Army Base Treatment Plant

Photo Credit: J Zimba

Legend

- Army Base 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 1,500 3,000 6,000 9,000 12,000 Feet

Army Base Treatment Plant Service Area CIP Projects

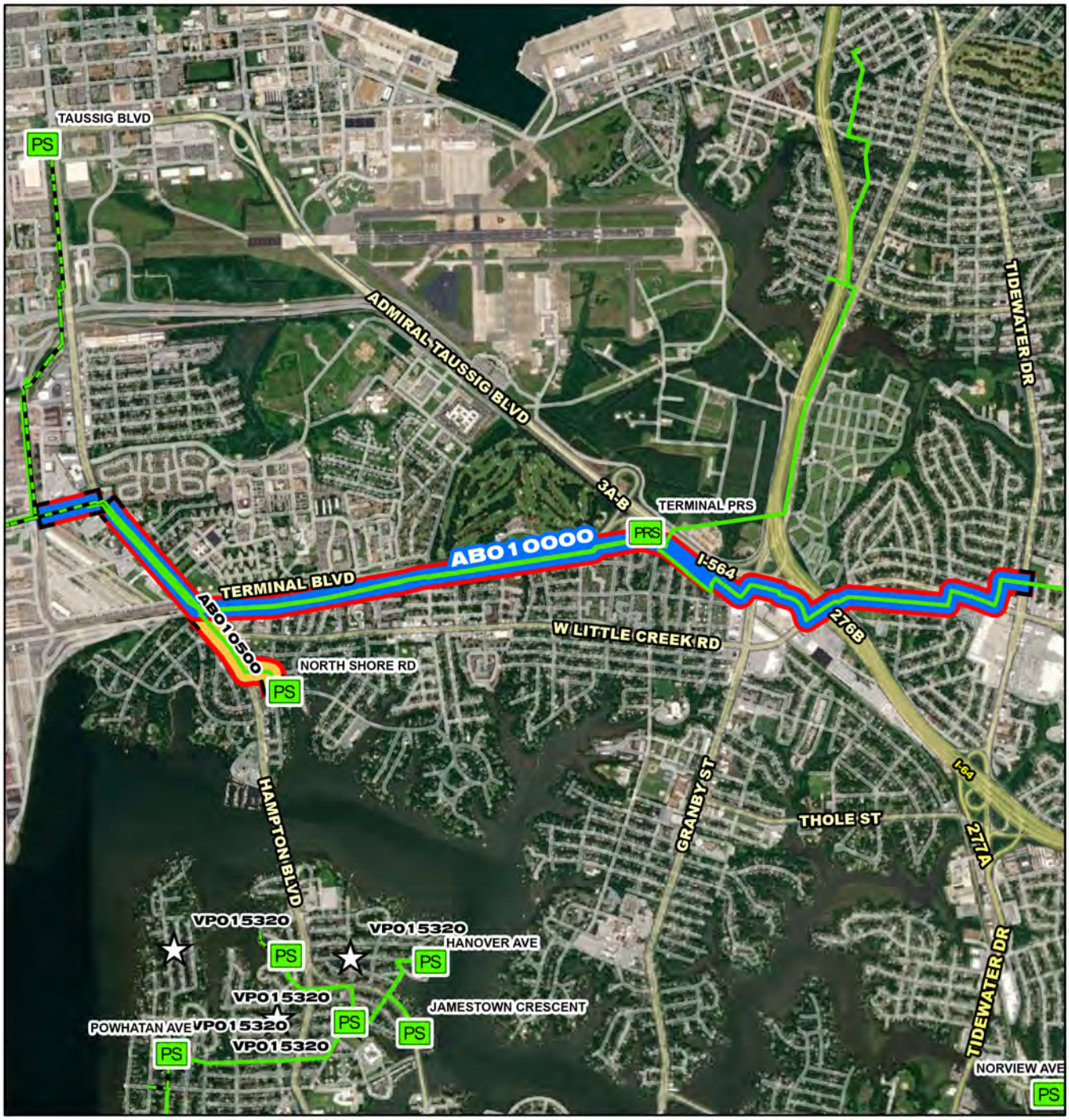
Treatment Plant Projects

AB011900
GN017900

N

CIP Location

Service Area



AB010000
- Project Interceptor Line
- Project Interceptor Point
- Project Pump Station Point
- Project Area

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

0 1,000 2,000 4,000 6,000 8,000 Feet

N W E S

CIP Location

AB010000

Army Base 24-Inch and 20-Inch Transmission Main Replacements

HRSD

Army Base 24-Inch and 20-Inch Transmission Main Replacements

PR_AB010000

System: Army Base
Type: Pipelines

Driver Category: I&I Abatement-Rehabilitation Plan
Project Phase: Design
Regulatory: None

PROGRAM CASH FLOW PROJECTION ($,000)

Prog Cost	Exp to Previous Year	FY24	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33
$15,029	$2,208	$0	$0	$0	$30	$6,376	$6,376	$40	$0	$0	$0

PROJECT DESCRIPTION

This project is to study, design and construct a replacement interceptor for Line SF-004, 24-inch cast iron pipe and 20-inch cast iron pipe and Line SF-005, 20-inch reinforced concrete pipe from Baker Street to Newport Avenue, approximately 4,650 linear feet (LF). A single line is planned to replace these twin lines along the current alignment. This single pipeline is planned to be 36-inch in the Regional Wet Weather Management Plan. The original scope of the CIP included an additional 13,000 LF of pipeline replacement from Newport Avenue to Simons Drive. At this time, condition assessment of this additional pipe is only planned in an effort to prioritize funds on the highest risk assets. This project also includes abandoning a portion of line SG-003, a section of gravity pipe from MH-SG-003-3889 to MH-SG-003-3747 at the intersection of Baker Street and Hampton Boulevard that is not in service and is deteriorating. The EPA Rehabilitation Phase II portion of this original project has been addressed. This project is now in delay.

PROJECT JUSTIFICATION

This project will address specific sections of SF-004 that was designed and built in 1956 according to the plans inherited from the City of Norfolk. The same plans show an existing 20-inch concrete line, now HRSD line number SF-005. Since SF-005 was turned over to HRSD in 1956, it is at least 50 years old. Both lines have multiple repairs installed by HRSD and repair history prior to HRSD ownership is unknown. Multiple branch valves along this alignment are 1948 or 1956 valves that are difficult to repair or get replacement parts. The valve guide AB-2005 area will be included in the condition assessment portion of the CIP. This area has several valves indicated as inoperable and an abandoned dead-end section of pipe. These lines are the main interceptors conveying wastewater from the City of Norfolk to the Army Base Treatment Plant. This project also includes abandoning the gravity line SF-002. Flow is currently bypassing this section of pipe and the pipe is in poor condition from tuberculation and infiltration.

FUNDING TYPE

Funding Type: Revenue Bond

CONTACTS

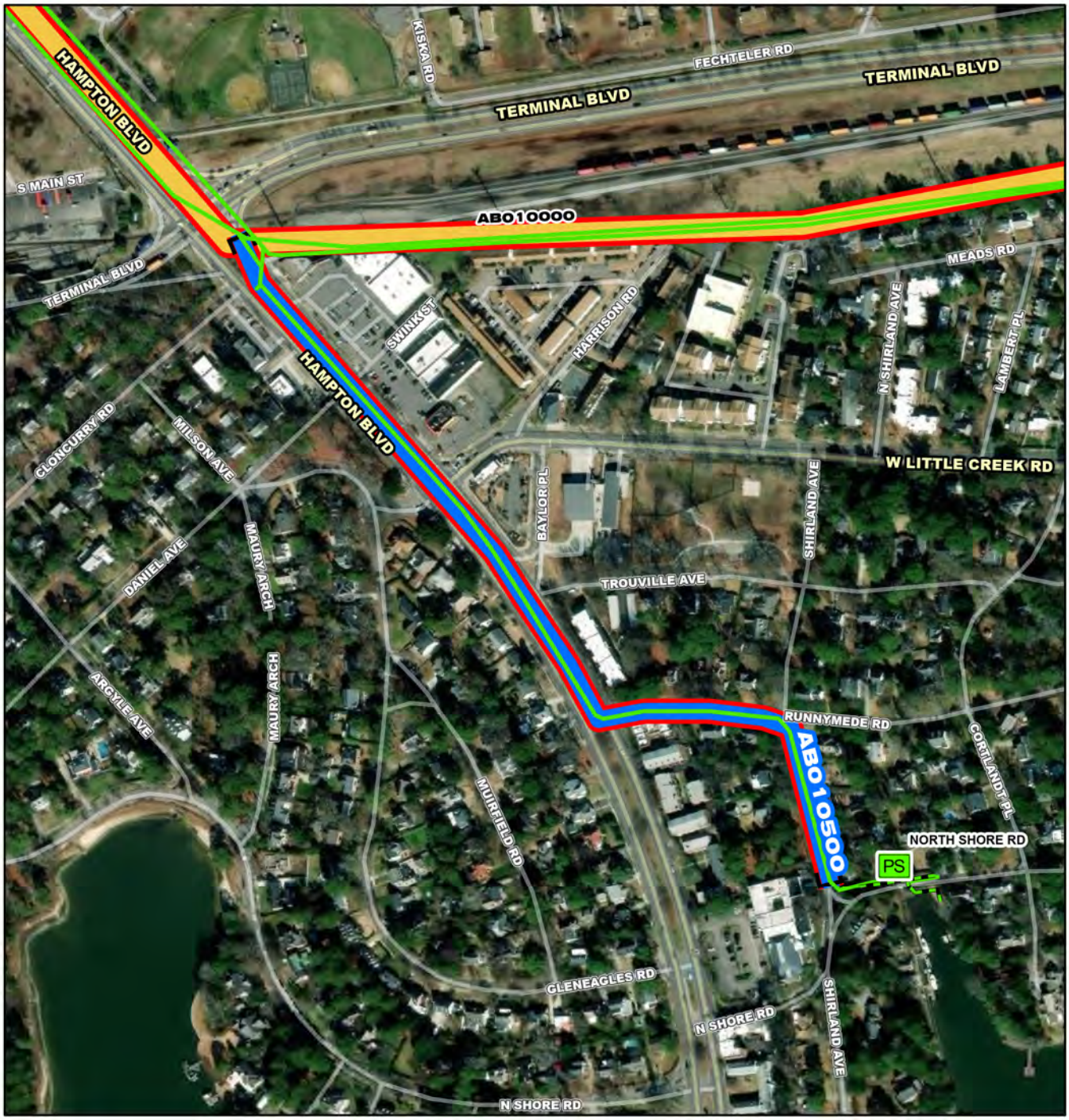
Contacts-Requesting Dept: Operations-Interceptors
Contacts-Dept Contacts: Holly Anne Matel
Contacts-Managing Dept: Engineering

PROPOSED SCHEDULE START DATE

PrePlanning	11/01/2012
PER	06/03/2013
Design Delay	12/03/2013
Design	03/16/2021
Bid Delay	04/01/2023
PreConstruction	04/01/2027
Construction	07/01/2027
Closeout	07/01/2029

COST ESTIMATE

Cost Estimate Class:	**Class 2**
PrePlanning	$0
PER	$158,936
Design	$1,630,671
PreConstruction	$30,000
Construction	$13,169,758
Closeout	$40,000
Est. Program Cost	**$15,029,365**
Contingency Budget	$1,982,200
Est. Project Costs	**$17,011,565**



AB010500

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

Legend

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

0 130 260 520 780 1,040 Feet

N
W E
S

CIP Location

AB010500

Section W Force Main Replacement

HRSD

Section W Force Main Replacement

PR_AB010500

System: Army Base
Type: Pipelines

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

PROGRAM CASH FLOW PROJECTION ($,000)

Prog Cost	Exp to Previous Year	FY24	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33
$2,651	$198	$1,330	$1,118	$5	$0	$0	$0	$0	$0	$0	$0

PROJECT DESCRIPTION

This project is to study, design and construct a replacement interceptor for Line SF-006, approximately 2,642 linear feet (LF) of 10-inch cast iron force main that is the discharge line from HRSD Pump Station #117 (North Shore Road). This project will include replacement main line valves, branch valves, associated appurtenances and replace the existing force main through the walls into the pump station. HART analysis has determined that this force main will be downsized from 10-inch to 8-inch.

PROJECT JUSTIFICATION

This project will replace the cast iron force main that was installed in 1948. There have been two documented repairs in 1964 and in 2005. Operations staff believes that there are additional undocumented repairs on the line, as well. The pipeline is of a material and age for which HRSD has seen recent repeated failures in other parts of the interceptor system due to wastewater chemistry and soil corrosion.

FUNDING TYPE

Funding Type: Revenue Bond

CONTACTS

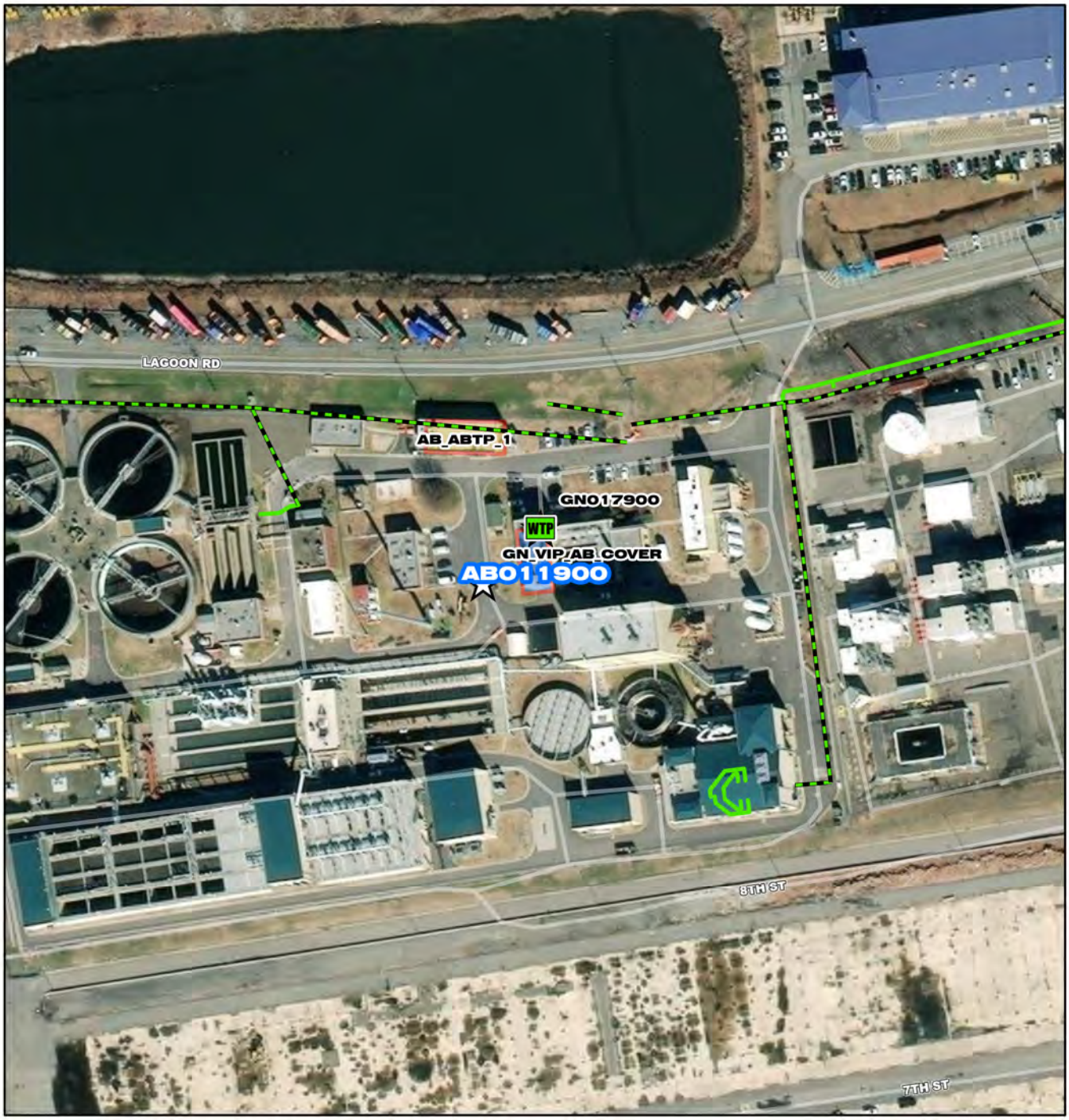
Contacts-Requesting Dept: Operations-Interceptors
Contacts-Dept Contacts: Holly Anne Matel
Contacts-Managing Dept: Engineering

PROPOSED SCHEDULE START DATE

PrePlanning	11/01/2012
PER	06/03/2013
Design Delay	12/03/2013
Design	03/16/2021
Bid Delay	03/01/2023
PreConstruction	04/03/2023
Construction	07/03/2023
Closeout	05/01/2025

COST ESTIMATE

Cost Estimate Class:	**Class 1**
PrePlanning	$0
PER	$19,644
Design	$167,814
PreConstruction	$10,000
Construction	$2,438,400
Closeout	$15,000
Est. Program Cost	**$2,650,858**
Contingency Budget	$320,000
Est. Project Costs	**$2,970,858**



AB011900

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

Legend

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

0 55 110 220 330 440 Feet

AB011900

Army Base Treatment Plant Administration Building Renovation (2021)

HRSD

N
W E
S

CIP Location

Army Base Treatment Plant Administration Building Renovation (2021)

PR_AB011900

System: Army Base
Type: Facilities, Buildings and Capital Equipment

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

PROGRAM CASH FLOW PROJECTION ($,000)

Prog Cost	Exp to Previous Year	FY24	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33
$3,924	$350	$1,802	$1,772	$0	$0	$0	$0	$0	$0	$0	$0

PROJECT DESCRIPTION

This project is to renovate the existing administration building at the Army Base Treatment Plant.

PROJECT JUSTIFICATION

This project will provide additional administration offices, lunch room, conference room, lab and control area, women and unisex bathrooms.

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	08/31/2022
Design	08/31/2022
Bid Delay	07/29/2023
PreConstruction	08/01/2023
Construction	11/01/2023
Closeout	03/01/2025

COST ESTIMATE

Cost Estimate Class:	**Class 3**
PrePlanning	$0
PER	$109,000
Design	$286,250
PreConstruction	$5,000
Construction	$3,503,629
Closeout	$20,000
Est. Program Cost	**$3,923,879**
Contingency Budget	$542,906
Est. Project Costs	**$4,466,785**

AB012100
- Project Interceptor Line
- Project Interceptor Point
- Project Pump Station Point
- Project Area

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

0 155 310 620 930 1,240 Feet

AB012100

Army Base Treatment Plant Generator Control Replacement

HRSD

N
W E
S

CIP Location

Army Base Treatment Plant Generator Control Replacement

PR_AB012100

System: Army Base
Type: Electrical

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

PROGRAM CASH FLOW PROJECTION ($,000)

Prog Cost	Exp to Previous Year	FY24	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33
$4,009	$0	$626	$1,618	$1,765	$0	$0	$0	$0	$0	$0	$0

PROJECT DESCRIPTION

This project is to design and fabricate new generator controls by retrofitting the existing generator controls that has reached the end of its useful life. The redundant programmable logic controller (PLC) has failed, and replacement parts are no longer supported. The project will include a new digital master control (DMC) panel or Generator Control Panel (GCP) for monitoring, control, and protection. The existing switchgear doors and instruments will be retrofitted with new doors and instruments. In addition, control wire modifications are necessary to interface the new equipment. The project will include the installation, testing, and commissioning of the new switchgear system.

PROJECT JUSTIFICATION

The two 4.16KV 2000 kW standby diesel Cummins generators supports the treatment plants process loads in the event of a utility power loss. The standby generators are critical to maintain public health, prevent process disruptions, provide ride thru capability during inclement weather, employee safety, and maintain regulatory compliance.

FUNDING TYPE

Funding Type: Revenue Bond

CONTACTS

Contacts-Requesting Dept: Operations-EEM
Contacts-Dept Contacts: Sherman Pressey
Contacts-Managing Dept: Operations-EEM

PROPOSED SCHEDULE START DATE

PrePlanning	
PER	
Design Delay	08/01/2023
Design	03/01/2024
Bid Delay	
PreConstruction	
Construction	08/01/2024
Closeout	07/01/2026

COST ESTIMATE

Cost Estimate Class:	**Class 5**
PrePlanning	$0
PER	$0
Design	$625,918
PreConstruction	$0
Construction	$3,383,340
Closeout	$0
Est. Program Cost	**$4,009,258**
Contingency Budget	$0
Est. Project Costs	**$4,009,258**