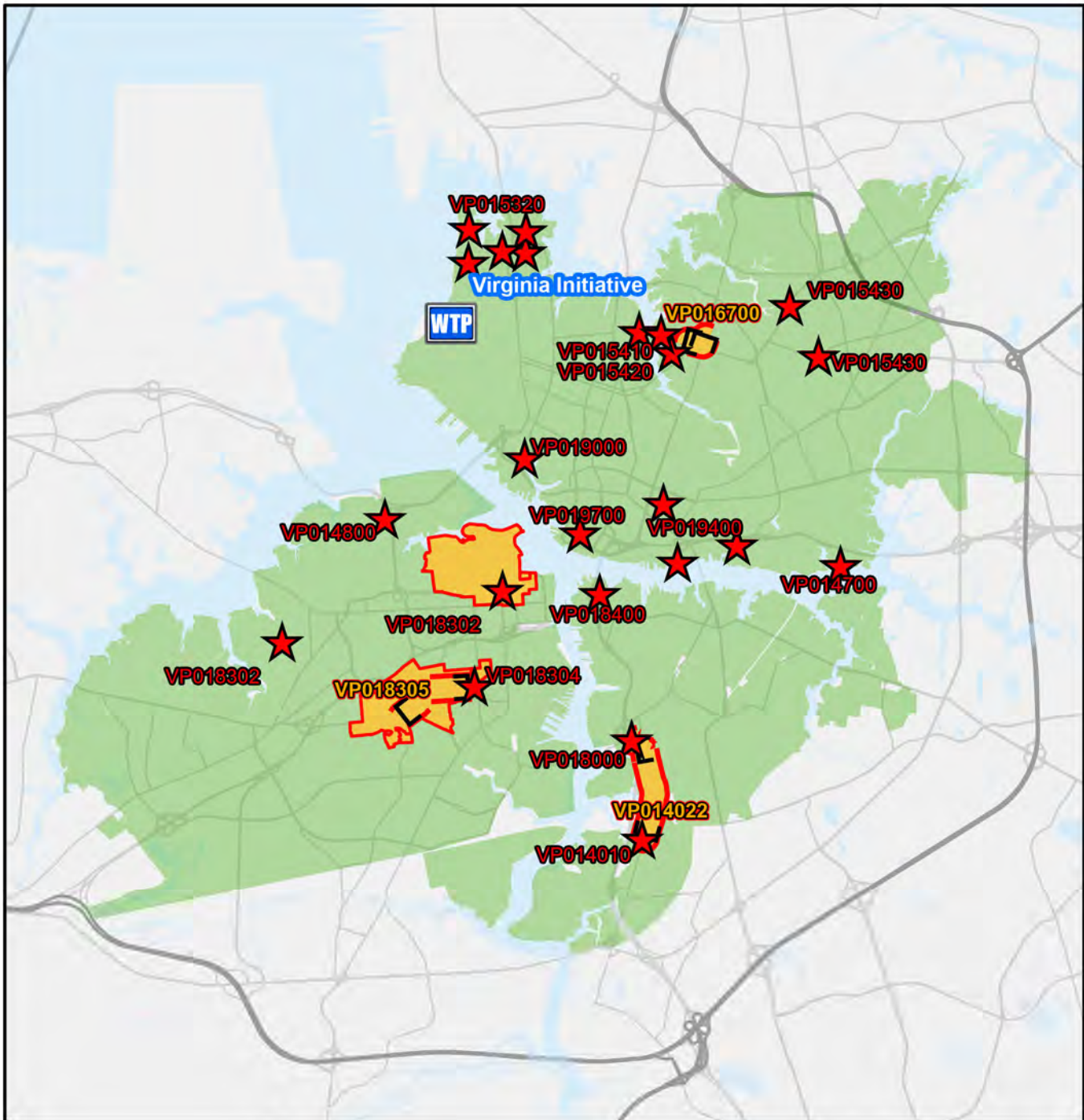


Virginia Initiative Plant





Legend

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

0 2,500 5,000 10,000 15,000 20,000 Feet

Virginia Initiative Treatment Plant Service Area CIP Projects

Treatment Plant Projects

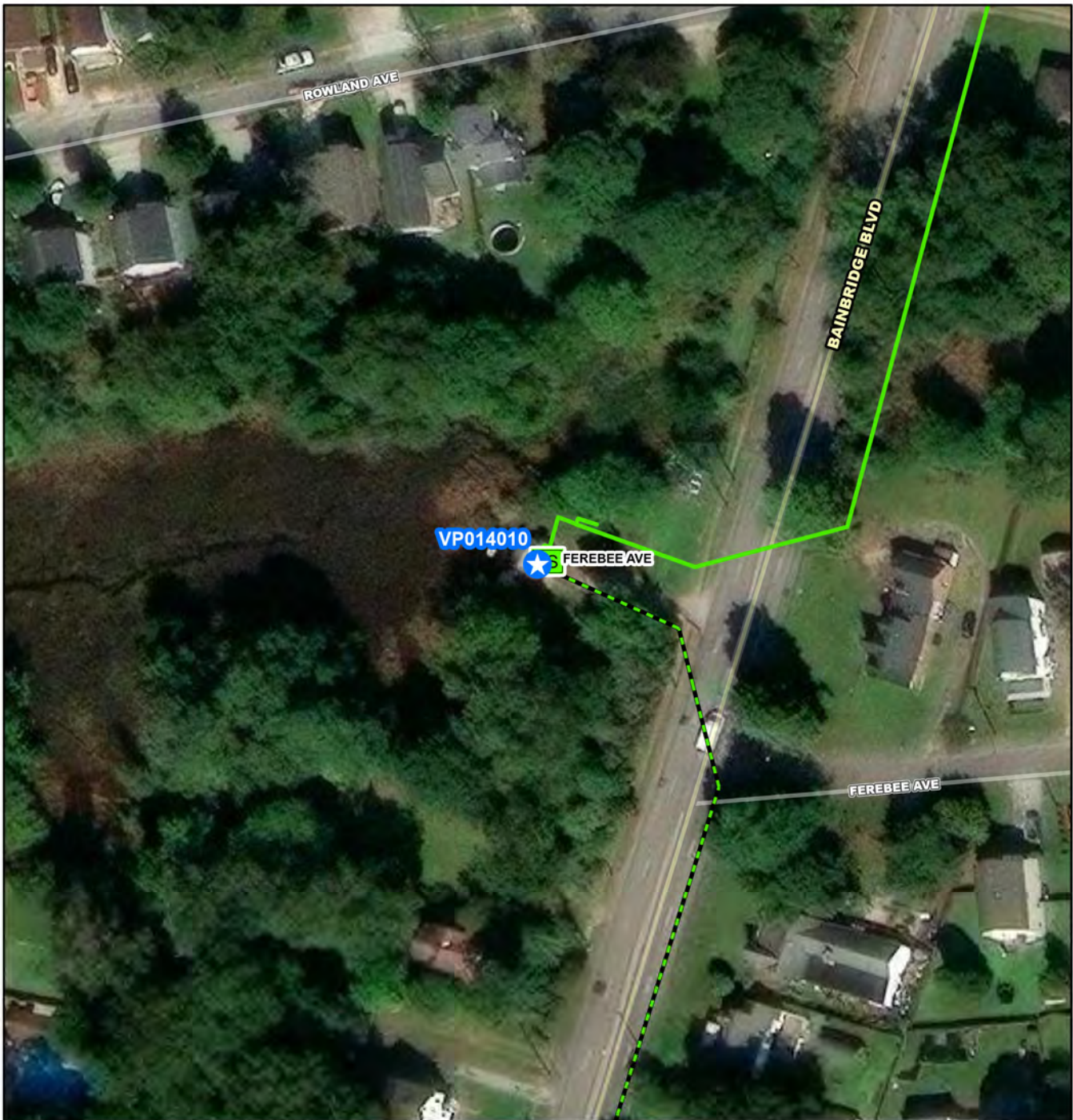
GN016390	VP018800
GN016391	VP019200
GN016392	VP019900
GN017900	VP020000
GN019700	



CIP Location



Service Area



VP014010

- 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

VP014010

Ferebee Avenue Pump Station Replacement



CIP Location



System: VIP
Type: Pump Stations

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

PROGRAM CASH FLOW PROJECTION (\$,000)

Prog Cost	Exp to Previous Year	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34	FY35
\$10,890	\$2,886	\$4,802	\$3,202	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

PROJECT DESCRIPTION

This project is to design and construct a replacement pump station for the 1951 Ferebee Pump Station.

PROJECT JUSTIFICATION

This project will evaluate and implement the replacement of Ferebee Avenue Pump Station, as it is nearing the end of its useful life. This facility was inspected in 2008, 2011, and August 2013, as part of a Condition Assessment Program administered by Brown and Caldwell. Ferebee Avenue Pump Station was recommended for replacement and/or upgrades under Level 2 in the Rehabilitation program. An in-house hydraulic evaluation in 2014 identified several alternatives for maintaining this station as a lift station or revising its hydraulic capacity and connectivity to function as a terminal station. Final alignment and connectivity (to gravity or to the force main system) will significantly impact the design of both the Ferebee Avenue and Park Avenue pump stations. Preliminary engineering evaluations of these two stations will be conducted jointly.

FUNDING TYPE

Funding Type: Revenue Bond

CONTACTS

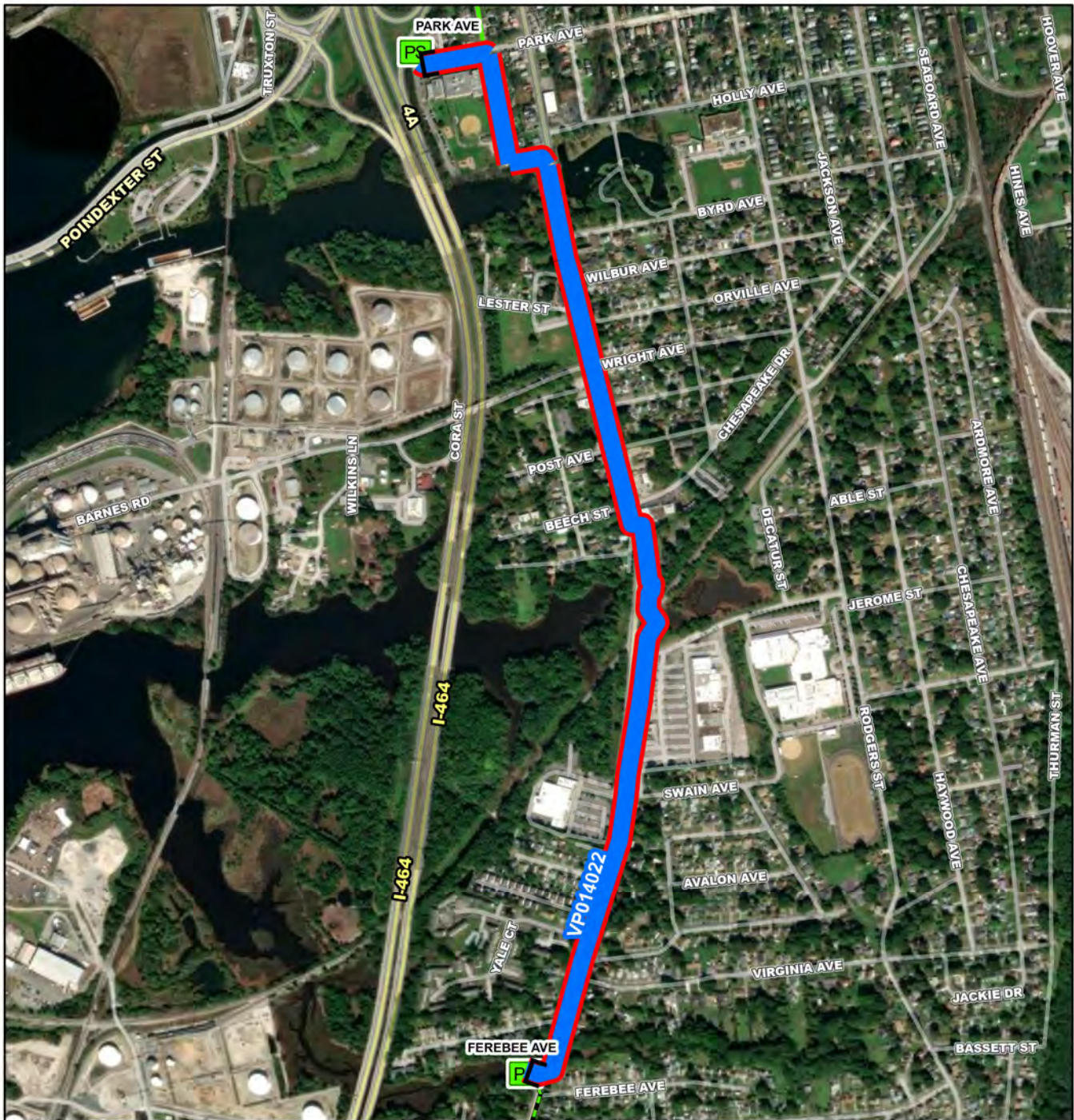
Contacts-Requesting Dept: Operations-Interceptors
Contacts-Dept Contacts: Nick Taschner
Contacts-Managing Dept: Engineering

PROPOSED SCHEDULE START DATE

PrePlanning	07/01/2015
PER	04/28/2017
Design Delay	12/03/2019
Design	12/16/2019
Bid Delay	10/16/2024
PreConstruction	11/01/2024
Construction	04/01/2025
Closeout	03/01/2027

COST ESTIMATE

Cost Estimate Class:	Class 1 (-3% to +15%)
PrePlanning	\$0
PER	\$240,158
Design	\$1,365,380
PreConstruction	\$41,108
Construction	\$9,243,000
Closeout	\$0
Est. Program Cost	\$10,889,647
Contingency Budget	\$675,000
Est. Project Costs	\$11,564,647



VP014022

-  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

0 305 610 1,220 1,830 2,440 Feet

VP014022

Sanitary Sewer Replacement 1950 – Part 2



CIP Location



System: VIP
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	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34	FY35
\$27,996	\$19,683	\$7,126	\$1,188	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

PROJECT DESCRIPTION

This project is to design and construct a force main to replace the 850 feet cast iron discharge force main SF-155 Sanitary Sewer Project 1950 12-inch Force Main. This project will also replace 2,900 feet 18-inch gravity line 1960 SG-153 and replace 2,700 feet 24-inch 1960 SG-149.

PROJECT JUSTIFICATION

This project will evaluate and implement the replacement of HRSD force main and gravity sewer between Ferebee Avenue Pump Station and Park Avenue Pump Station.

FUNDING TYPE

Funding Type: Revenue Bond

CONTACTS

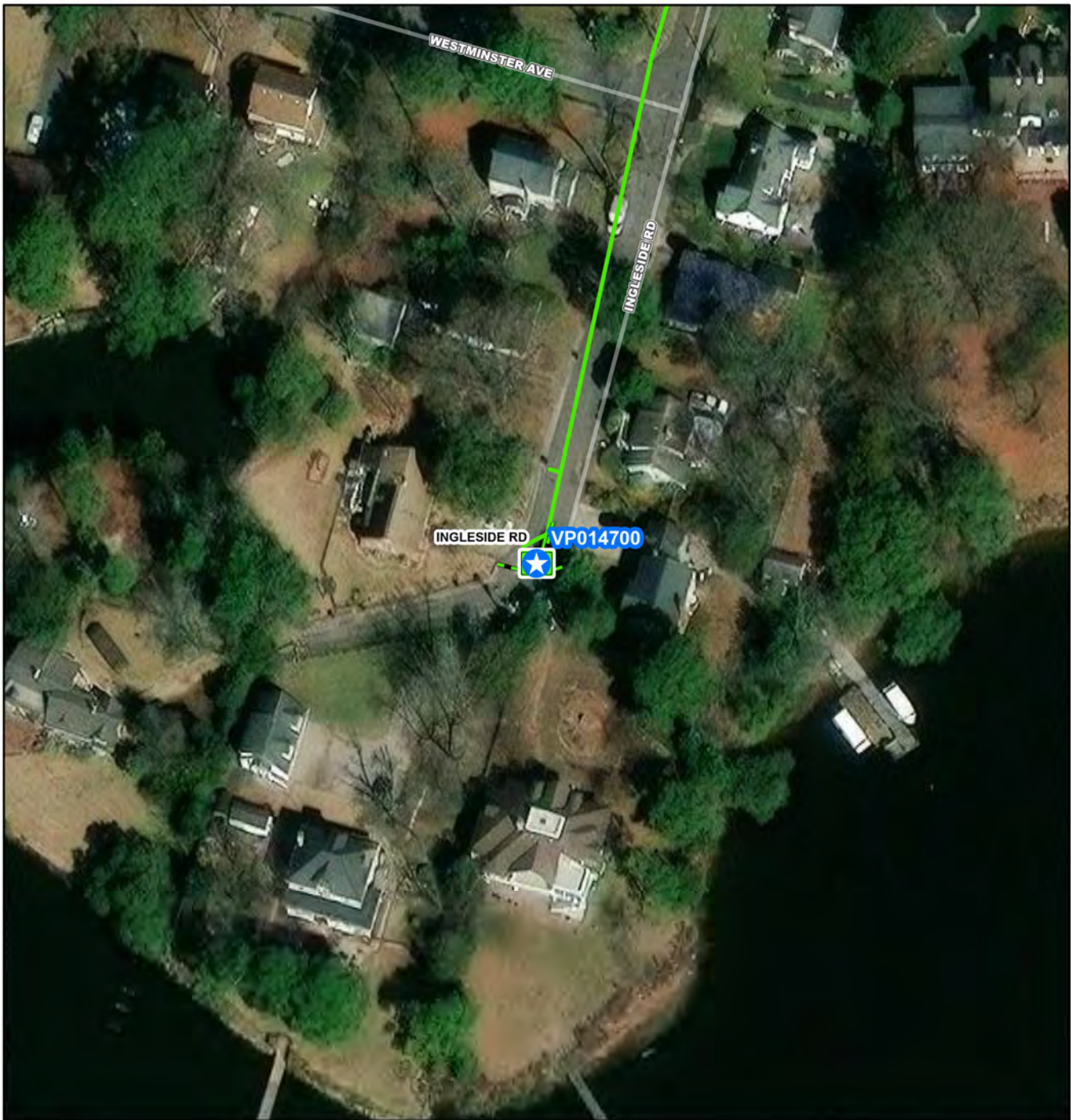
Contacts-Requesting Dept: Engineering
Contacts-Dept Contacts: Nick Taschner
Contacts-Managing Dept: Engineering

PROPOSED SCHEDULE START DATE

PrePlanning	07/01/2015
PER	05/23/2017
Design Delay	12/03/2019
Design	01/03/2020
Bid Delay	01/03/2022
PreConstruction	09/14/2022
Construction	02/01/2023
Closeout	09/01/2026

COST ESTIMATE

Cost Estimate Class:	Class 1 (-3% to +15%)
PrePlanning	\$0
PER	\$0
Design	\$125,680
PreConstruction	\$32,001
Construction	\$27,838,669
Closeout	\$0
Est. Program Cost	\$27,996,349
Contingency Budget	\$1,700,000
Est. Project Costs	\$29,696,349



VP014700

- 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

VP014700

Ingleside Road Pump Station Replacement



CIP Location



System: VIP
Type: Pump Stations

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	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34	FY35
\$2,901	\$2,417	\$484	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

PROJECT DESCRIPTION

This project is to rehabilitate and/or replace Ingleside Road Pump Station. This project also includes the design and installation of a new emergency generator/pump.

PROJECT JUSTIFICATION

This project will replace the submersible pump station experiencing pump failures, as well as, deteriorating structural and electrical systems.

FUNDING TYPE

Funding Type: Revenue Bond

CONTACTS

Contacts-Requesting Dept: Operations-Interceptors
Contacts-Dept Contacts: Tim Marsh
Contacts-Managing Dept: Engineering

PROPOSED SCHEDULE START DATE

PrePlanning	07/01/2019
PER	04/01/2020
Design Delay	11/02/2020
Design	10/27/2022
Bid Delay	08/06/2024
PreConstruction	08/06/2024
Construction	11/01/2024
Closeout	08/01/2025

COST ESTIMATE

Cost Estimate Class:	Class 1 (-3% to +15%)
PrePlanning	\$0
PER	\$92,056
Design	\$348,971
PreConstruction	\$13,088
Construction	\$2,444,404
Closeout	\$2,820
Est. Program Cost	\$2,901,340
Contingency Budget	\$244,722
Est. Project Costs	\$3,146,062



VP014800

- 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

VP014800

Lee Avenue-Wesley Street Horizontal Valve Replacement



CIP Location



System: VIP
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	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34	FY35
\$7,204	\$7,180	\$24	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

PROJECT DESCRIPTION

This project will replace the inoperable 36-inch horizontal gate valve and install a new 42-inch valve at the intersection of Lee Avenue and Wesley Street in the City of Portsmouth. A Preliminary Engineering Report was completed in November 2007 making these recommendations.

PROJECT JUSTIFICATION

The 36-inch horizontal gate valve is currently stuck in the open position and, due to the configuration of the valve, will not close to allow flow isolation of SF-220 in case of a failure. SF-220 is a 36-inch reinforced concrete pipe (RCP) force main that was constructed in 1946. The installation of a new 42-inch valve on SF-221 where SF-221 intersects with SF-220 will allow flow isolation of SF-221 to the north and south of the intersection. SF-221 is a 48-inch RCP force main approximately 15,000 linear feet (LF) constructed in 1946 with isolation valves only located at each end. The valves will ensure proper operation in the event of a failure on these aged force mains.

FUNDING TYPE

Funding Type: Revenue Bond

CONTACTS

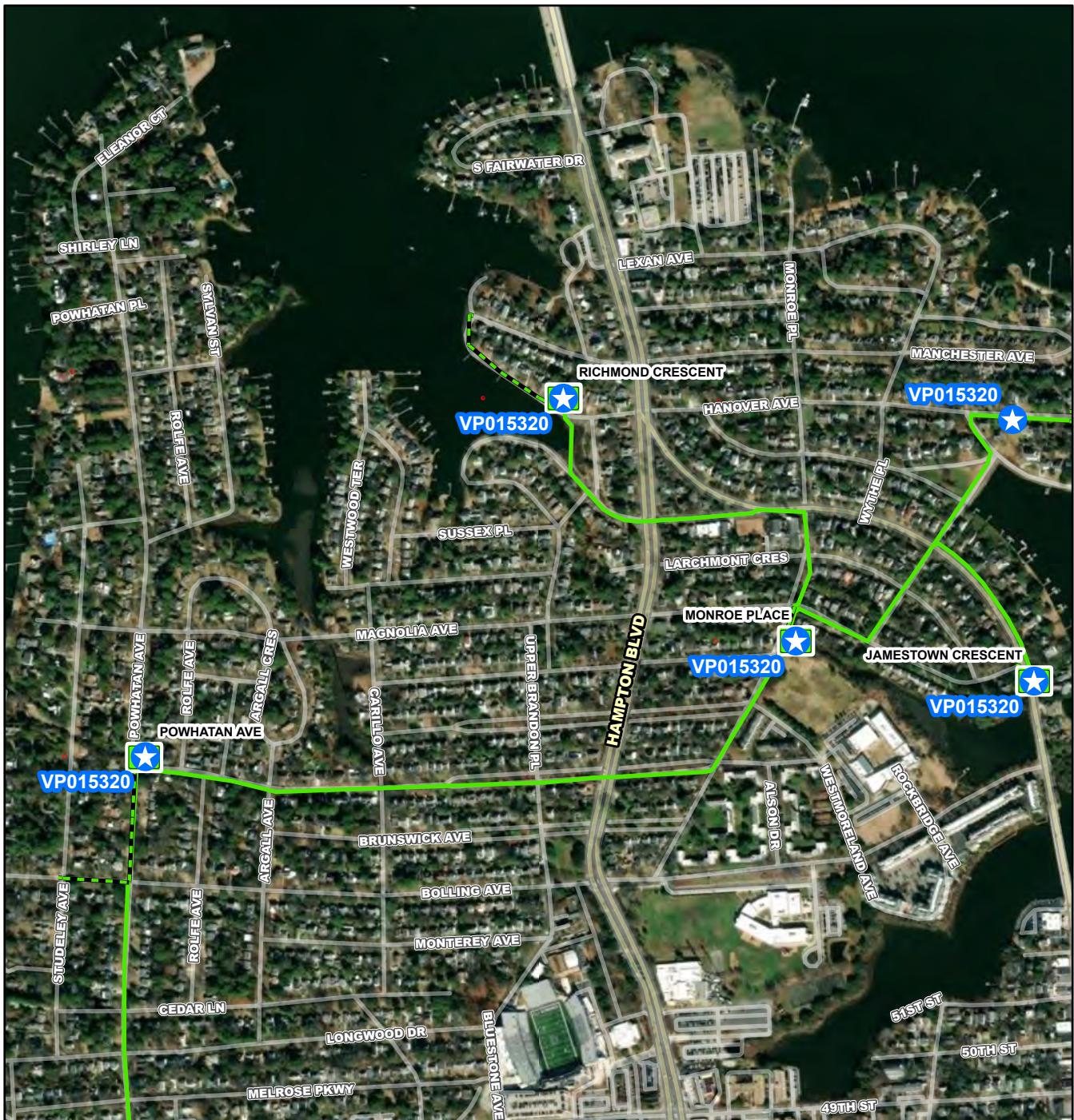
Contacts-Requesting Dept: Operations-Interceptors
Contacts-Dept Contacts: Shirley Smith
Contacts-Managing Dept: Engineering

PROPOSED SCHEDULE START DATE

PrePlanning	06/01/2010
PER	07/26/2010
Design Delay	09/13/2010
Design	05/23/2011
Bid Delay	07/19/2024
PreConstruction	07/22/2024
Construction	10/01/2024
Closeout	04/01/2025

COST ESTIMATE

Cost Estimate Class:	Class 1 (-3% to +15%)
PrePlanning	\$0
PER	\$59,583
Design	\$205,424
PreConstruction	\$10,706
Construction	\$6,896,459
Closeout	\$31,400
Est. Program Cost	\$7,203,572
Contingency Budget	\$628,000
Est. Project Costs	\$7,831,572



VP015320

- 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

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

VP015320

Larchmont Area Sanitary Sewer Improvements

N
W —+— E
S

CIP Location

System: VIP
Type: Pump Stations

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	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34	FY35
\$58,801	\$16,991	\$15,120	\$15,120	\$11,570	\$0	\$0	\$0	\$0	\$0	\$0	\$0

PROJECT DESCRIPTION

This project involves rehabilitation of three existing pump stations, the design and construction of two new pump stations, and the design and construction of 6-inch force mains and 8- and 10-inch gravity mains and appurtenances. The three rehabilitated pump stations include Powhatan Avenue PS #122, Richmond Crescent PS #124, and Jamestown Crescent PS #142. The new infrastructure will replace Monroe Place PS #114, Hanover Ave PS #141 and associated gravity and force mains.

PROJECT JUSTIFICATION

This project was initially identified by HRSD as part of a condition assessment program to address aging infrastructure concerns related to structural, electrical, and pump performance operation. The project was also identified to mitigate the risks from tidal flooding during wet weather conditions and from sea level rise due to climate change. Hazen & Sawyer were commissioned to perform the comprehensive study on behalf of HRSD. Elements of the Project identified under the VIP-R10 in HRSD's EPA Rehabilitation Action Plan Phase 2 will need to reach Substantial Completion by May 5, 2027.

FUNDING TYPE

Funding Type: Cash

CONTACTS

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

PROPOSED SCHEDULE START DATE

PrePlanning	06/03/2019
PER	06/01/2020
Design Delay	06/15/2021
Design	06/15/2021
Bid Delay	10/01/2024
PreConstruction	10/01/2024
Construction	10/01/2024
Closeout	04/01/2028

COST ESTIMATE

Cost Estimate Class:	Class 1 (-3% to +15%)
PrePlanning	\$0
PER	\$394,343
Design	\$9,465,017
PreConstruction	\$0
Construction	\$48,711,731
Closeout	\$230,000
Est. Program Cost	\$58,801,091
Contingency Budget	\$3,798,546
Est. Project Costs	\$62,599,637



VP015410

- 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

VP015410

City Park Pump Station (PS 106) Replacement



CIP Location





System: VIP
Type: Pump Stations

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	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34	FY35
\$11,202	\$6,000	\$4,801	\$401	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

PROJECT DESCRIPTION

This project will construct a new HRSD City Park Pump Station to replace the old existing pump station.

PROJECT JUSTIFICATION

This project will address aging infrastructure pertaining to the condition of the wet wells, pumps, motors, controls, appurtenances, and emergency generator/pump for the facilities. The pumps, motors, and controls are nearing the end of their useful life and replacement parts are not available.

FUNDING TYPE

Funding Type: Revenue Bond

CONTACTS

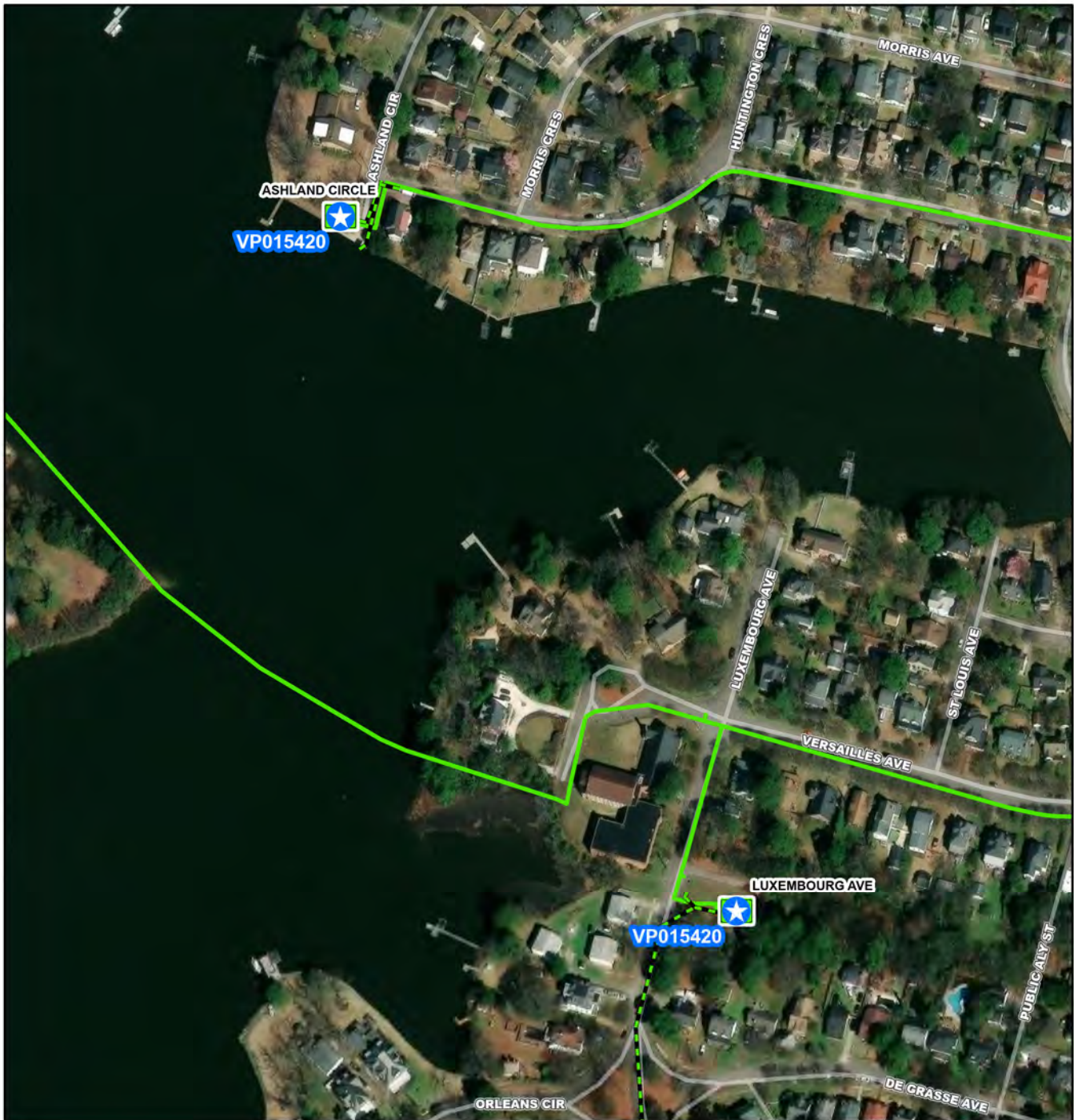
Contacts-Requesting Dept: Engineering
Contacts-Dept Contacts: Phil Hubbard
Contacts-Managing Dept: Engineering

PROPOSED SCHEDULE START DATE

PrePlanning	
PER	07/03/2023
Design Delay	
Design	
Bid Delay	07/03/2023
PreConstruction	07/03/2023
Construction	11/01/2023
Closeout	09/01/2026

COST ESTIMATE

Cost Estimate Class:	Class 1 (-3% to +15%)
PrePlanning	\$0
PER	\$0
Design	\$0
PreConstruction	\$0
Construction	\$11,201,000
Closeout	\$1,000
Est. Program Cost	\$11,202,000
Contingency Budget	\$560,000
Est. Project Costs	\$11,762,000



VP015420

- 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 80 160 320 480 640 Feet

VP015420

**Luxembourg Pump Station (PS 113) Replacement and
Ashland Sewer Extension**



CIP Location





Luxembourg Pump Station (PS 113) Replacement and Ashland Sewer Extension

PR_VP015420

System: VIP
Type: Pump Stations

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	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34	FY35
\$31,613	\$11,565	\$18,503	\$1,545	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

PROJECT DESCRIPTION

This project will construct a new Luxembourg Pump Station (PS) to replace the old existing pump station. Also, the existing HRSD Ashland Circle Pump Station will be demolished and replaced with sanitary sewer. The new sanitary sewer will be installed from the existing Ashland Circle PS to the new Luxembourg PS.

PROJECT JUSTIFICATION

This project will address aging infrastructure pertaining to the condition of the wet wells, pumps, motors, controls, appurtenances, and emergency generator/pump for the facilities. The pumps, motors, and controls are nearing the end of their useful life and replacement parts are not available. The Luxembourg Pump Station building is experiencing differential settlement. The Luxembourg PS has been designed to match the home to the left of the PS, which faces Versailles Ave. Ashland Circle Pump Station is in a low-lying area and condition assessment activities gave evidence that tidal flooding likely occurs during severe wet weather events.

FUNDING TYPE

Funding Type: Revenue Bond

CONTACTS

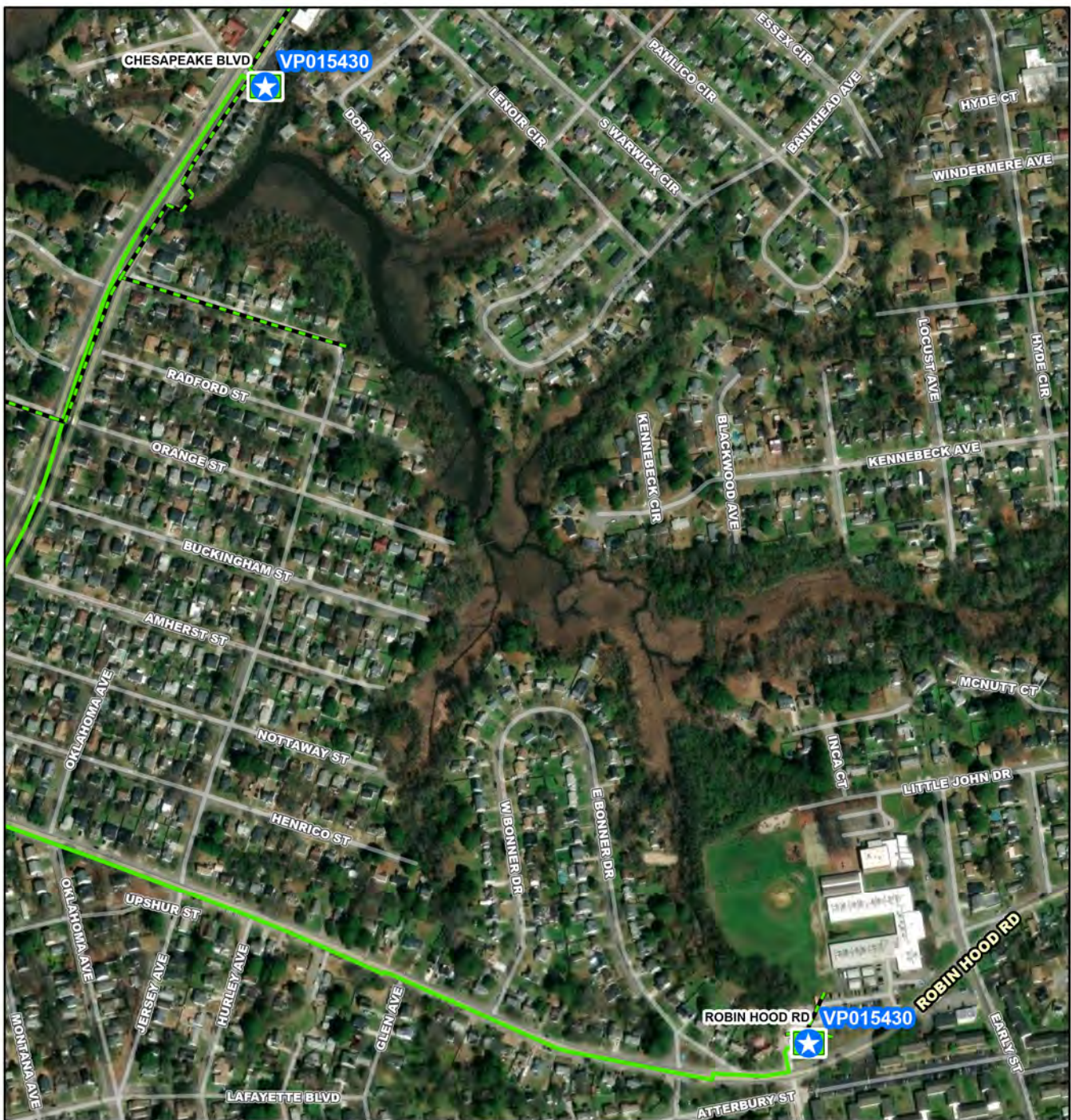
Contacts-Requesting Dept: Engineering
Contacts-Dept Contacts: Phil Hubbard
Contacts-Managing Dept: Engineering

PROPOSED SCHEDULE START DATE

PrePlanning	
PER	09/01/2023
Design Delay	09/01/2023
Design	09/01/2023
Bid Delay	09/01/2023
PreConstruction	09/01/2023
Construction	01/01/2024
Closeout	10/01/2026

COST ESTIMATE

Cost Estimate Class:	Class 1 (-3% to +15%)
PrePlanning	\$0
PER	\$0
Design	\$0
PreConstruction	\$0
Construction	\$31,609,856
Closeout	\$3,000
Est. Program Cost	\$31,612,856
Contingency Budget	\$778,000
Est. Project Costs	\$32,390,856



VP015430

-  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

0 165 330 660 990 1,320 Feet

VP015430

**Chesapeake Boulevard Pump Station (PS 105)
Replacement and Norfolk Pump Station (PS 57)
Rehabilitation**



CIP Location





Chesapeake Blvd PS (PS 105) Replacement and Norfolk PS (PS 57) Rehabilitation

PR_VP015430

System: VIP
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	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34	FY35
\$23,171	\$390	\$5,251	\$11,040	\$6,461	\$29	\$0	\$0	\$0	\$0	\$0	\$0

PROJECT DESCRIPTION

This project will construct a new Chesapeake Boulevard Pump Station (PS) to replace the old existing pump station. Also, HRSD has acquired Norfolk pump station #57, which has been renamed to HRSD PS 167 / Robinhood Road PS . This project will replace all of the existing equipment in PS #57 and the new equipment will be installed in according with HRSD's standards.

PROJECT JUSTIFICATION

This project will address aging infrastructure pertaining to the condition of the wet wells, pumps, motors, controls, appurtenances, and emergency generator/pump for the facilities. The pumps, motors, and controls are nearing the end of their useful life and replacement parts are not available.

FUNDING TYPE

Funding Type: Revenue Bond

CONTACTS

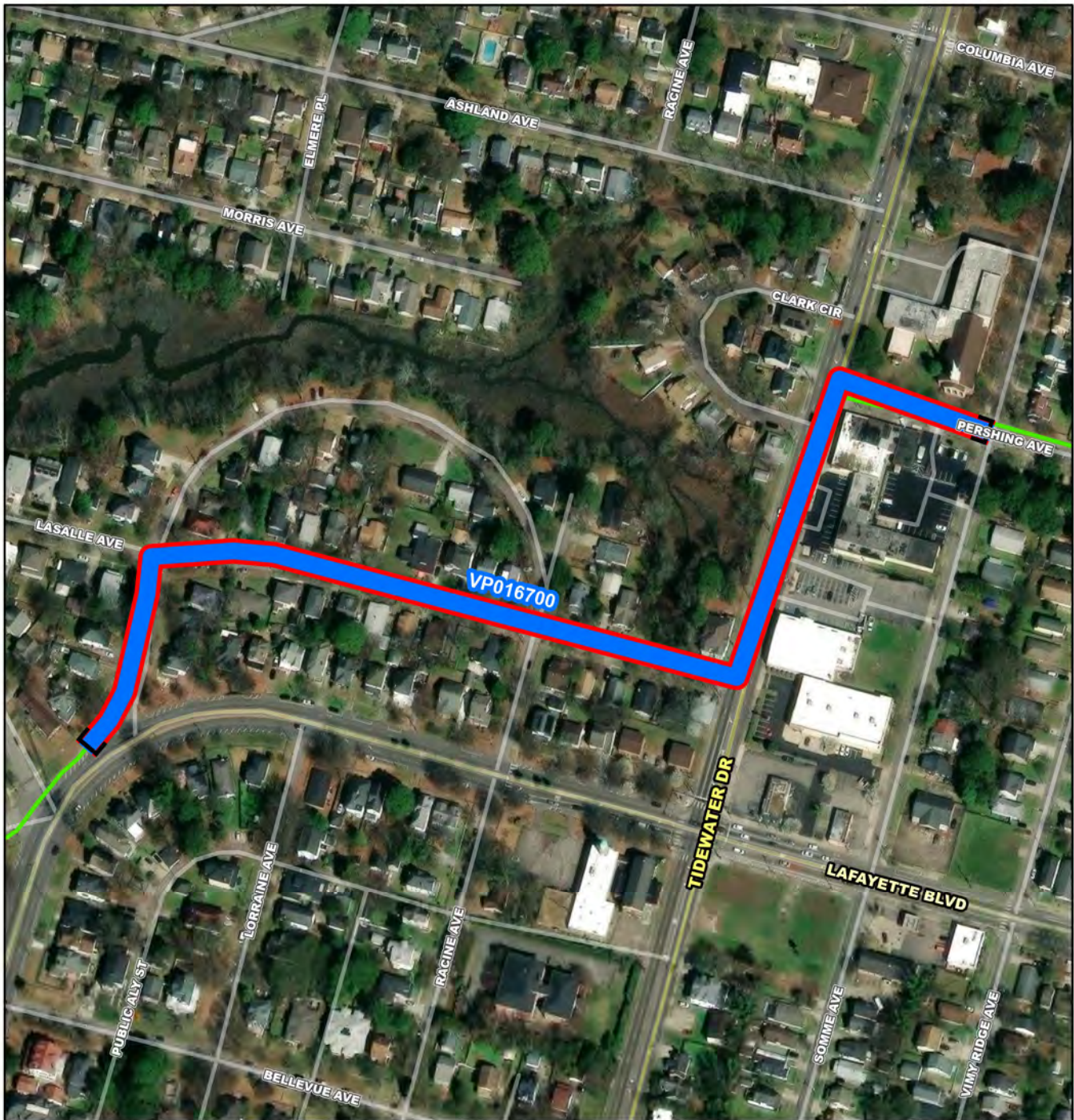
Contacts-Requesting Dept: Engineering
Contacts-Dept Contacts: Rebecca Currall
Contacts-Managing Dept: Engineering

PROPOSED SCHEDULE START DATE

PrePlanning	
PER	01/01/2019
Design Delay	05/01/2020
Design	08/01/2024
Bid Delay	10/01/2025
PreConstruction	12/01/2025
Construction	01/01/2026
Closeout	02/01/2028

COST ESTIMATE

Cost Estimate Class:	Class 2 (-5% to +20%)
PrePlanning	\$0
PER	\$0
Design	\$95,000
PreConstruction	\$26,000
Construction	\$23,000,000
Closeout	\$50,000
Est. Program Cost	\$23,171,000
Contingency Budget	\$2,244,000
Est. Project Costs	\$25,415,000



VP016700

- 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 80 160 320 480 640 Feet

VP016700

Norview-Estabrook Division I 18-Inch Force Main Replacement Phase III



CIP Location





Norview-Estabrook Division I 18-Inch Force Main
Replacement Phase III

PR_VP016700

System: VIP
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	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34	FY35
\$5,179	\$2,511	\$2,668	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

PROJECT DESCRIPTION

This project is to replace 18" FM with 18" HDPE Directional Drilled pipe due to the limited area between the existing HRSD FM, the City of Norfolk gravity sewer and water main as well as services for both. There would only be approximately 6 feet for the construction of 18" C900 PVC. The contractor could not get this pipe installed in the area along LaSalle Ave., Fontainebleau Crescent and connecting to Kicker Joint Valve along Versailles Ave. Parts of the pipeline will be open cut along Fontainebleau Crescent and Versailles Ave as well. This pipeline work will require coordination with gravity sewer being installed from the Luxembourg PS with approximately 3500 LF of gravity sewer, to the Ashland Circle gravity sewer, along Versailles Ave. This project is through the Lafayette Residence Park neighborhood, listed on the National Historic Register.

PROJECT JUSTIFICATION

This project will replace 1952 cast iron force main with lead joints that is nearing the end of its useful life (SF-66). Replacement of this force main will need to be coordinated with Lafayette Norview-Estabrook and Norview Pump Station Replacements (VP015400)

FUNDING TYPE

Funding Type: VCWRLF

CONTACTS

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

PROPOSED SCHEDULE START DATE

PrePlanning	01/01/2020
PER	11/02/2020
Design Delay	11/26/2021
Design	11/26/2021
Bid Delay	05/30/2023
PreConstruction	05/30/2023
Construction	08/01/2024
Closeout	01/01/2026

COST ESTIMATE

Cost Estimate Class:	Class 1 (-3% to +15%)
PrePlanning	\$0
PER	\$76,988
Design	\$153,926
PreConstruction	\$0
Construction	\$4,942,824
Closeout	\$5,000
Est. Program Cost	\$5,178,738
Contingency Budget	\$361,914
Est. Project Costs	\$5,540,652



VP018000

-  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

VP018000

Park Avenue Pump Station Replacement



CIP Location



System: VIP
Type: Pump Stations

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	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34	FY35
\$15,632	\$15,335	\$295	\$2	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

PROJECT DESCRIPTION

This project is to design and construct a replacement pump station for the existing 1922 Park Avenue Pump Station (PS), based on the recommendations of the Park Avenue and Ferebee Avenue Pump Station Study (VP011010). This project is to include installation of an emergency generator/pump and address the replacement/rehabilitation of 50 linear feet (LF) of the 24-inch gravity influent line.

PROJECT JUSTIFICATION

This project will evaluate and implement the replacement of Park Avenue Pump Station. This facility was inspected in August 2013, as part of a Condition Assessment Program administered by Brown and Caldwell. Park Avenue Pump Station was recommended for replacement and/or upgrades under Level 2 in the Rehabilitation program. This facility experiences operational issues related to aging equipment and structure. Park Avenue Pump Station currently receives flows from HRSDs Ferebee Avenue Pump Station in addition to flow from several city pump stations. An in-house hydraulic evaluation in 2014 identified several alternatives for revising the alignment and connectivity (to gravity or to the force main system) of the Ferebee Avenue Pump Station effluent force main, which may significantly impact the future capacity needs and design of the Park Avenue Pump Station. Preliminary engineering evaluations of these two stations will be conducted jointly.

FUNDING TYPE

Funding Type: VCWRLF

CONTACTS

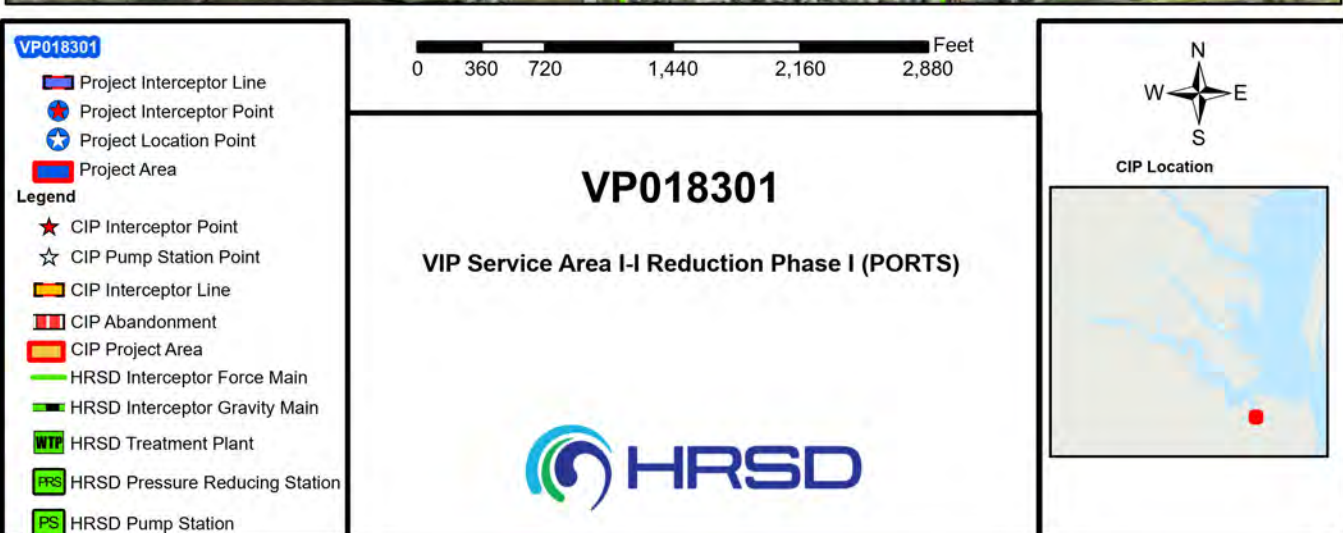
Contacts-Requesting Dept: Operations-Interceptors
Contacts-Dept Contacts: Nick Taschner
Contacts-Managing Dept: Engineering

PROPOSED SCHEDULE START DATE

PrePlanning	07/01/2015
PER	05/23/2017
Design Delay	12/03/2019
Design	01/03/2020
Bid Delay	03/11/2022
PreConstruction	03/14/2022
Construction	07/01/2022
Closeout	08/01/2025

COST ESTIMATE

Cost Estimate Class:	Class 1 (-3% to +15%)
PrePlanning	\$0
PER	\$255,572
Design	\$1,075,036
PreConstruction	\$36,479
Construction	\$14,255,386
Closeout	\$10,000
Est. Program Cost	\$15,632,473
Contingency Budget	\$1,028,000
Est. Project Costs	\$16,660,473



System: VIP
Type: Locality and Private Property

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

PROGRAM CASH FLOW PROJECTION (\$,000)

Prog Cost	Exp to Previous Year	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34	FY35
\$12,757	\$2,171	\$1,552	\$6,342	\$2,692	\$0	\$0	\$0	\$0	\$0	\$0	\$0

PROJECT DESCRIPTION

PORT-01 Comprehensive I/I Reduction Plan; PORT-02 General I/I Reduction Plan.

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

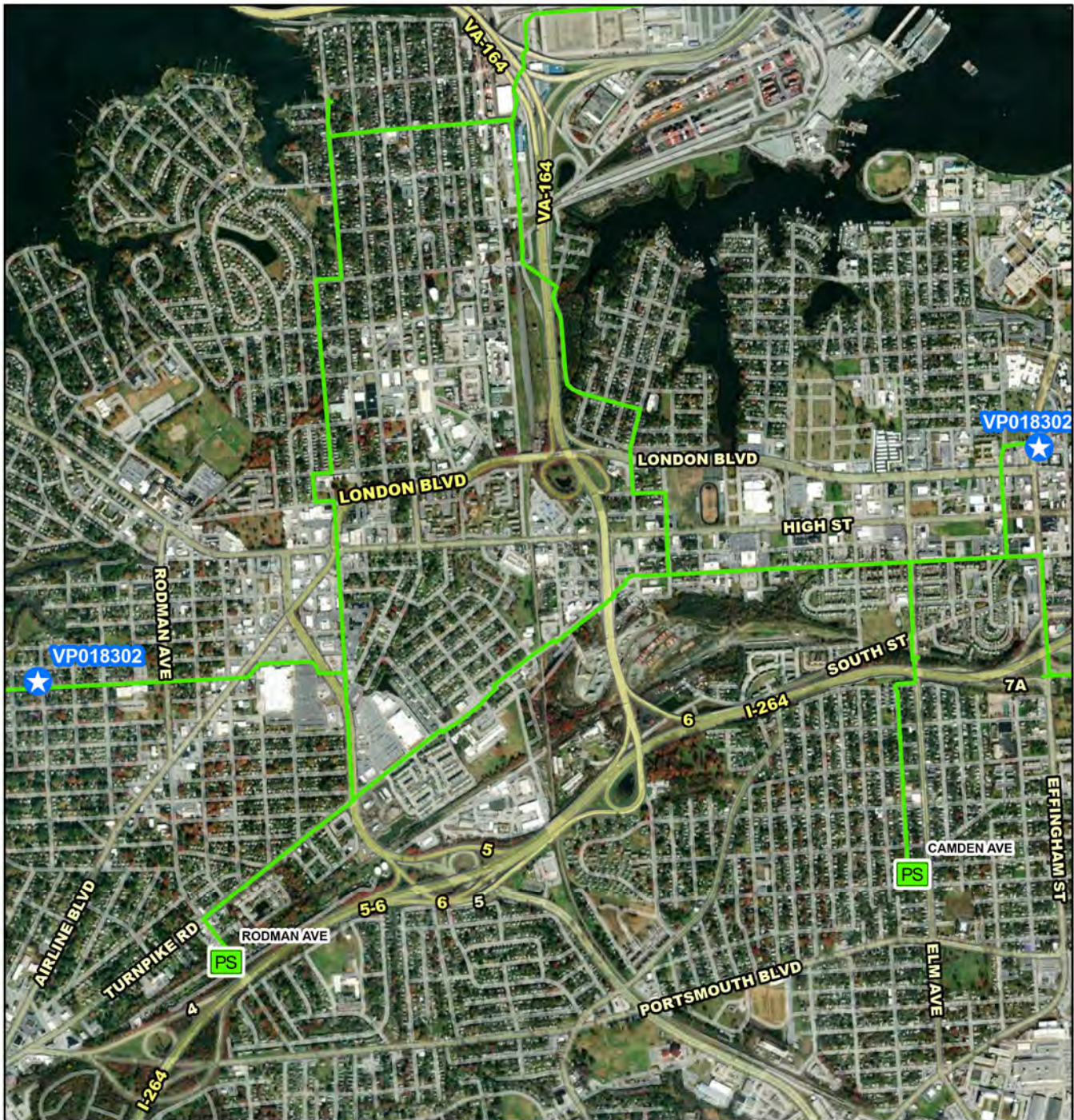
Contacts-Requesting Dept: Operations-Interceptors
Contacts-Dept Contacts: Phil Hubbard
Contacts-Managing Dept: Engineering

PROPOSED SCHEDULE START DATE

PrePlanning	08/02/2021
PER	05/01/2024
Design Delay	05/01/2025
Design	04/01/2025
Bid Delay	01/01/2026
PreConstruction	01/01/2026
Construction	05/01/2026
Closeout	12/01/2027

COST ESTIMATE

Cost Estimate Class:	Class 2 (-5% to +20%)
PrePlanning	\$42,506
PER	\$1,804,694
Design	\$810,000
PreConstruction	\$50,000
Construction	\$10,000,000
Closeout	\$50,000
Est. Program Cost	\$12,757,200
Contingency Budget	\$1,500,000
Est. Project Costs	\$14,257,200



VP018302

-  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

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

VP018302

Portsmouth Pump Station Upgrades (VIP-HPP-04B)



CIP Location



System: VIP
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	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34	FY35
\$357	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$357

PROJECT DESCRIPTION

Portsmouth Pump Station Upgrades PS002 and PS008.

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

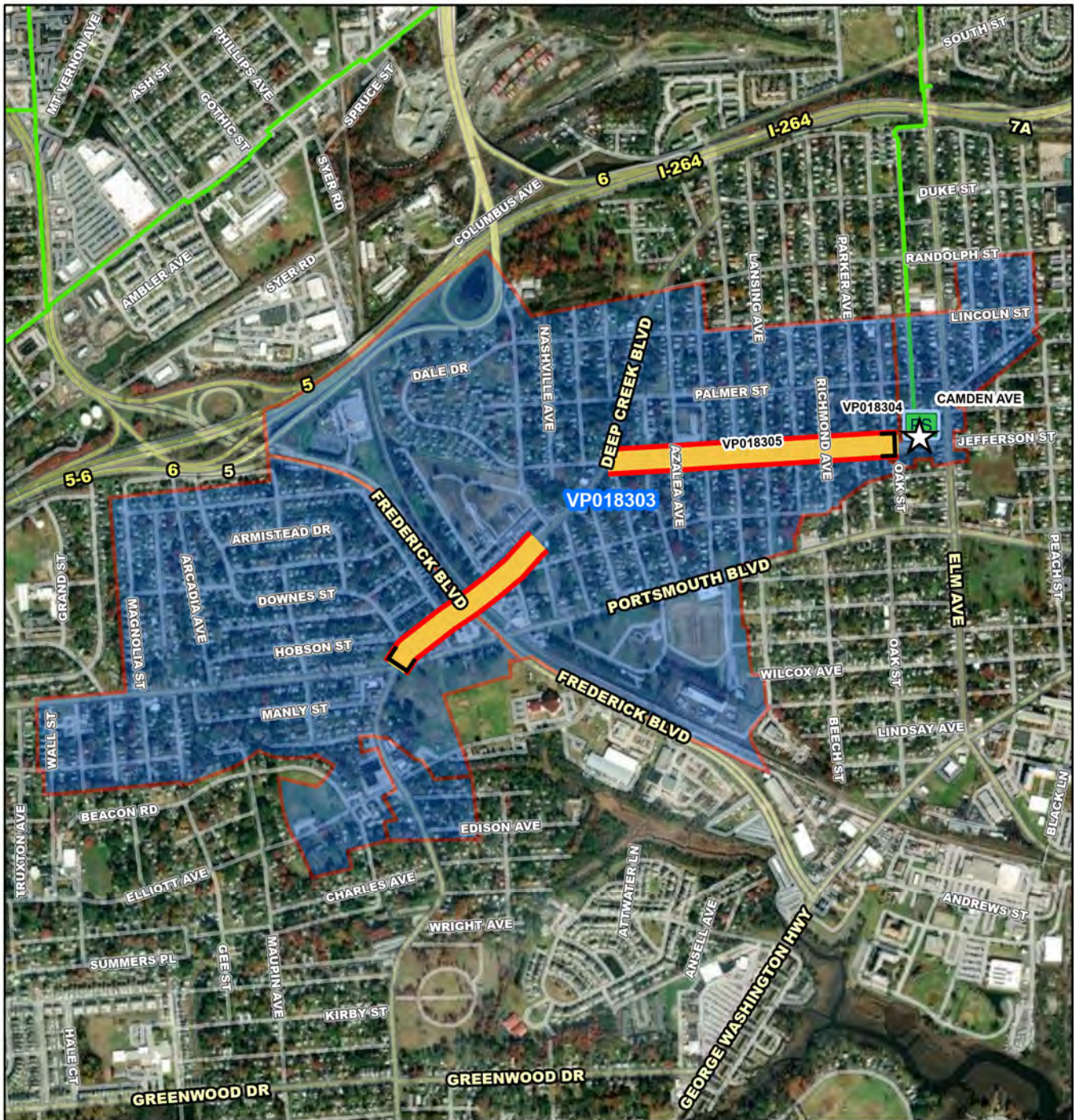
Contacts-Requesting Dept: Engineering
Contacts-Dept Contacts: John Dano
Contacts-Managing Dept: Engineering

PROPOSED SCHEDULE START DATE

PrePlanning	08/01/2034
PER	02/02/2035
Design Delay	09/01/2035
Design	09/01/2035
Bid Delay	07/01/2036
PreConstruction	07/01/2036
Construction	10/01/2036
Closeout	12/01/2037

COST ESTIMATE

Cost Estimate Class:	Class 10
PrePlanning	\$0
PER	\$500,271
Design	\$800,356
PreConstruction	\$300,085
Construction	\$11,433,593
Closeout	\$0
Est. Program Cost	\$13,034,306
Contingency Budget	\$2,858,399
Est. Project Costs	\$15,892,705

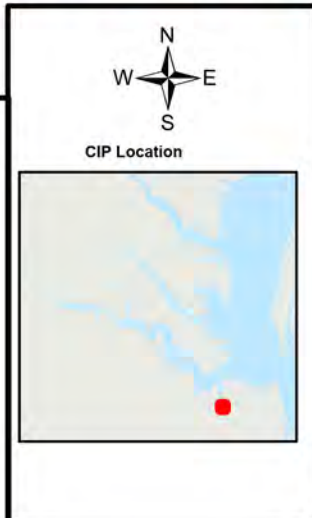


- VP018303**
- Project Interceptor Line
 - Project Interceptor Point
 - Project Location Point
 - Project Area
- Legend**
- CIP Interceptor Point
 - CIP Pump Station Point
 - CIP Interceptor Line
 - CIP Abandonment
 - CIP Project Area
 - HRSD Interceptor Force Main
 - HRSD Interceptor Gravity Main
 - HRSD Treatment Plant
 - HRSD Pressure Reducing Station
 - HRSD Pump Station

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

VP018303

VIP Service Area I-I Reduction Phase III (PORTS)



System: VIP
Type: Locality and Private Property

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

PROGRAM CASH FLOW PROJECTION (\$,000)

Prog Cost	Exp to Previous Year	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34	FY35
\$3,779	\$1,761	\$310	\$1,200	\$508	\$0	\$0	\$0	\$0	\$0	\$0	\$0

PROJECT DESCRIPTION

PORT-04 General I/I Reduction Plan; PORT-04-LOP65-1 Data-Driven I/I Reduction Plan; PORT-04-LOP65-2 Data-Driven I/I Reduction Plan; PORT-04-LOP65-3 Data-Driven I/I Reduction Plan. Currently, Brown and Caldwell is performing comprehensive flow monitoring within these areas. Once flow monitoring is complete we will transition to I/I reduction.

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

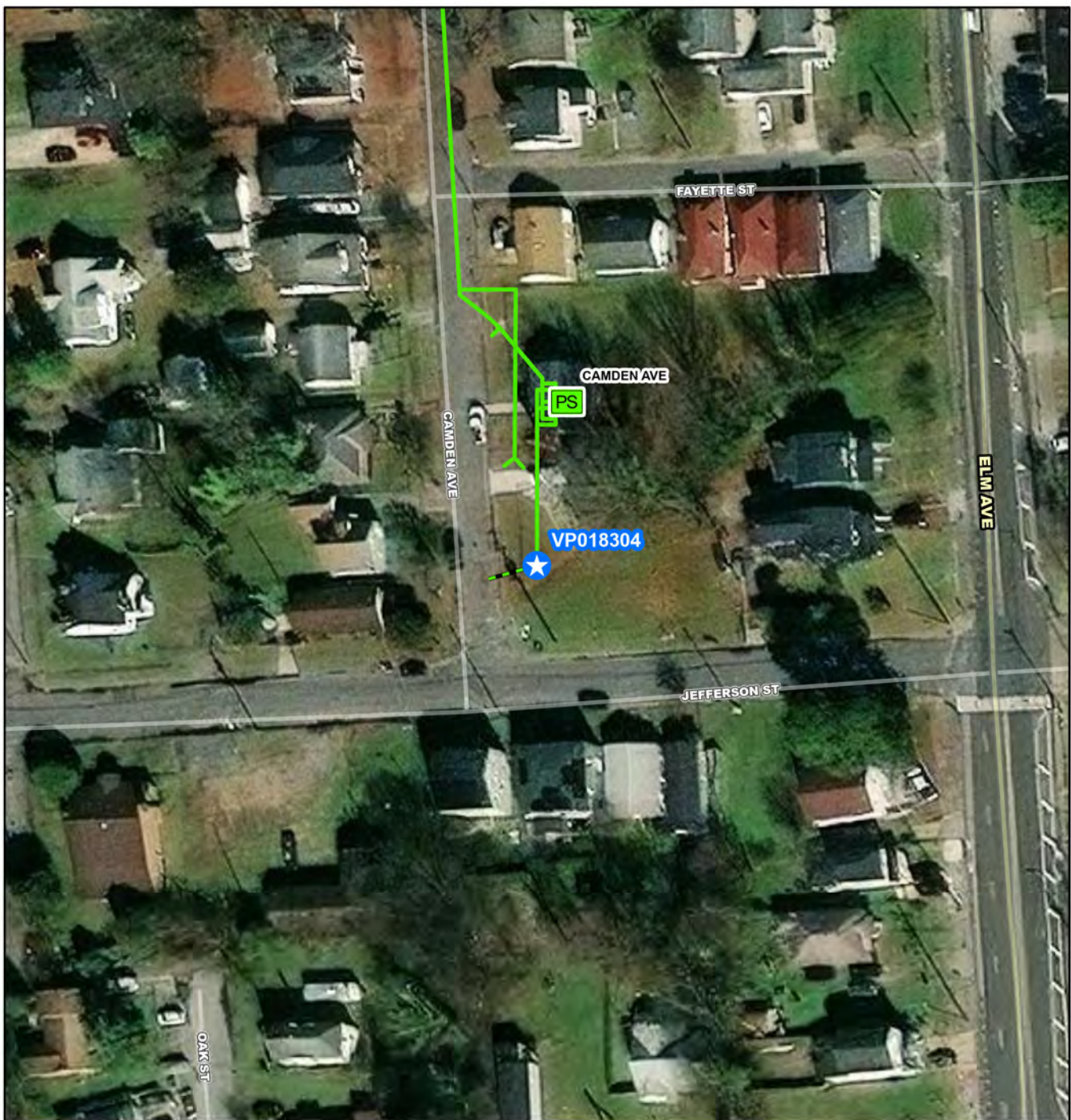
Contacts-Requesting Dept: Operations-Interceptors
Contacts-Dept Contacts: Phil Hubbard
Contacts-Managing Dept: Engineering

PROPOSED SCHEDULE START DATE

PrePlanning	08/02/2021
PER	01/01/2025
Design Delay	10/07/2021
Design	04/01/2025
Bid Delay	01/01/2026
PreConstruction	01/01/2026
Construction	05/01/2026
Closeout	12/01/2027

COST ESTIMATE

Cost Estimate Class:	Class 3 (-10% to +30%)
PrePlanning	\$51,506
PER	\$1,669,641
Design	\$100,000
PreConstruction	\$50,000
Construction	\$1,900,000
Closeout	\$8,000
Est. Program Cost	\$3,779,147
Contingency Budget	\$285,000
Est. Project Costs	\$4,064,147



VP018304

- 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

VP018304

Camden Avenue Pump Station Upgrades (VIP-HPP-04D)



CIP Location



System: VIP
Type: Pump Stations

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	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34	FY35
\$6,783	\$0	\$0	\$0	\$0	\$0	\$209	\$340	\$2,139	\$4,095	\$0	\$0

PROJECT DESCRIPTION

Camden Avenue Pump Station Upgrade (SS-PS-146).

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

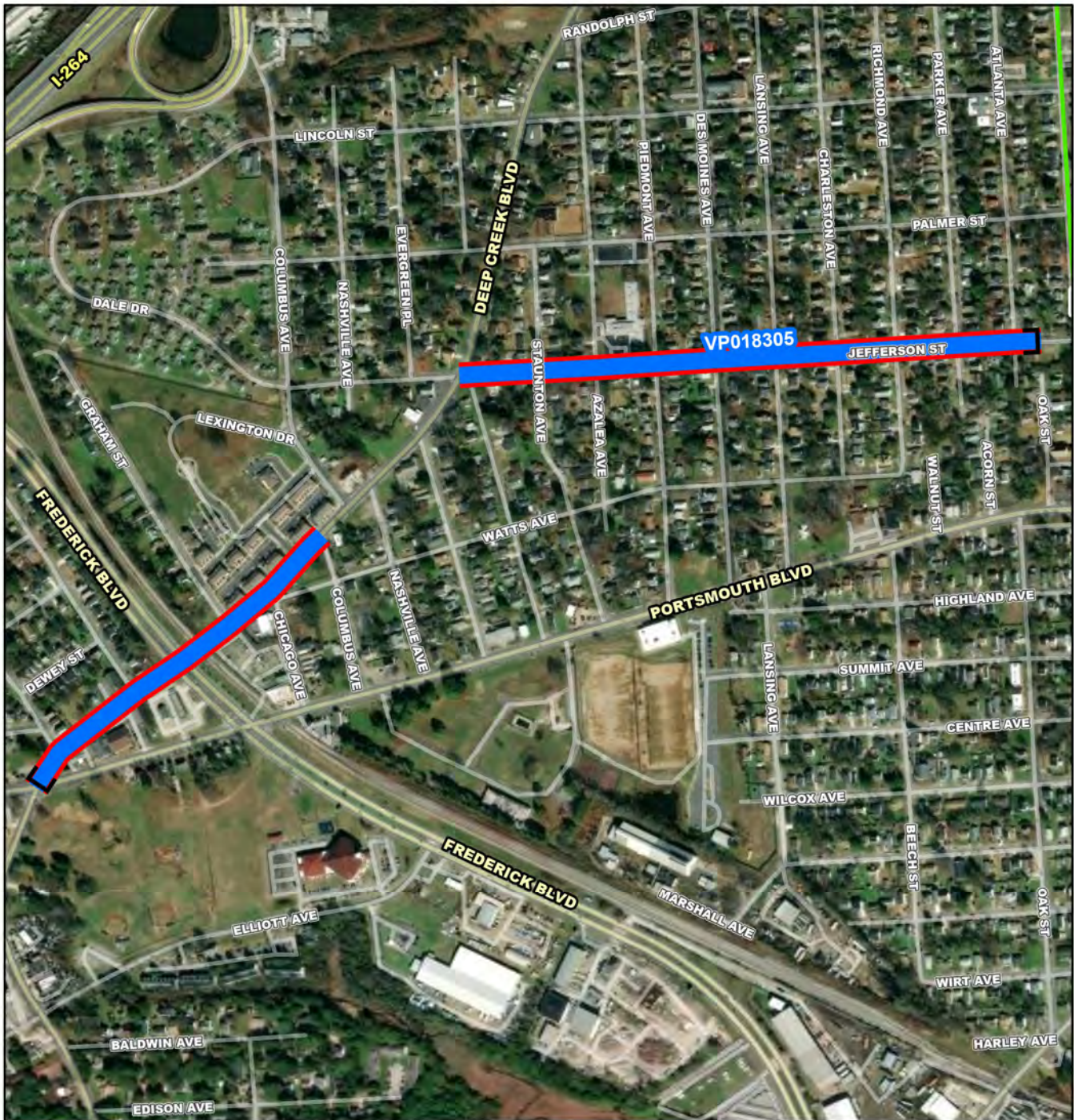
Contacts-Requesting Dept: Engineering
Contacts-Dept Contacts: John Dano
Contacts-Managing Dept: Engineering

PROPOSED SCHEDULE START DATE

PrePlanning	09/01/2029
PER	03/03/2030
Design Delay	08/03/2030
Design	08/03/2030
Bid Delay	10/04/2031
PreConstruction	10/05/2031
Construction	01/03/2032
Closeout	07/03/2033

COST ESTIMATE

Cost Estimate Class:	Class 10
PrePlanning	\$0
PER	\$261,000
Design	\$366,429
PreConstruction	\$12,630
Construction	\$6,143,140
Closeout	\$0
Est. Program Cost	\$6,783,199
Contingency Budget	\$1,356,685
Est. Project Costs	\$8,139,884



VP018305

- 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

0 220 440 880 1,320 1,760 Feet

VP018305

Camden Avenue Gravity Improvements (VIP-HPP-04E)

N
W E
S

CIP Location

System: VIP
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	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34	FY35
\$7,856	\$0	\$0	\$0	\$0	\$0	\$97	\$304	\$2,044	\$3,607	\$1,803	\$0

PROJECT DESCRIPTION

Camden Avenue gravity main (GM) capacity improvements: Upgrade 1,670 linear feet (LF) of 12-inch GM to 15-inch GM; Upgrade 2,170 LF of 17-inch GM to 21-inch GM and 370 LF of 15-inch GM to 18-inch 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

Funding Type: Revenue Bond

CONTACTS

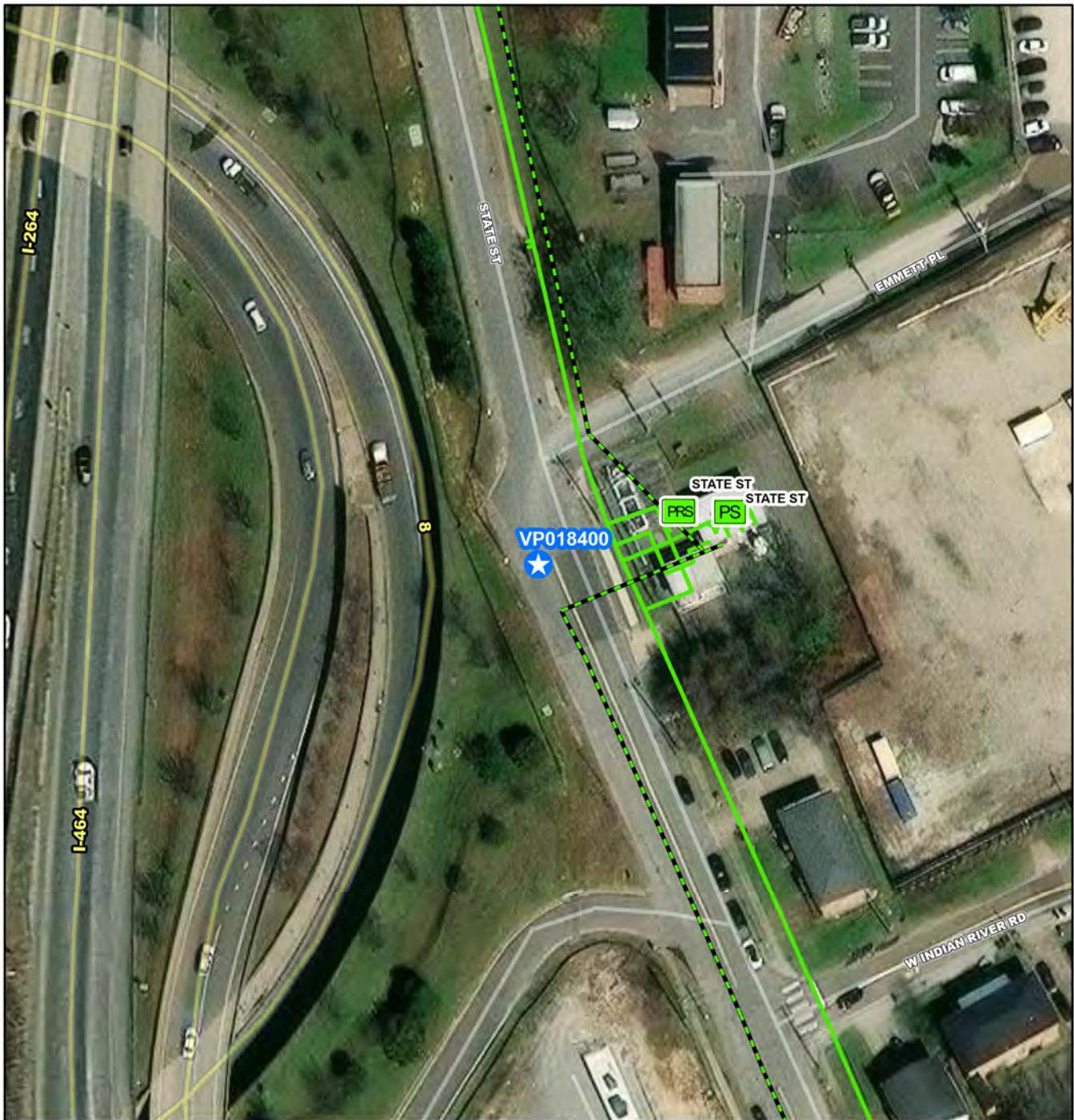
Contacts-Requesting Dept: Engineering
Contacts-Dept Contacts: John Dano
Contacts-Managing Dept: Engineering

PROPOSED SCHEDULE START DATE

PrePlanning	01/01/2030
PER	01/01/2030
Design Delay	01/01/2031
Design	01/01/2031
Bid Delay	01/01/2032
PreConstruction	01/01/2032
Construction	01/01/2032
Closeout	01/01/2034

COST ESTIMATE

Cost Estimate Class:	Class 10
PrePlanning	\$0
PER	\$194,904
Design	\$412,739
PreConstruction	\$34,395
Construction	\$7,213,753
Closeout	\$0
Est. Program Cost	\$7,855,791
Contingency Budget	\$1,605,094
Est. Project Costs	\$9,460,885



VP018400

- 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

VP018400

State Street Pressure Reducing Station and Offline Storage (VIP-HPP-05)



CIP Location





System: VIP
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	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34	FY35
\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

PROJECT DESCRIPTION

Install new Pressure Reducing Station (PRS) with 35 feet of assistance - New Location; Install new 2.3 MG 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	07/01/2035
PER	08/01/2035
Design Delay	01/01/2036
Design	01/01/2036
Bid Delay	11/01/2037
PreConstruction	11/01/2037
Construction	02/01/2038
Closeout	11/01/2039

COST ESTIMATE

Cost Estimate Class:	Class 10
PrePlanning	\$1,262,980
PER	\$300,589
Design	\$1,478,950
PreConstruction	\$27,785
Construction	\$20,332,714
Closeout	\$31,575
Est. Program Cost	\$23,434,594
Contingency Budget	\$4,795,005
Est. Project Costs	\$28,229,599



VP018800

- Project Intercept Line
- Project Intercept Point
- Project Location Point
- Project Area

Legend

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

0 25 50 100 150 200 Feet

VP018800

Virginia Initiative Plant Administration Building Renovation



CIP Location





Virginia Initiative Plant Administration Building Renovation

PR_VP018800

System: VIP
Type: Facilities, Buildings and Capital Equipment

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

PROGRAM CASH FLOW PROJECTION (\$,000)

Prog Cost	Exp to Previous Year	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34	FY35
\$10,693	\$1,231	\$3,655	\$3,655	\$2,152	\$0	\$0	\$0	\$0	\$0	\$0	\$0

PROJECT DESCRIPTION

This project is to renovate the existing 1990 and 1974 administration areas.

PROJECT JUSTIFICATION

This project will provide additional administration offices, lunch room, conference room, bathrooms and unisex bathrooms for Solids Treatment and Solids Handling.

FUNDING TYPE

Funding Type: Revenue Bond

CONTACTS

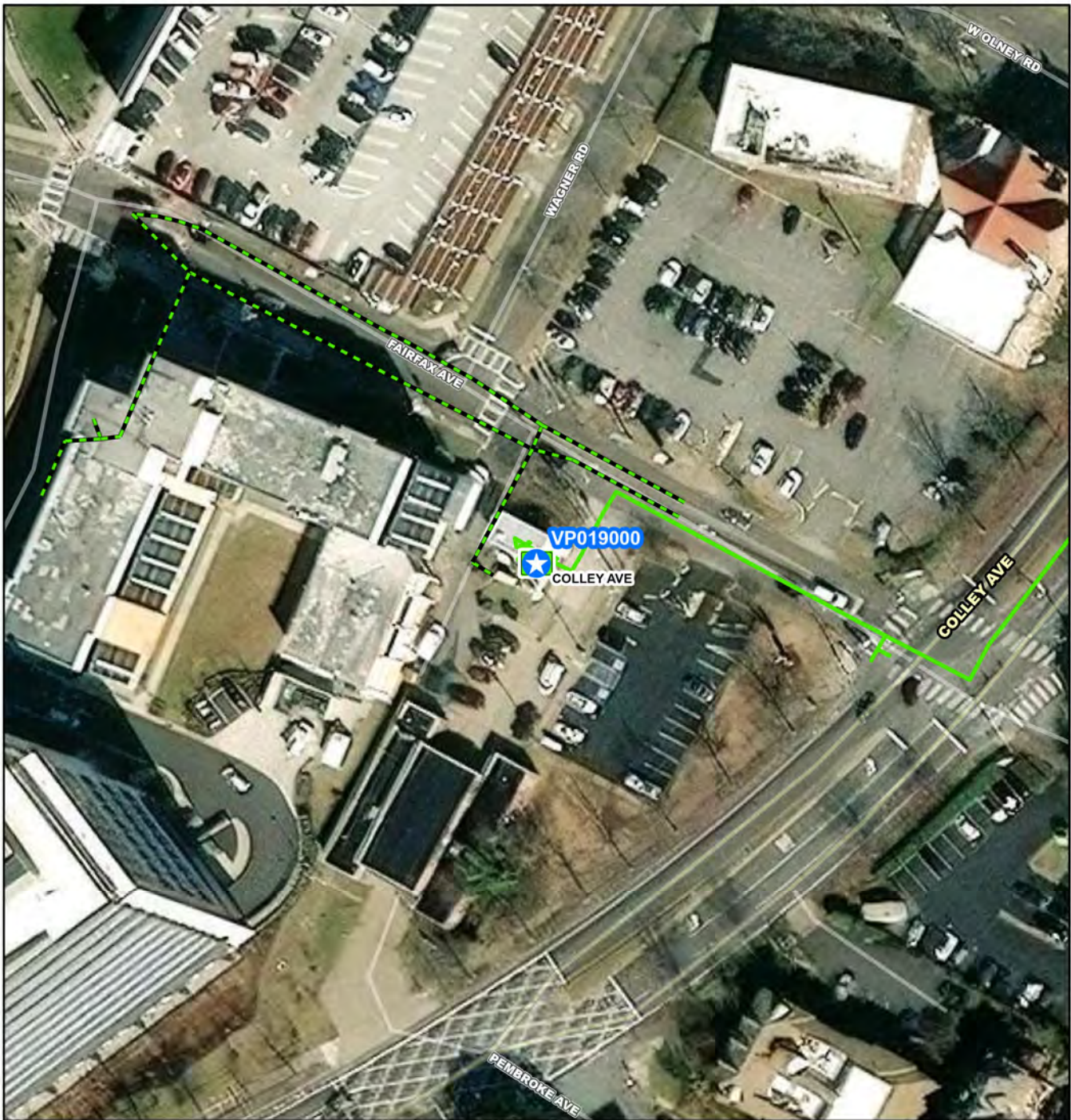
Contacts-Requesting Dept: Operations-Treatment
Contacts-Dept Contacts: Tim Marsh
Contacts-Managing Dept: Engineering

PROPOSED SCHEDULE START DATE

PrePlanning	07/01/2020
PER	02/01/2021
Design Delay	07/15/2022
Design	09/01/2022
Bid Delay	04/01/2025
PreConstruction	03/01/2025
Construction	05/01/2025
Closeout	02/01/2028

COST ESTIMATE

Cost Estimate Class:	Class 2 (-5% to +20%)
PrePlanning	\$0
PER	\$127,273
Design	\$489,512
PreConstruction	\$5,000
Construction	\$10,051,284
Closeout	\$20,000
Est. Program Cost	\$10,693,069
Contingency Budget	\$884,662
Est. Project Costs	\$11,577,731



VP019000

- 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

VP019000

Colley Ave Pump Station Pump Replacement



CIP Location



System: VIP
Type: Pump Stations

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

PROGRAM CASH FLOW PROJECTION (\$,000)

Prog Cost	Exp to Previous Year	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34	FY35
\$3,646	\$358	\$1,643	\$1,639	\$5	\$0	\$0	\$0	\$0	\$0	\$0	\$0

PROJECT DESCRIPTION

This project will replace the existing extended shaft pumps at Colley Avenue Pump Station with new constant speed dry pit submersible pumps. Architectural updates will also be made to help the station blend with the surrounding area.

PROJECT JUSTIFICATION

The existing pumps at the Colley Avenue Pump Station were installed circa 1970. Two of the three pumps are Allis-Chalmers pumps, which are no longer manufactured, making spare parts very difficult to find. A recent drawdown test performed in June 2020 showed that the two smaller pumps are operating at 70% of their original hydraulic capacity, and the large pump is operating at approximately 45% of its capacity. In addition, the smaller pumps are undersized for wet weather head conditions, forcing the third pump to be used as both the lead and wet weather pump. As a result, a 6-inch emergency bypass pump has been installed at the station to provide additional wet weather pumping capacity. Due to the loss of hydraulic efficiency and their age, these pumps cost approximately \$10,000 per year more in power, labor and maintenance costs than properly sized new pumps. In addition, replacing the pumps would allow the Godwin pump to be removed, improving the aesthetics of the station, and allowing this pump to be used elsewhere in the system.

FUNDING TYPE

Funding Type: Revenue Bond

CONTACTS

Contacts-Requesting Dept: Operations-Interceptors
Contacts-Dept Contacts: Gene Rutledge
Contacts-Managing Dept: Operations-Interceptors

PROPOSED SCHEDULE START DATE

PrePlanning	04/01/2021
PER	06/28/2021
Design Delay	04/25/2022
Design	12/05/2023
Bid Delay	07/01/2025
PreConstruction	10/01/2025
Construction	01/01/2026
Closeout	01/01/2027

COST ESTIMATE

Cost Estimate Class:	Class 2 (-5% to +20%)
PrePlanning	\$0
PER	\$39,588
Design	\$318,801
PreConstruction	\$10,000
Construction	\$3,266,450
Closeout	\$10,800
Est. Program Cost	\$3,645,639
Contingency Budget	\$102,818
Est. Project Costs	\$3,748,457



Virginia Initiative Plant Motor Control Center Replacements

PR_VP019200

System: VIP
Type: Electrical

Driver Category: Aging Infrastructure/Rehabilitation
Project Phase: Pre Planning
Regulatory: None

PROGRAM CASH FLOW PROJECTION (\$,000)

Prog Cost	Exp to Previous Year	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34	FY35
\$4,960	\$2,227	\$1,312	\$1,312	\$109	\$0	\$0	\$0	\$0	\$0	\$0	\$0

PROJECT DESCRIPTION

This project is to design and replace five (5) Motor Control Centers (MCC) and a Main Distribution Panel, and variable frequency drives located in the Incinerator Building at Virginia Initiative Plant (VIP) installed in the 1970's. This project will also replace a four (4) 1980's vintage MCC and Switchgear located in the Blower Building. The electrical distribution equipment has reached the end of their useful life. Two new 2000 kVA transformers will be installed to accomodate future blowers loads.

PROJECT JUSTIFICATION

During an annual thermographic inspection signs of bus deterioration and heat anomalies were discovered. The MCC's are critical to plant operations. The five MCC's in the incinerator building supply power to the furnace, ID fan, Centrifuges, and Building Services. The MCC located in the Blower Building supplies power to the Blowers, Primary Clarifiers, Grit Tanks, and Chemical Building. This project will increase plant process reliability and improve employee safety by reducing the likelihood of an arc flash event.

FUNDING TYPE

Funding Type: Revenue Bond

CONTACTS

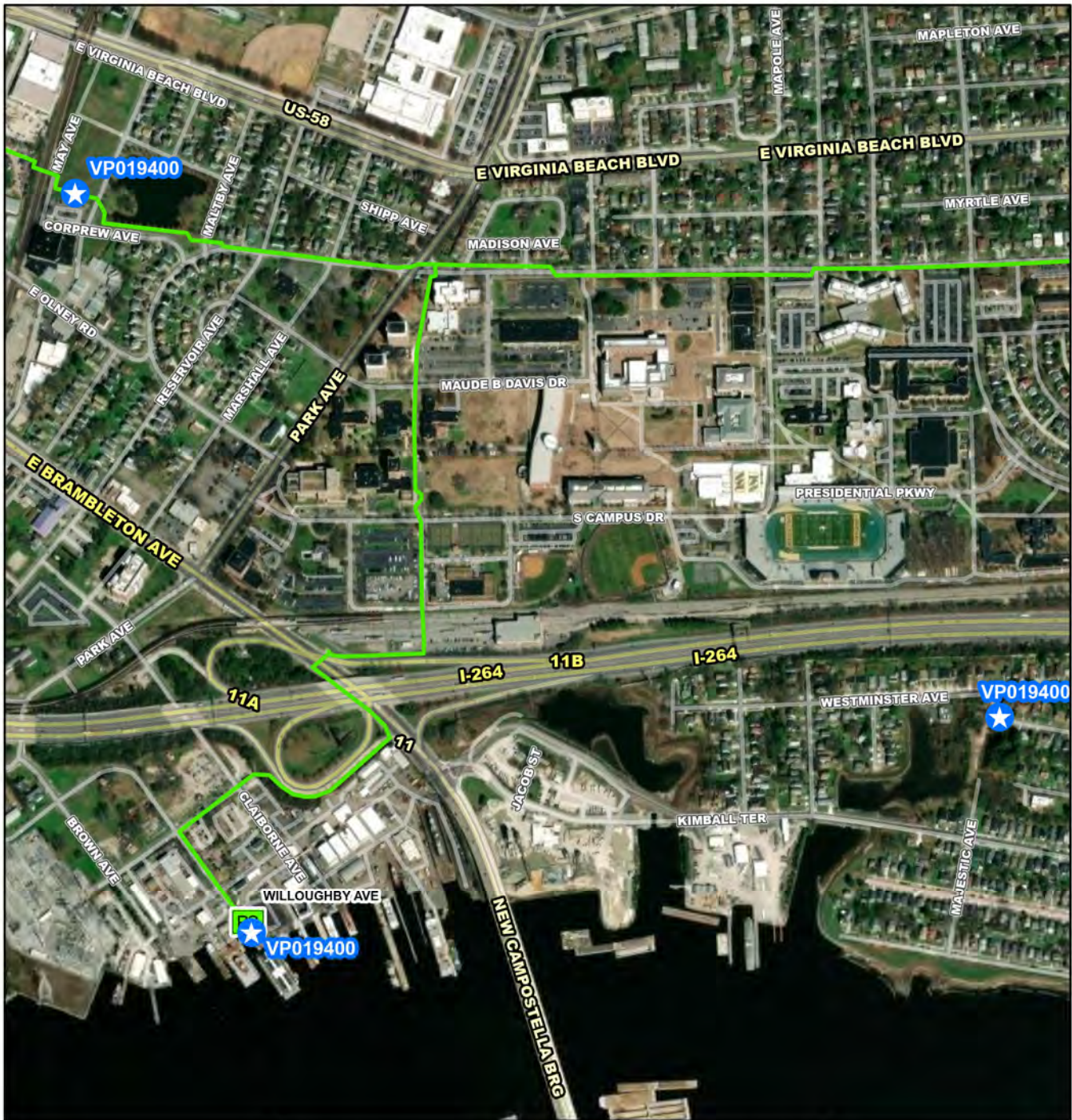
Contacts-Requesting Dept: Operations-Treatment
Contacts-Dept Contacts: Keith Britt
Contacts-Managing Dept: Operations-E&I

PROPOSED SCHEDULE START DATE

PrePlanning
PER 07/01/2021
Design Delay 07/01/2021
Design 07/01/2021
Bid Delay 05/02/2022
PreConstruction 05/02/2022
Construction 07/01/2024
Closeout 08/01/2027

COST ESTIMATE

Cost Estimate Class: Class 1 (-3% to +15%)
PrePlanning \$0
PER \$0
Design \$410,894
PreConstruction \$0
Construction \$4,548,900
Closeout \$0
Est. Program Cost \$4,959,794
Contingency Budget \$477,634
Est. Project Costs \$5,437,428



VP019400

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

Legend

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

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

VP019400

High Priority Projects Round 2 Project 5

N
W E
S

CIP Location

System: VIP
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	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34	FY35
\$2,590	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,665	\$925

PROJECT DESCRIPTION

High Priority Project (HPP) Round 2 Project 5 consists of the following Regional Wet Weather Management Plan (RWWMP) Project IDs and general descriptions:
VIP-RWWMP-12 May Avenue Storage Tank
VIP-RWWMP-14 Norfolk City System Improvements
VIP-RWWMP-13 Willoughby Avenue Pump Station Upgrade

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

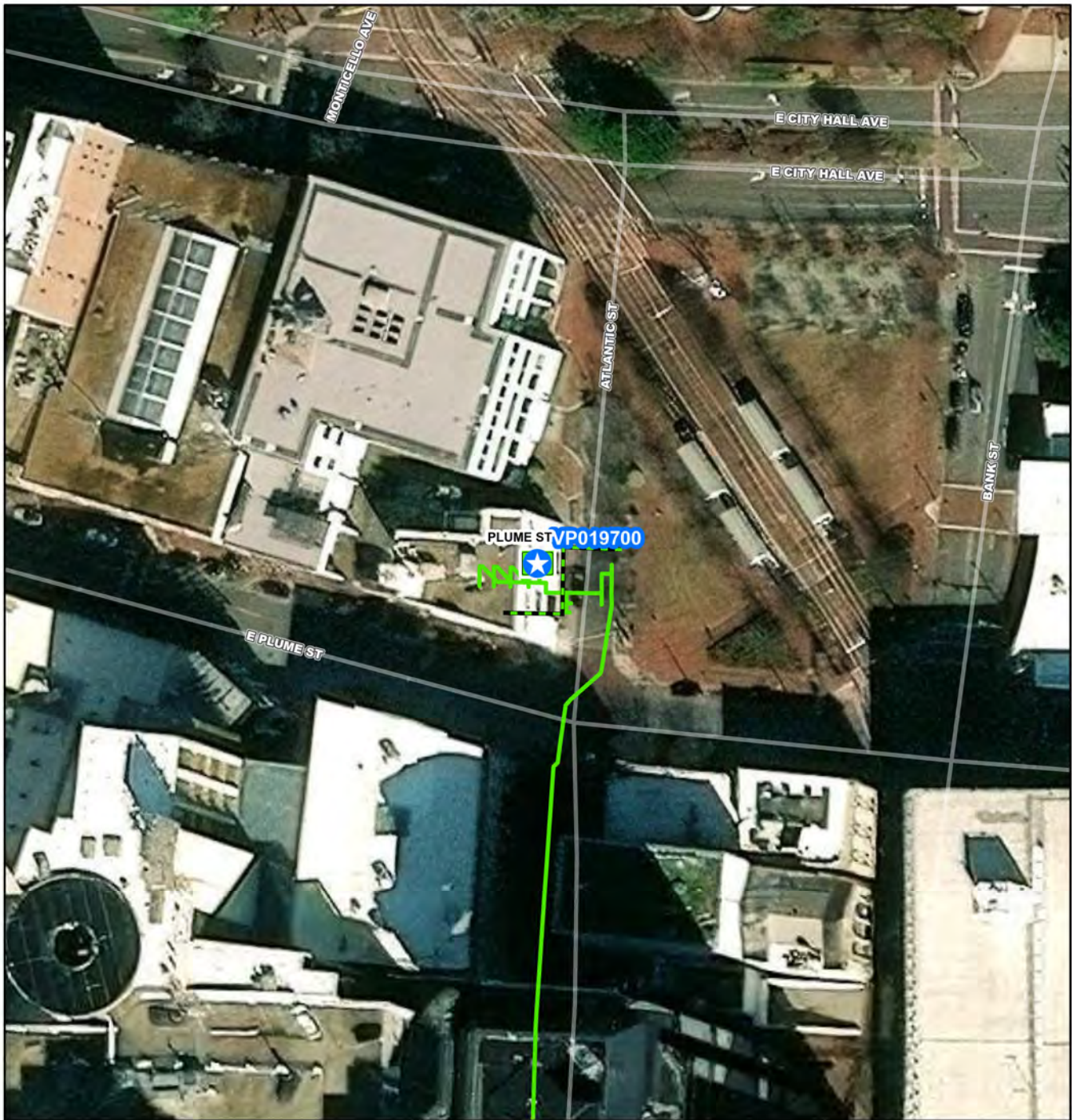
Contacts-Requesting Dept: Engineering
Contacts-Dept Contacts: John Dano
Contacts-Managing Dept: Engineering

PROPOSED SCHEDULE START DATE

PrePlanning	07/01/2033
PER	08/01/2033
Design Delay	10/01/2033
Design	06/01/2034
Bid Delay	09/01/2034
PreConstruction	06/01/2035
Construction	07/01/2035
Closeout	05/01/2036

COST ESTIMATE

Cost Estimate Class:	Class 10
PrePlanning	\$369,979
PER	\$924,947
Design	\$1,109,937
PreConstruction	\$184,989
Construction	\$15,724,101
Closeout	\$184,989
Est. Program Cost	\$18,498,942
Contingency Budget	\$0
Est. Project Costs	\$18,498,942



VP019700

- 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

VP019700

Plume Street Pump Station Replacement (SS-PS-121)



CIP Location



System: VIP
Type: Pump Stations

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

PROGRAM CASH FLOW PROJECTION (\$,000)

Prog Cost	Exp to Previous Year	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34	FY35
\$6,298	\$514	\$378	\$300	\$1,768	\$3,337	\$0	\$0	\$0	\$0	\$0	\$0

PROJECT DESCRIPTION

This project will address the replacement of a Plume Street Pump Station on a parcel adject to current location.

PROJECT JUSTIFICATION

This station is currently located inside the basement of the Virginia Maritime Association (VMA) at 236 E. Plume Street. This site was identified for a potential CIP project due to the joint ownership of the building, site access, maintenance challenges and safety concerns within the existing station from corrosion and inoperable functions.

FUNDING TYPE

Funding Type: Revenue Bond

CONTACTS

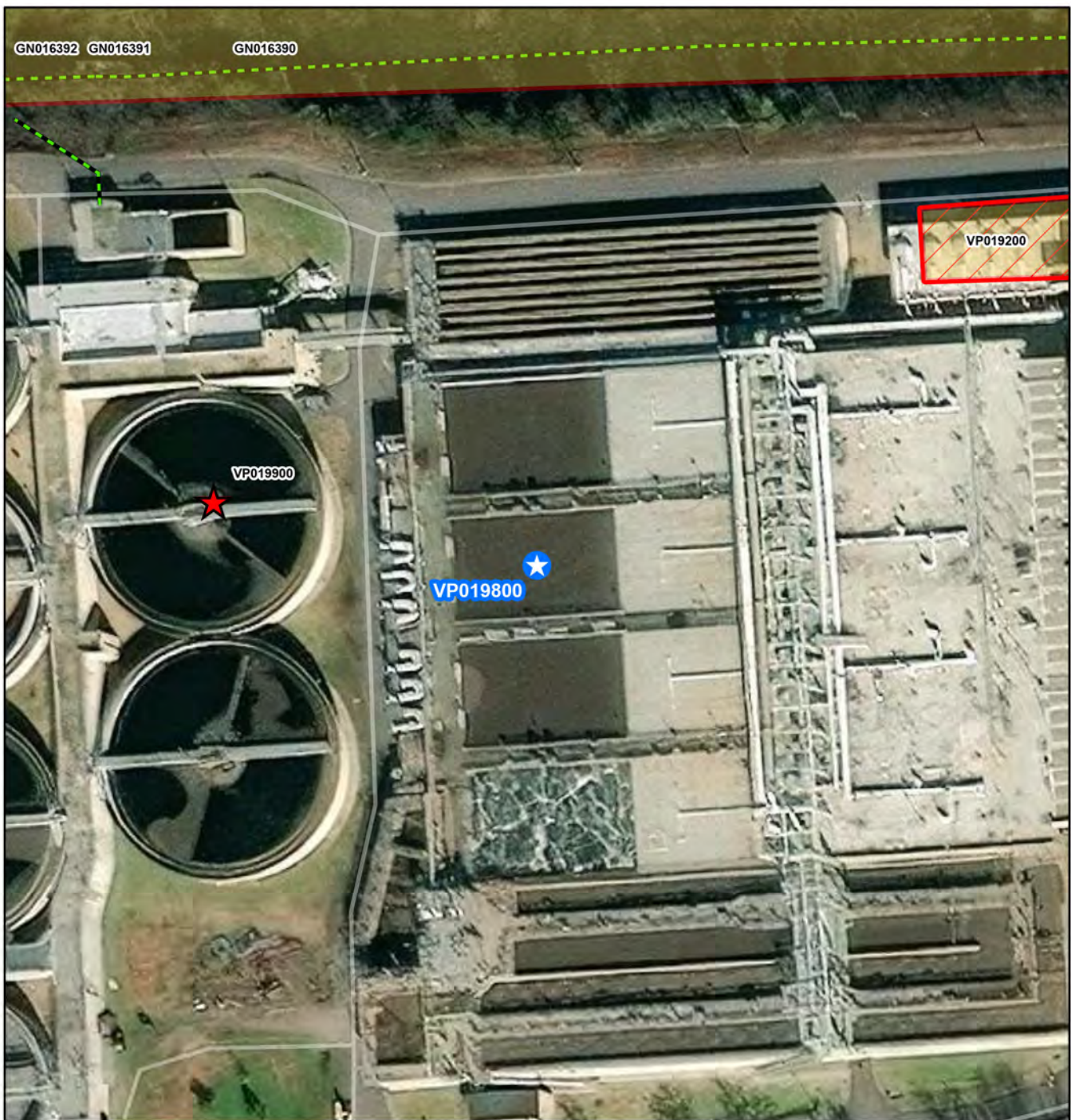
Contacts-Requesting Dept: Operations-Interceptors
Contacts-Dept Contacts: Kayla Rutherford
Contacts-Managing Dept: Engineering

PROPOSED SCHEDULE START DATE

PrePlanning	11/01/2024
PER	02/01/2025
Design Delay	08/01/2025
Design	08/01/2025
Bid Delay	08/01/2027
PreConstruction	08/01/2027
Construction	01/01/2028
Closeout	07/01/2029

COST ESTIMATE

Cost Estimate Class:	Class 5 (-20% to +100%)
PrePlanning	\$0
PER	\$617,233
Design	\$600,600
PreConstruction	\$75,075
Construction	\$5,005,000
Closeout	\$0
Est. Program Cost	\$6,297,908
Contingency Budget	\$1,251,250
Est. Project Costs	\$7,549,158



VP019800

- 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

VP019800

Virginia Initiative Plant Aeration Tank and Primary Clarifier Gate Replacement

CIP Location



Virginia Initiative Plant Aeration Tank and Primary Clarifier Gate Replacement

PR_VP019800

System: VIP
Type: Wastewater Treatment

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

PROGRAM CASH FLOW PROJECTION (\$,000)

Prog Cost	Exp to Previous Year	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34	FY35
\$15,925	\$174	\$696	\$696	\$2,209	\$3,313	\$3,313	\$3,313	\$2,209	\$0	\$0	\$0

PROJECT DESCRIPTION

This project will involve replacement of 16 aeration tank slide gates and 18 primary clarifier slide gates with new motorized stainless steel slide gates.

PROJECT JUSTIFICATION

The gates are over 34 years old and at the end of their design life. The fiberglass wrap and gate core has been found to be damaged or showing signs of damage at many locations, and they are becoming difficult to operate. Motorizing the gates will allow for more efficient operation and the ability to exercise the gates more frequently, as well as, provide flexibility for control of aerobic volume.

FUNDING TYPE

Funding Type: Cash

CONTACTS

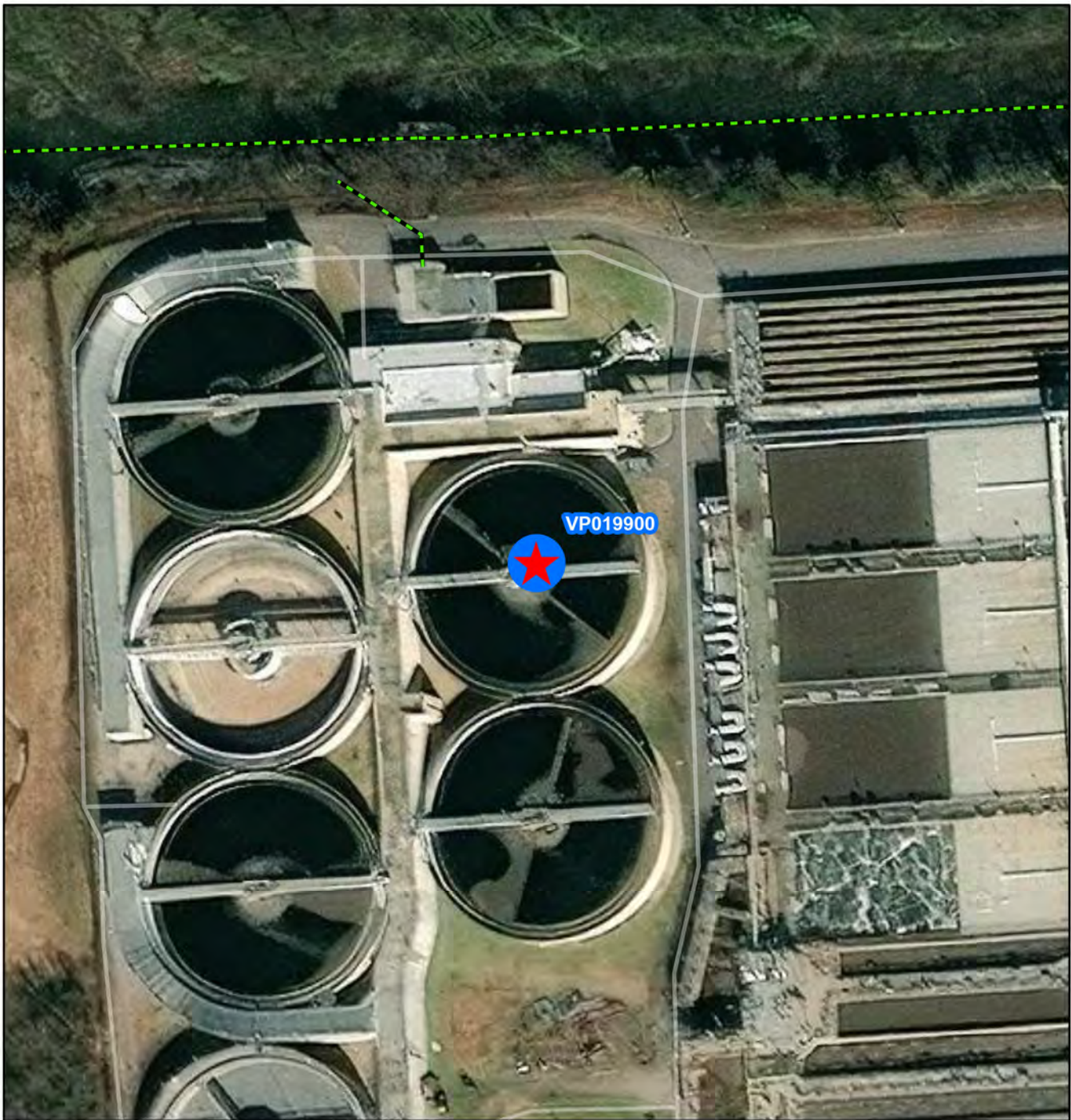
Contacts-Requesting Dept: Operations-Treatment
Contacts-Dept Contacts: Matt Poe
Contacts-Managing Dept: Engineering

PROPOSED SCHEDULE START DATE

PrePlanning	07/01/2024
PER	07/01/2024
Design Delay	07/01/2024
Design	04/01/2025
Bid Delay	07/01/2027
PreConstruction	07/01/2027
Construction	11/01/2027
Closeout	03/01/2032

COST ESTIMATE

Cost Estimate Class: Class 5 (-20% to +100%)	
PrePlanning	\$0
PER	\$0
Design	\$1,566,365
PreConstruction	\$0
Construction	\$14,358,344
Closeout	\$0
Est. Program Cost	\$15,924,709
Contingency Budget	\$717,917
Est. Project Costs	\$16,642,626



VP019900

-  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

VP019900

Virginia Initiative Plant Secondary Clarifier Solids Removal Mechanism Rehabilitation/Replacement



CIP Location





System: VIP
Type: Wastewater Treatment

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

PROGRAM CASH FLOW PROJECTION (\$,000)

Prog Cost	Exp to Previous Year	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34	FY35
\$6,350	\$0	\$1,425	\$1,425	\$1,400	\$1,400	\$700	\$0	\$0	\$0	\$0	\$0

PROJECT DESCRIPTION

This project will be carried out in two phases. Phase 1 will focus on a condition assessment of all major components of the sludge and scum removal mechanisms in secondary clarifiers 1 through 5. During this phase, a cost-based evaluation will be conducted to determine the most economical approach: replacing components with stainless steel, rehabilitating them with new coatings, or implementing a combination of rehabilitation and replacement. Phase 1 will also involve rehabilitation or replacement of secondary clarifier 3 mechanism, which is in poor condition.

PROJECT JUSTIFICATION

Secondary Clarifier mechanisms 1 through 5 were installed in 1987, with all major components constructed from coated carbon steel. While coatings have been reapplied over the years, much of the supporting steel now shows significant deterioration. Additionally, there is growing concern about the feasibility of continuing abrasive blasting, which is essential for properly preparing surfaces for new coatings. In November 2024, a catastrophic failure occurred in the Secondary Clarifier #3 mechanism. Structural members connected to the clarifier drive unit experienced enough torque to completely shear, causing the entire mechanism to collapse. The clarifier drive unit's shear pin was found intact, leading to the conclusion that the failure was likely caused by weakened structural members compromised by corrosion.

FUNDING TYPE

Funding Type: Revenue Bond

CONTACTS

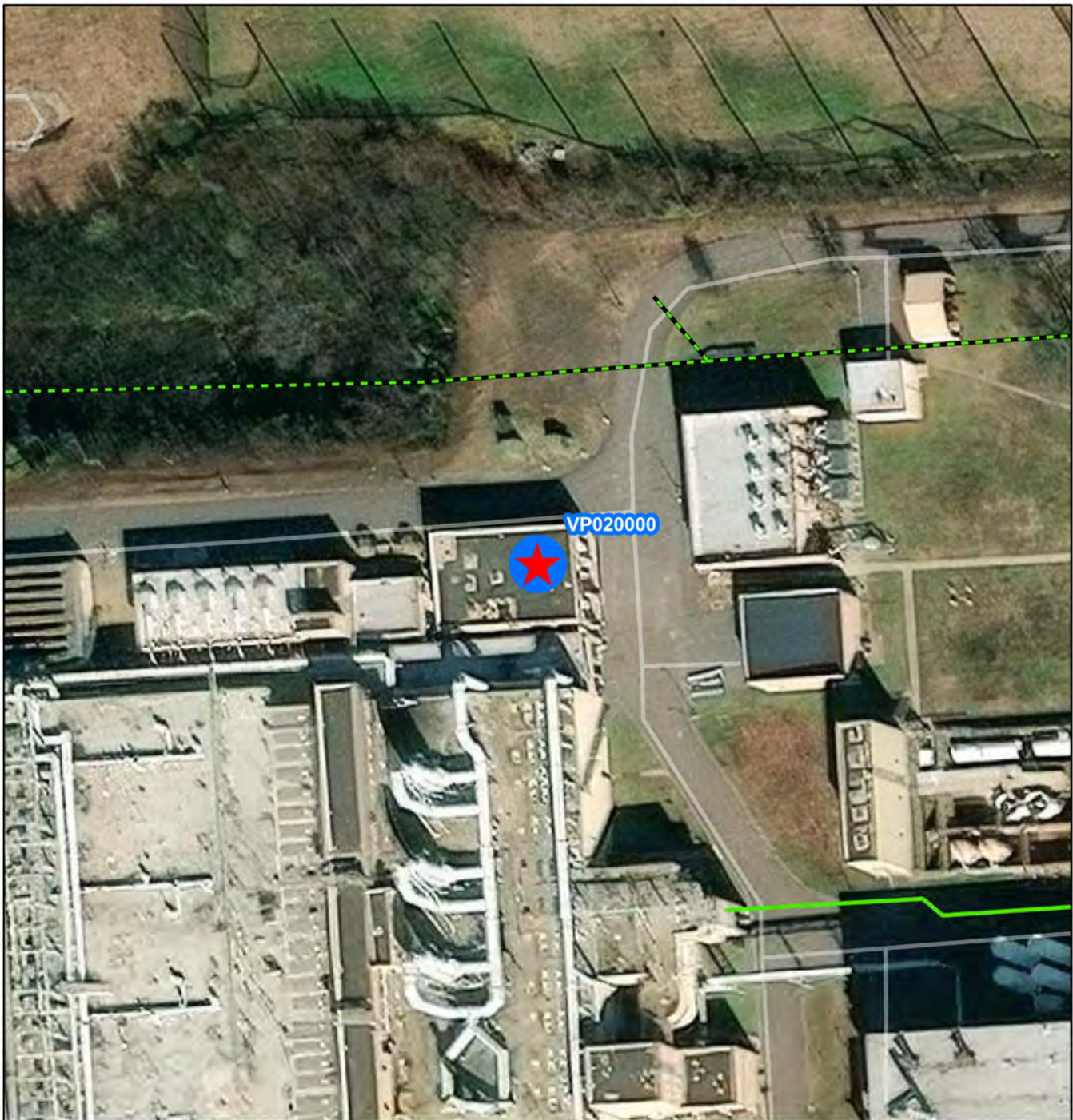
Contacts-Requesting Dept: Operations-Treatment
Contacts-Dept Contacts: Matt Poe
Contacts-Managing Dept: Engineering

PROPOSED SCHEDULE START DATE

PrePlanning	07/01/2025
PER	07/01/2027
Design Delay	07/01/2027
Design	07/01/2027
Bid Delay	07/01/2027
PreConstruction	04/01/2025
Construction	07/01/2025
Closeout	01/01/2030

COST ESTIMATE

Cost Estimate Class: Class 5 (-20% to +100%)	
PrePlanning	\$50,000
PER	\$0
Design	\$0
PreConstruction	\$0
Construction	\$6,300,000
Closeout	\$0
Est. Program Cost	\$6,350,000
Contingency Budget	\$0
Est. Project Costs	\$6,350,000



VP020000

- 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

VP020000

Virginia Initiative Plant Fire Suppression System Upgrades



CIP Location





System: VIP
Type: Wastewater Treatment

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

PROGRAM CASH FLOW PROJECTION (\$,000)

Prog Cost	Exp to Previous Year	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34	FY35
\$836	\$0	\$0	\$0	\$0	\$0	\$374	\$461	\$2	\$0	\$0	\$0

PROJECT DESCRIPTION

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

PROJECT JUSTIFICATION

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

FUNDING TYPE

Funding Type: Revenue Bond

CONTACTS

Contacts-Requesting Dept: Operations-Treatment
Contacts-Dept Contacts: Charles Bott
Contacts-Managing Dept: Engineering

PROPOSED SCHEDULE START DATE

PrePlanning	06/01/2029
PER	06/01/2029
Design Delay	08/01/2029
Design	08/01/2029
Bid Delay	12/01/2029
PreConstruction	12/01/2029
Construction	03/01/2030
Closeout	12/01/2030

COST ESTIMATE

Cost Estimate Class: Class 5 (-20% to +100%)	
PrePlanning	\$0
PER	\$0
Design	\$0
PreConstruction	\$7,570
Construction	\$825,130
Closeout	\$3,785
Est. Program Cost	\$836,485
Contingency Budget	\$209,121
Est. Project Costs	\$1,045,606