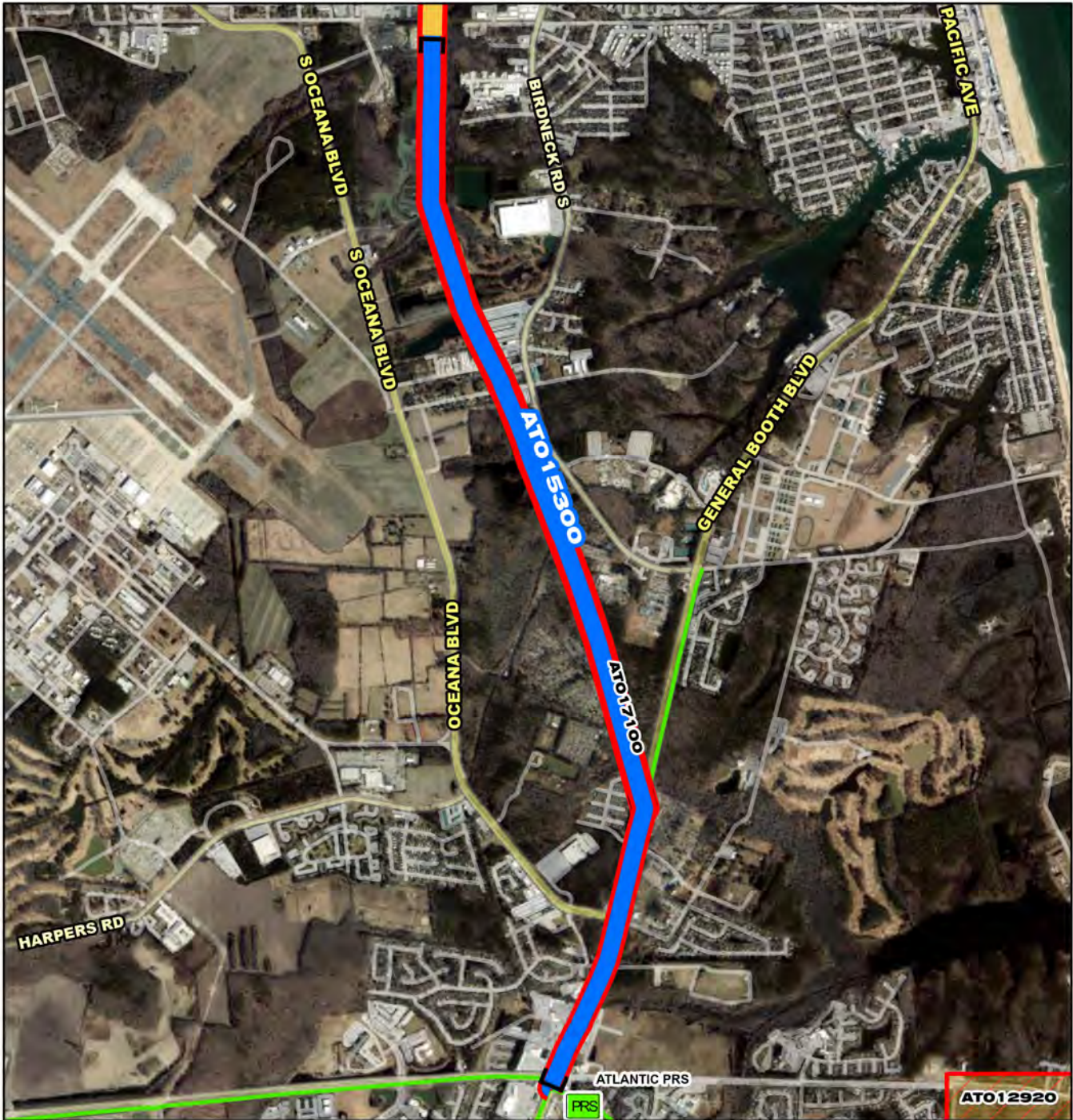
Funding Type: Revenue Bond

Contacts-Requesting Dept: Operations-Interceptors
 Contacts-Dept Contacts: Laura Kirkwood
 Contacts-Managing Dept: Engineering

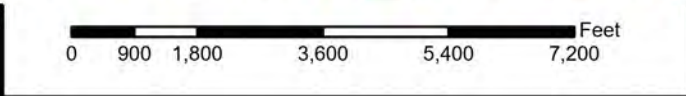
PROPOSED SCHEDULE START DATE COST ESTIMATE

PrePlanning	09/01/2027
PER	09/01/2029
Design Delay	08/01/2030
Design	08/01/2030
Bid Delay	10/01/2031
PreConstruction	10/01/2031
Construction	01/01/2032
Closeout	01/01/2034

Cost Estimate Class: Class 5 (-20% to +100%)	
PrePlanning	\$6,389
PER	\$200,621
Design	\$530,303
PreConstruction	\$109,894
Construction	\$6,299,744
Closeout	\$51,114
Est. Program Cost	\$7,198,065
Contingency Budget	\$1,443,958
Est. Project Costs	\$8,642,022

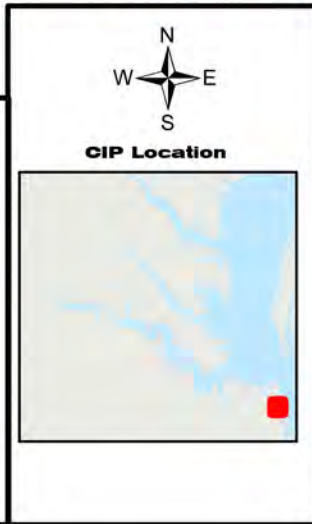


- ATO15300**
- Project Interceptor Line
 - Project Interceptor Point
 - Project Location Point
 - Project Area
- Legend**
- CIP Interceptor Point
 - CIP Pump Station Point
 - CIP Interceptor Line
 - CIP Abandonment
 - CIP Project Area
 - HRSD Interceptor Force Main
 - HRSD Interceptor Gravity Main
 - HRSD Treatment Plant
 - HRSD Pressure Reducing Station
 - HRSD Pump Station



ATO 15300

**High Priority Projects Round 2
Project 2**



System: Atlantic
 Type: Pipelines

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
\$3,088	\$0	\$0	\$0	\$0	\$0	\$343	\$1,201	\$858	\$0	\$0	\$686

PROJECT DESCRIPTION

High Priority Project (HPP) Round 2 Project 2 consists of the following Regional Wet Weather Management Plan (RWWMP) Project ID and general description: AT-RWWMP-06 Birdneck-General Booth Boulevard Force Main Improvements

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 CONTACTS

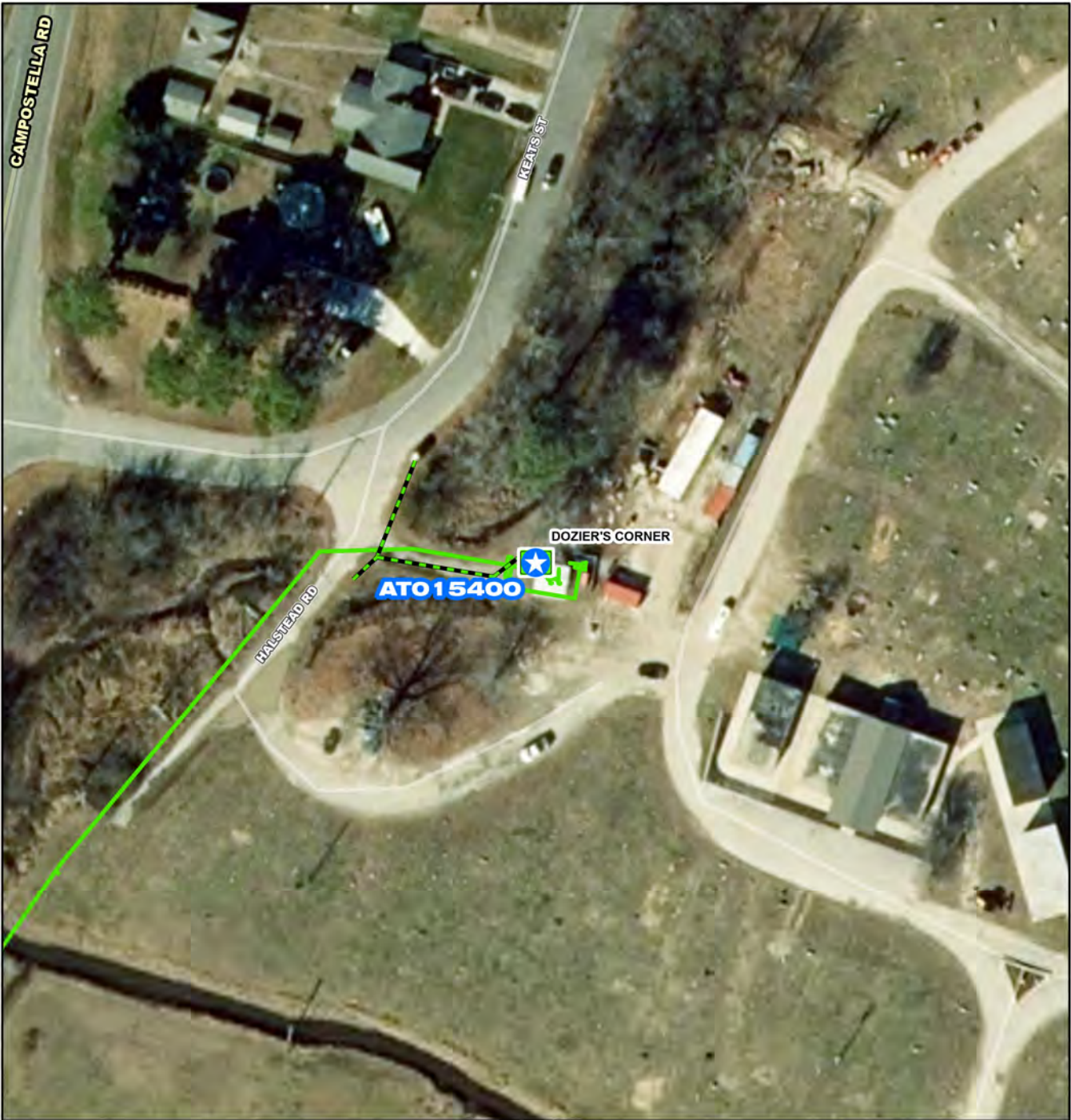
Funding Type: Revenue Bond

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

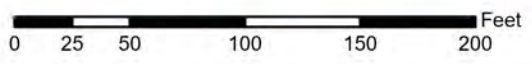
PROPOSED SCHEDULE START DATE COST ESTIMATE

PrePlanning	01/01/2031
PER	01/02/2032
Design Delay	01/03/2033
Design	11/05/2035
Bid Delay	11/02/2037
PreConstruction	11/02/2037
Construction	01/04/2038
Closeout	01/01/2041

Cost Estimate Class:	Class 10
PrePlanning	\$686,200
PER	\$1,715,498
Design	\$2,058,598
PreConstruction	\$343,100
Construction	\$29,163,471
Closeout	\$343,100
Est. Program Cost	\$34,309,966
Contingency Budget	\$0
Est. Project Costs	\$34,309,966



- ATO 15400**
- 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



ATO 15400

Doziers Corner Pump Station Replacement



System: Atlantic
 Type: Pump Stations

Driver Category: I&I Abatement-Rehabilitation Plan
 Project Phase: Design
 Regulatory: Rehab Plan Phase Two

PROGRAM CASH FLOW PROJECTION (\$,000)

Prog Cost	Exp to Previous Year	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34	FY35	FY36
\$12,243	\$4,207	\$5,463	\$2,573	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

PROJECT DESCRIPTION

The project is to install dry pit submersible pumps and raise, or otherwise protect, electrical equipment at Doziers Corner. In addition, all electrical assets such as electrical control panels, generator, disconnects, panelboards, etc. shall be located above the 100 year flood/wave action. Conduits located below the 100 year flood/wave action shall be adequately sealed per National Electrical Code (NEC) requirements for flood prone locations. This station is well below the 100 year flood plan and the site is too small to install a separate control room. This is due to the cemetery and storm water ditches surrounding this station. This project cannot be completed within the Phase II of the Rehabilitation Action Plan. Once rebuilt, this station will be turned over to the Department of Public Utilities with the City of Chesapeake.

PROJECT JUSTIFICATION

This pump station may need to be relocated due to the flood plain, the ditches on two sides of the property, as well as, the cemetery next to the pump station.

FUNDING TYPE

Funding Type: Cash

CONTACTS

Contacts-Requesting Dept: Engineering
 Contacts-Dept Contacts: Phil Hubbard
 Contacts-Managing Dept: Engineering

PROPOSED SCHEDULE START DATE

PrePlanning	09/01/2021
PER	04/08/2022
Design Delay	09/01/2022
Design	10/01/2024
Bid Delay	03/01/2026
PreConstruction	03/01/2026
Construction	08/01/2026
Closeout	12/01/2027

COST ESTIMATE

Cost Estimate Class:	Class 2 (-5% to +20%)
PrePlanning	\$0
PER	\$196,495
Design	\$1,696,354
PreConstruction	\$50,000
Construction	\$10,000,000
Closeout	\$300,000
Est. Program Cost	\$12,242,849
Contingency Budget	\$2,000,000
Est. Project Costs	\$14,242,849

System: Atlantic
Type: Biosolids

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
\$217,226	\$45,458	\$48,713	\$47,247	\$47,247	\$27,978	\$583	\$0	\$0	\$0	\$0	\$0

PROJECT DESCRIPTION

This project includes the construction of gravity thickeners, and all associated piping and appurtenances for primary solids thickening; Replacement of Odor Control Station (OCS) A, OCS B, and OCS C with a new odor control system that is sized to accommodate current odor sources served by OCS A, B, and C as well as the gravity thickeners, and primary fermenter; Evaluation and upgrade of digester gas system, replacement of existing flares with fully enclosed flares; Installation of a new Cambi B6 skid with associated piping, appurtenances, instrumentation and electrical work; Installation of screw loadout from pre-dewatering cake shoot that will allow loadout of raw cake if pre-dewatering hopper is out of service; Installation of a third FOG receiving tank and associated piping and appurtenances; Installation of blower, coarse bubble system, Mg feed system, and all associated piping and appurtenances for post-digestion struvite precipitation in the digested solids storage tank (DSST).

PROJECT JUSTIFICATION

There have been increased odor complaints around Atlantic Plant. This project will improve resiliency in solids handling at Atlantic Plant and will reduce the potential for offsite odors around the plant.

FUNDING TYPE

Funding Type: Revenue Bond

CONTACTS

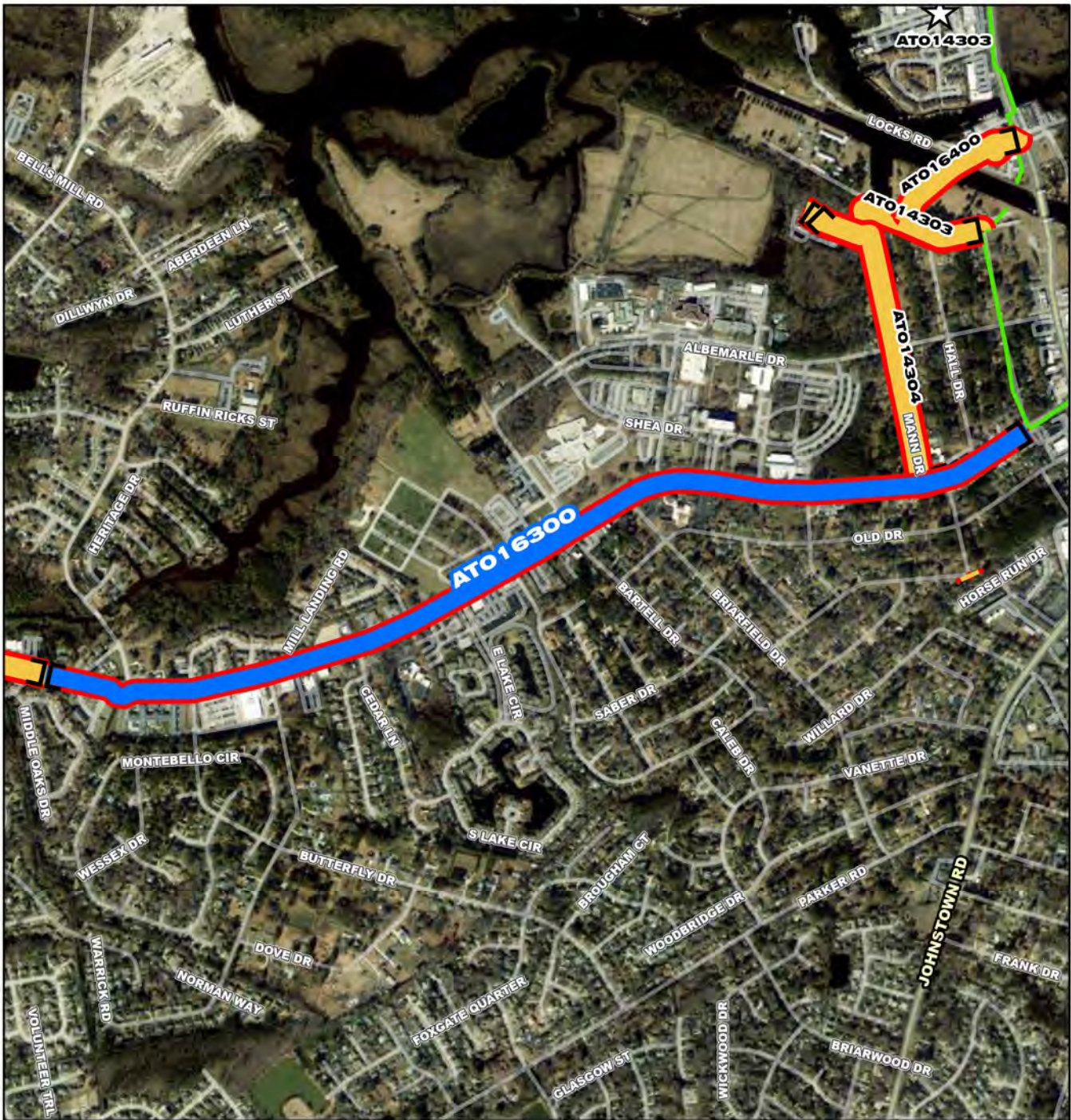
Contacts-Requesting Dept: Operations-Treatment
Contacts-Dept Contacts: Rebecca Currall
Contacts-Managing Dept: Engineering

PROPOSED SCHEDULE START DATE

PrePlanning	08/01/2022
PER	02/13/2023
Design Delay	11/16/2023
Design	11/16/2023
Bid Delay	05/15/2024
PreConstruction	06/17/2024
Construction	09/17/2024
Closeout	02/01/2030

COST ESTIMATE

Cost Estimate Class:	Class 3 (-10% to +30%)
PrePlanning	\$0
PER	\$1,041,104
Design	\$20,449,432
PreConstruction	\$125
Construction	\$194,735,573
Closeout	\$1,000,000
Est. Program Cost	\$217,226,234
Contingency Budget	\$19,474,000
Est. Project Costs	\$236,700,234



ATO 16300

- 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

Feet

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

ATO 16300

Cedar Road Interceptor Force Main Replacement Phase II

N
W E
S

CIP Location



System: Atlantic
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
\$16,349	\$0	\$0	\$0	\$0	\$363	\$716	\$3,975	\$7,446	\$3,786	\$63	\$0

PROJECT DESCRIPTION

This project is a continuation of the AT015200 Cedar Road Interceptor Force Main Replacement Phase I project in continuing the new 24-inch upsized pipe 9500 feet to valve AT-1159-2.

PROJECT JUSTIFICATION

Along with the continuation of the AT015200 (Phase I) project, this project (Phase II) will provide the necessary improvements required in the hydraulic analysis for the Great Bridge Interceptor Extension 16-inch Replacement - CIP AT011900 HART report.

FUNDING TYPE

Funding Type: Revenue Bond

CONTACTS

Contacts-Requesting Dept: Operations-Interceptors
Contacts-Dept Contacts: Laura Kirkwood
Contacts-Managing Dept: Engineering

PROPOSED SCHEDULE START DATE

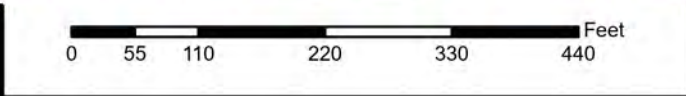
PrePlanning	09/01/2027
PER	09/01/2029
Design Delay	08/01/2030
Design	08/01/2030
Bid Delay	10/01/2031
PreConstruction	10/01/2031
Construction	01/01/2032
Closeout	01/01/2034

COST ESTIMATE

Cost Estimate Class: Class 5 (-20% to +100%)	
PrePlanning	\$0
PER	\$399,235
Design	\$865,009
PreConstruction	\$66,540
Construction	\$14,892,963
Closeout	\$125,546
Est. Program Cost	\$16,349,293
Contingency Budget	\$3,216,773
Est. Project Costs	\$19,566,066



- ATO 16400**
- 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



ATO 16400

**Great Bridge Interceptor Force
Main Emergency Replacement
(SF-180)**





Great Bridge Interceptor Force Main Emergency Replacement (SF-180)

PR_AT016400

System: Atlantic
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
\$6,814	\$1,412	\$5,380	\$22	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

PROJECT DESCRIPTION

This project will replace the damaged 20-inch diameter, 1960s vintage ductile iron force main located within the Intracoastal Waterway via HDD parallel to the existing in-service City of Chesapeake water main and remove the failed abandoned water main and force main underneath the Waterway.

PROJECT JUSTIFICATION

The SF-180 failure occurred on a 20-inch diameter 1960s vintage ductile iron force main and was likely caused by a dredge vessel spud. An emergency declaration was authorized on March 13, 2023. Although the failure was isolated, the project remains under an emergency declaration due to Elbow Road PRS operating continuously and the Great Bridge Interceptor Extension 16-inch Replacement (CIP Project No. AT011900), a Rehabilitation Action Plan Phase 2 project, requiring this section of pipeline in service for construction.

FUNDING TYPE

Funding Type: Cash

CONTACTS

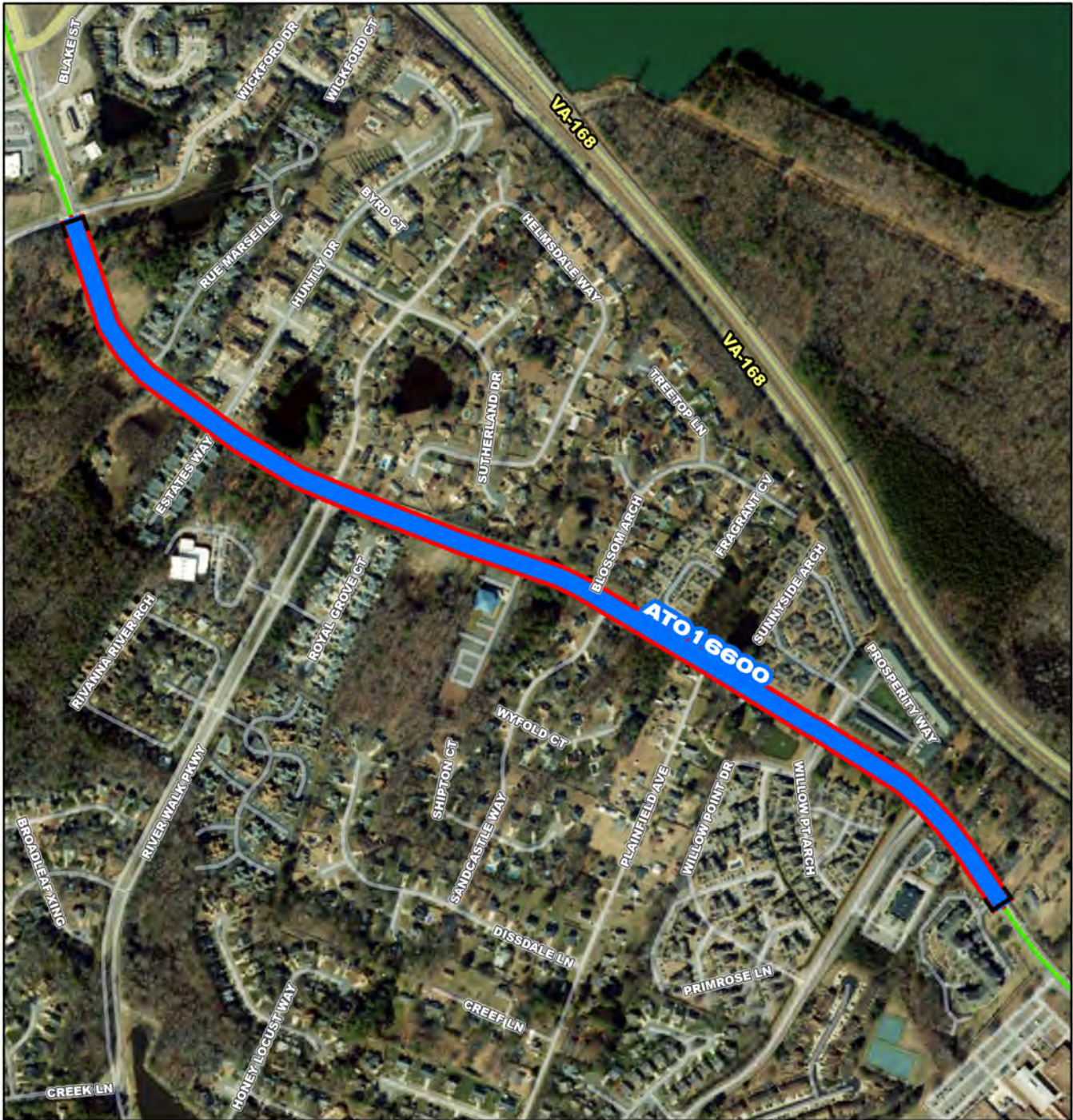
Contacts-Requesting Dept: Engineering
Contacts-Dept Contacts: Shirley Smith
Contacts-Managing Dept: Engineering

PROPOSED SCHEDULE START DATE

PrePlanning	03/13/2023
PER	03/17/2023
Design Delay	06/26/2023
Design	07/01/2024
Bid Delay	06/01/2026
PreConstruction	06/01/2026
Construction	07/01/2026
Closeout	05/01/2027

COST ESTIMATE

Cost Estimate Class:	Class 2 (-5% to +20%)
PrePlanning	\$0
PER	\$130,360
Design	\$817,039
PreConstruction	\$50,421
Construction	\$5,790,104
Closeout	\$26,461
Est. Program Cost	\$6,814,385
Contingency Budget	\$1,058,425
Est. Project Costs	\$7,872,810

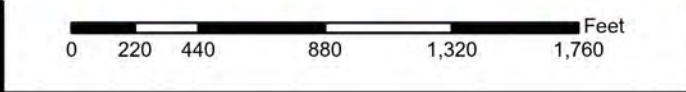


ATO 1660

- 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



ATO 1660

**Great Bridge Boulevard Interceptor
Force Main (SF-164) Segmental
Replacement at Oak Bridge-
Glenleigh**

N
W E
S

CIP Location



System: Atlantic
Type: Pipelines

Driver Category: Risk Mitigation
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
\$9,646	\$594	\$1,903	\$6,093	\$1,048	\$7	\$0	\$0	\$0	\$0	\$0	\$0

PROJECT DESCRIPTION

This project will replace up to 5,400 feet of 30-inch ductile iron Interceptor Force Main (SF-164) along Great Bridge Boulevard in the City of Chesapeake.

PROJECT JUSTIFICATION

This project will provide for segmental replacement of interceptor force main on Great Bridge Boulevard identified during FY23 condition assessment to have extensive pipe wall loss due to interior and exterior corrosion. The pipe segment investigated in June 2023 at the City force main connection (AT1139-3) resulted in a pinhole failure requiring the pipe to be encased in concrete (temporary repair). The remaining ductile iron pipe in this location was determined to have similar pipe wall thickness and a very high likelihood of failure (LoF = 5.0). Follow up condition assessment to the west (near AT1138-1) to confirm replacement extents observed more ductile iron pipe with significant reduced wall thickness. Recommended replacement extents include replacement of all ductile iron pipe west of AT1193-3 to the 30-inch PVC transition point on the southeast side of Dominion Boulevard (2008) to provide for complete renewal of this section of SF-164.

FUNDING TYPE

Funding Type: Revenue Bond

CONTACTS

Contacts-Requesting Dept: Operations-Interceptors
Contacts-Dept Contacts: Kayla McCoy
Contacts-Managing Dept: Engineering

PROPOSED SCHEDULE START DATE

PrePlanning	07/01/2024
PER	05/01/2025
Design Delay	03/01/2026
Design	03/01/2026
Bid Delay	12/01/2026
PreConstruction	01/01/2027
Construction	04/01/2027
Closeout	09/01/2028

COST ESTIMATE

Cost Estimate Class:	Class 3 (-10% to +30%)
PrePlanning	\$0
PER	\$315,000
Design	\$628,300
PreConstruction	\$30,400
Construction	\$8,632,410
Closeout	\$39,400
Est. Program Cost	\$9,645,510
Contingency Budget	\$2,158,103
Est. Project Costs	\$11,803,613

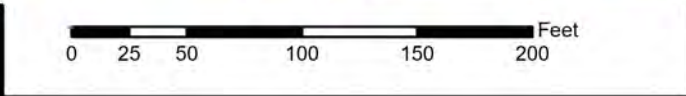


ATO16700

- 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



ATO 16700

Providence Road Interceptor Force Main (SF-165) Segmental Replacement at Depositor Lane

CIP Location



System: Atlantic
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
\$3,060	\$293	\$877	\$1,884	\$6	\$0	\$0	\$0	\$0	\$0	\$0	\$0

PROJECT DESCRIPTION

This project will address the replacement of a segment of a 36-inch reinforced concrete pressure pipe (RCPP) exposed in creek crossing of Morgan Trail Creek along Providence Road in Virginia Beach.

PROJECT JUSTIFICATION

This project will replace a section of a 36-inch RCPP force main that is severely undermined at an exposed creek crossing due to stream bed and bank erosion. This pipe section is approximately 15-feet downstream of a stormwater headwall discharge for 21-inch, 36-inch and two 60-inch discharge pipes.

FUNDING TYPE

Funding Type: Revenue Bond

CONTACTS

Contacts-Requesting Dept: Operations-Interceptors
Contacts-Dept Contacts: Kayla McCoy
Contacts-Managing Dept: Engineering

PROPOSED SCHEDULE START DATE

PrePlanning	07/01/2024
PER	11/04/2024
Design Delay	11/01/2025
Design	12/01/2025
Bid Delay	12/01/2026
PreConstruction	01/01/2027
Construction	05/01/2027
Closeout	01/01/2028

COST ESTIMATE

Cost Estimate Class:	Class 4 (-15% to +50%)
PrePlanning	\$0
PER	\$97,850
Design	\$388,228
PreConstruction	\$58,086
Construction	\$2,504,585
Closeout	\$11,181
Est. Program Cost	\$3,059,930
Contingency Budget	\$501,000
Est. Project Costs	\$3,560,930

System: Atlantic
 Type: Biosolids

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
\$3,726	\$119	\$302	\$1,493	\$1,808	\$5	\$0	\$0	\$0	\$0	\$0	\$0

PROJECT DESCRIPTION

This project will address permanent redundant steam generation for the Atlantic Treatment Plant (ATP) thermal hydrolysis system (THP). THP relies on steam injection into wastewater solids (as part of the Cambi™ process) to pretreat solids prior to anaerobic digestion. A single dual-fuel (digester gas and natural gas) steam boiler was provided as part of the Atlantic Treatment Plant Thermal Hydrolysis Process and FOG Receiving Station Project in 2020 with the expectation that redundant steam generation would be designed and constructed later pending future decisions pertaining to digester gas beneficial use. Since this time, a containerized steam boiler has been rented and used to meet critical steam demands for THP. HRSD is currently developing a project to long term contract offtake of raw digester gas and to convert digester gas to pipeline grade renewable natural gas (RNG) for beneficial use. Given this new knowledge regarding future digester gas beneficial reuse at Atlantic, this project will evaluate alternatives to provide redundant steam generation for THP that is energy efficient, reliable, and alleviates the need for continued temporary equipment rental.

PROJECT JUSTIFICATION

This project will improve the following aspects of steam generation for the ATP THP system. Firstly, reliable steam generation is needed to operate the ATP THP process, which is a critical system to process wastewater residual solids at the plant. The plant currently operates two dissimilar systems (i.e. the permanently installed dual-fuel boiler and the rental steam boiler) which results in undue downtime, operator attention, and reliance on external contractors to service the rental system. The existing hybrid system is not reliably redundant, and this project will improve that aspect of the treatment system. Secondly, the containerized rental steam boiler has been an occasional source of noise complaints from nearby neighbors, and a permanently installed system would be provided with sound attenuation in accordance with suitable design standards. Thirdly, the rental steam boiler requires a recurring rental payment of approximately \$10,000/month; this project presents a return-on-investment by eliminating operational and recurring costs associated with the rental system.

FUNDING TYPE CONTACTS

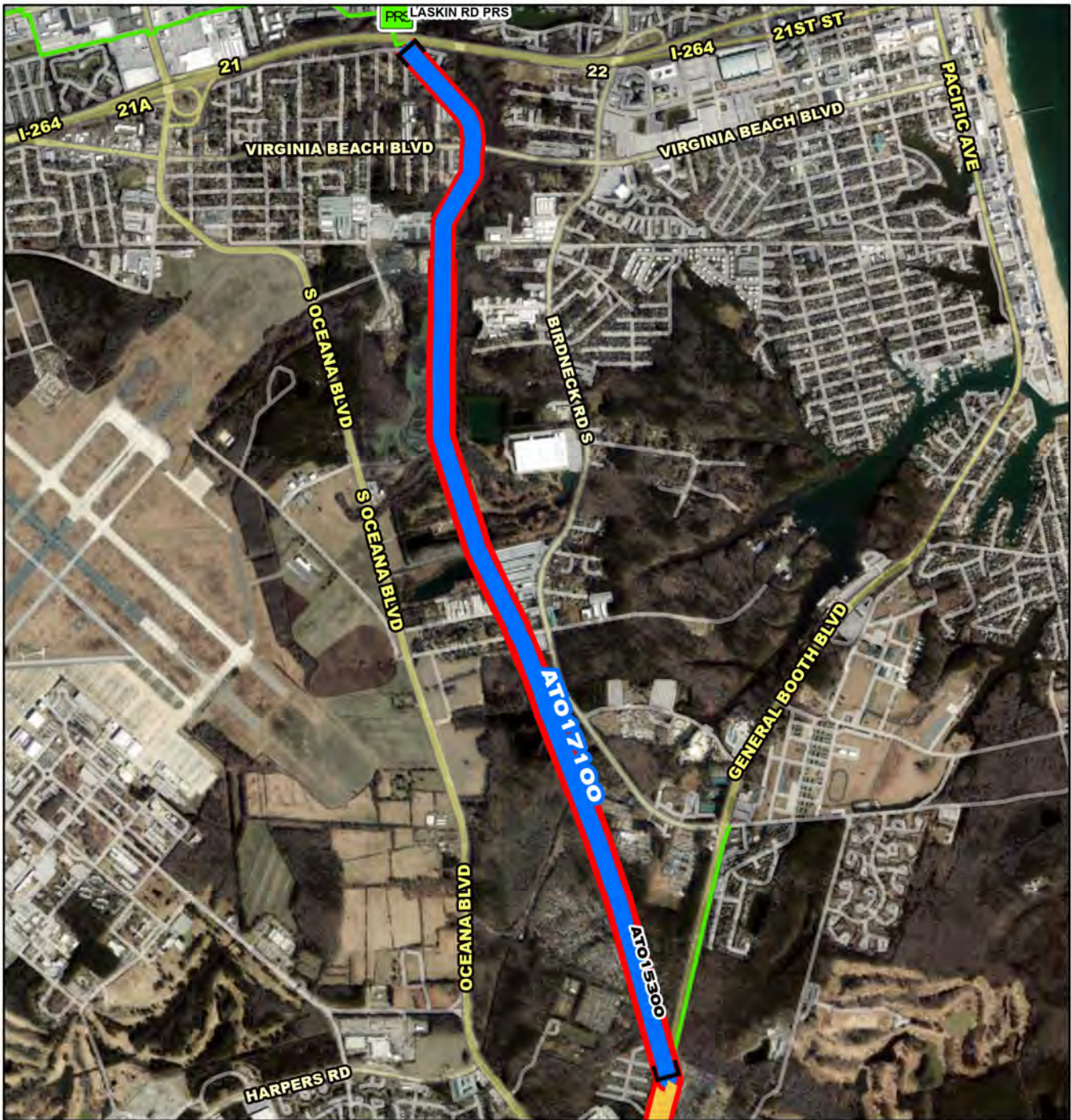
Funding Type: Revenue Bond

Contacts-Requesting Dept: Operations
 Contacts-Dept Contacts: Rebecca Currall
 Contacts-Managing Dept: Engineering

PROPOSED SCHEDULE START DATE COST ESTIMATE

PrePlanning	01/01/2026
PER	03/01/2026
Design Delay	08/03/2026
Design	08/03/2026
Bid Delay	08/02/2027
PreConstruction	08/02/2027
Construction	11/02/2027
Closeout	05/02/2029

Cost Estimate Class:	Class 10
PrePlanning	\$0
PER	\$148,464
Design	\$296,927
PreConstruction	\$29,693
Construction	\$3,236,505
Closeout	\$14,846
Est. Program Cost	\$3,726,434
Contingency Budget	\$931,609
Est. Project Costs	\$4,658,043

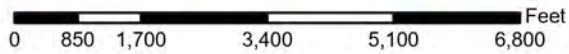


ATO17100

- 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

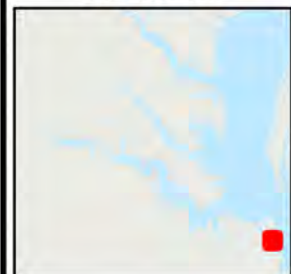


ATO17100

**Birdneck Road Trunk Force Main -
Pipeline Cover Mitigation &
Protection**



CIP Location



System: Atlantic
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
\$2,858	\$213	\$133	\$17	\$2,485	\$10	\$0	\$0	\$0	\$0	\$0	\$0

PROJECT DESCRIPTION

This project will target and address areas (approx. 7,400 LF) with insufficient cover over the buried 42" prestressed concrete cylinder pipe (PCCP) force main located in the existing Dominion Energy easement between Interstate 264 and General Booth Boulevard in Virginia Beach. The depth of cover in the identified areas of concern will be restored to as-built conditions providing for a minimum cover depth of 36-inches. Mitigating the current depth of cover in this environmentally sensitive area will incorporate stakeholder coordination, strategic collection of topographic survey data, temporary construction easement acquisition, wetland protection measures, and site grading to mitigate the anticipated impacts to drainage (surface runoff).

PROJECT JUSTIFICATION

This pipeline experienced unanticipated damage in August 2024, when a piece of construction equipment associated with the work being performed at the City of Virginia Beach's Whitehurst pit stuck directly on top of the shallow force main causing significant damage to 3 of the 4 components of the prestressed concrete cylinder pipe. The easement agreement between HRSD and Dominion Energy states the pipes shall be laid at sufficient depth to provide a minimum of thirty-six (36) inches of cover from the top of the pipe to ground elevation. A field investigation was completed in January 2025 to investigate the depth of cover along the pipeline for the entire length of the existing easement (3.44 miles). The results of the investigation identified multiple locations where the existing conditions do not meet this requirement for an extended length increasing the risk and liability of potential future damage events.

FUNDING TYPE

Funding Type: Cash

CONTACTS

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

PROPOSED SCHEDULE START DATE

PrePlanning	07/01/2024
PER	08/01/2025
Design Delay	08/01/2025
Design	08/01/2025
Bid Delay	03/01/2027
PreConstruction	03/01/2028
Construction	07/01/2028
Closeout	07/01/2029

COST ESTIMATE

Cost Estimate Class:	Class 5 (-20% to +100%)
PrePlanning	\$0
PER	\$0
Design	\$346,343
PreConstruction	\$17,396
Construction	\$2,484,609
Closeout	\$10,000
Est. Program Cost	\$2,858,348
Contingency Budget	\$714,587
Est. Project Costs	\$3,572,935

System: Atlantic
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
\$1,688	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,688	\$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	07/01/2032
PER	07/01/2032
Design Delay	07/01/2032
Design	07/01/2032
Bid Delay	07/01/2032
PreConstruction	07/01/2032
Construction	07/01/2032
Closeout	07/01/2033

COST ESTIMATE

Cost Estimate Class: Class 5 (-20% to +100%)	
PrePlanning	\$0
PER	\$0
Design	\$0
PreConstruction	\$0
Construction	\$1,688,310
Closeout	\$0
Est. Program Cost	\$1,688,310
Contingency Budget	\$422,078
Est. Project Costs	\$2,110,388



**Atlantic Treatment Plant Emergency Power Generation
Capacity Improvements**

PR_AT017300

System: Atlantic
Type: Electrical

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
\$27,827	\$0	\$1,749	\$3,790	\$9,509	\$9,509	\$3,270	\$0	\$0	\$0	\$0	\$0

PROJECT DESCRIPTION

This project is to increase the overall emergency electrical power generating capacity at the Atlantic Treatment Plant from 5,400 kW (3x 1,800 kW generators) to 11,400 kW by expanding the existing generator building and installing two additional 3,000 kW generators with all required supporting equipment. It will also upgrade the control system associated with the existing emergency generators to account for system obsolescence.

PROJECT JUSTIFICATION

The Atlantic Treatment Plant currently has three 1800 kW generators. The spare capacity of the existing generators, based on current electrical loads, is less than 6%, whereas HRSD standard is to have ~10-15% reserve capacity, without the need of load shedding. This current electrical demand does not include the upcoming ROCI upgrades which are adding additional electrical loads. This project will increase the overall emergency electrical power with limited need to load-shed for emergency power usage. This project will also include the upgrading the control system of the emergency generators as the current control system is obsolete. The addition of the fourth generator will also provide additional capacity for future expansion of the emergency power generating capacity as electrical demand at the Atlantic Treatment Plant continues to grow.

FUNDING TYPE

Funding Type: Revenue Bond

CONTACTS

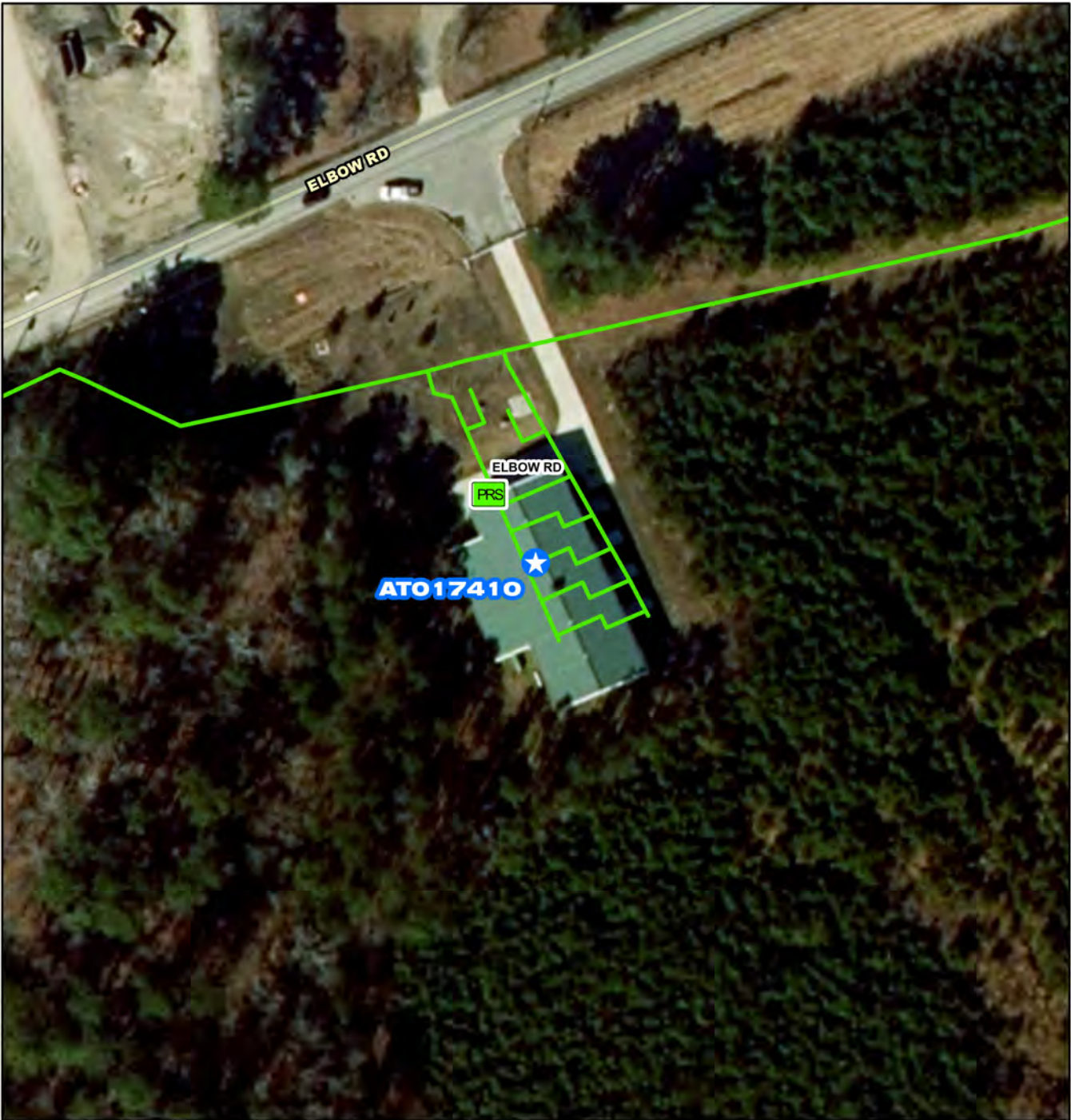
Contacts-Requesting Dept: Operations-E&I
Contacts-Dept Contacts: Dale Stevick
Contacts-Managing Dept: Engineering

PROPOSED SCHEDULE START DATE

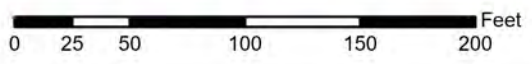
PrePlanning	07/01/2026
PER	07/01/2026
Design Delay	02/01/2027
Design	03/01/2027
Bid Delay	10/01/2027
PreConstruction	01/01/2028
Construction	04/01/2028
Closeout	11/01/2030

COST ESTIMATE

Cost Estimate Class: Class 5 (-20% to +100%)	
PrePlanning	\$0
PER	\$532,400
Design	\$2,129,600
PreConstruction	\$500,000
Construction	\$24,564,542
Closeout	\$100,000
Est. Program Cost	\$27,826,542
Contingency Budget	\$6,141,136
Est. Project Costs	\$33,967,678



- ATO17410**
- 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



ATO17410

Elbow Road Pressure Reducing Station Pump System Improvements Study



CIP Location



System: Atlantic
Type: Pump Stations

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
\$50	\$0	\$50	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

PROJECT DESCRIPTION

This project will perform a feasibility study to evaluate rehabilitation of the Elbow Road Pressure Reducing Station within the South Shore Interceptor System. The study will assess the feasibility of replacing the existing diesel-driven pumps with electrically driven pumps and will compare the life-cycle costs of existing conditions versus proposed modifications. Factors to be evaluated will include frequency of use under normal system conditions, level of effort required for operation and maintenance, and overall operational expenses.

General Engineering Services will be utilized to perform this study. An opinion of probable cost will be developed for each alternative.

PROJECT JUSTIFICATION

This project will address long-term operational, maintenance, and regulatory challenges associated with continued reliance on diesel-driven pumping at the Elbow Road Pressure Reducing Station. The station was originally designed for electric operation, with capacity for two electric and two diesel pumps. However, diesel pumps have remained in use due to insufficient electrical infrastructure at the time of construction. The station was constructed with the intent of being upgraded to electric operation when adequate power became available, and underground conduit for future electric service is already in place. Diesel pumps require significantly greater maintenance and present additional challenges, including noise impacts, engine reliability concerns, emissions compliance requirements implemented in 2022, and management of underground fuel storage tanks. Recent development in the area has resulted in upgraded electrical service, creating an opportunity to support two to three 18-inch electric pumps with VFDs while retaining diesel pumps for supplemental use. Transitioning to electric pumping would reduce operational complexity, improve reliability, lower long-term maintenance costs, and better align the station with its original design intent. This study will provide the technical and financial basis needed to evaluate conversion alternatives and support informed decision-making.

FUNDING TYPE

Funding Type: Cash

CONTACTS

Contacts-Requesting Dept: Operations-Interceptors
Contacts-Dept Contacts: Shawn Heselton
Contacts-Managing Dept: Operations-Interceptors

PROPOSED SCHEDULE START DATE

PrePlanning 09/01/2026
PER 03/01/2027
Design Delay 03/01/2027
Design 03/01/2027
Bid Delay 03/01/2027
PreConstruction 03/01/2027
Construction 03/01/2027
Closeout 03/01/2027

COST ESTIMATE

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