



SUMMARY DOCUMENT FOR
VI ST ER STX(003): Storm Damage Repair to
Roadways, Culverts, Embankments, Bridges,
and Other Roadway Features on St. Croix,
USVI

CZM PERMIT APPLICATION
FEDERAL CONSISTENCY
DETERMINATION

APPLICANT

Government of the US Virgin Islands – Dept. of Public Works

PRIMARY CONTRACTOR

Virgin Islands Paving, Inc.

PREPARED BY

Tysam Tech, LLC.

JULY 18, 2022





CZM PERMIT APPLICATION
VIST ER STX(003)
Applicant: Government of the USVI - DPW
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1.00 OVERALL PROJECT SUMMARY

Significant damage to roads, gut crossings and bridges occurred as a result of the landfall of Hurricane Maria in 2017 to the island of St. Croix, USVI. To provide the necessary repair to the damaged infrastructure, the USVI Department of Public Works (DPW) has contracted VI Paving, Inc. (VIP) to undertake the repairs at 15 different sites around St. Croix. These sites consist of different types of rehabilitation work and different project scale. Of the 15 sites, three are bridge rehabilitations, seven are culvert rehabilitations, and the remaining five are strictly roadway rehabilitations. This project is funded through the US Department of Transportation (USDOT), Federal Highway Administration, Eastern Federal Lands Highway Division and is in partnership with the USVI Department of Public Works (DPW).

The VI-ST ER STX (003) project consists of the removal of damaged asphalt and concrete pavement, pipe culverts, guardrail, retaining walls, embankment material, utility lines and poles, bridges, and other debris; and the installation of aggregate base, asphalt pavement, concrete pavement, pipe culverts, guardrail, gabion or concrete retaining wall, embankment stabilization, riprap, paved waterway, headwall, drainage inlets, cleaning drainage structures, reconditioning shoulders and ditches, replacing bridges, culvert, and utilities to provide fully functional roads, drainage systems, bridges, and utilities, complete and in place. The project also includes obtaining permits, utility coordination, right-of-way (ROW) acquisition, erosion and sediment control, temporary traffic control, pavement markings, and other miscellaneous work.

The following is a summary of the project details:

**VI ST ER STX (003) - Storm Damage Repair to Roadways, Culverts, Embankments, Bridges, and other Roadway features on St. Croix, USVI
Disaster ID# DR-4340 and VI2017-1**

Schedule A: Bridge Projects	Schedule B: Road & Culvert Rehabilitation Projects
Route 64 - East Airport Road Bridge	Route 82 - 0.5 (Chenay Bay)
Route 72 - MP 1.4 Midland Rd Bridge	Route 82 - 2.5 (Coakley Bay)
Route 7532 - 0.02 Altona Lagoon Box Culverts	Route 82 - 3.5 (Cotton Valley)
	Route 78 - W Scenic Rd in Sweet Bottom
	Rt 80 Northshore Rd East Culverts
	Rt 80 Northshore Rd West Single Culvert
	Route 63 - MP 0.9 Concordia Rd
	Rt 732 Windsor Rd
	Route 753 Mt Welcome Rd
	Route 763 - 0.00
	Route 765 - 0.00
	Rt 80 - MP 0.8 North Shore Rd

This package submission is an application for permits for the following five (5) out of the above 15 project sites:

Schedule A&B: Bridge, Road & Culvert Rehabilitation Projects	
Schedule A	Schedule B
Route 64 - East Airport Road Bridge	Route 78 - W Scenic Rd in Sweet Bottom
Route 72 - MP 1.4 Midland Rd Bridge	Route 82 - 0.5 (Chenay Bay)
Route 7532 - 0.02 Altona Lagoon Box Culverts	

2.00 CULVERT & ROAD REPLACEMENT

These 5 project locations entail the demolition and replacement of roadways along with existing culvert systems.

2.01 RT. 78 – WEST SCENIC ROAD IN SWEET BOTTOM

PROJECT SUMMARY

For this particular site under project VI ST ER STX(003), 120 linear feet of West Scenic Road, Route 78 will be rehabilitated. The West shoulder of the roadway suffered severe washout and will have to be rebuilt with gabion baskets to the roadway surface level where the wash-out occurred. The west area will be cleared of trees and brush. The washout will be cleared of loose subgrade and material, shored up and geotextile laid down. Gabion basket will be installed along with replacement of the washed out culvert with a 30" HDPE Culvert Pipe. Concrete headwalls will be installed on both shoulders, backfill added and compacted, and a base asphalt layer along with surface layer will be applied with a crown profile. Additional Rip Rap will be installed at the spillway to further stabilize the culvert outlet.

TIMELINE

Phase 1 – Site Preparation

This phase will consist of mobilization and initial survey and staking. After layout determination and establishment, Erosion & Sediment control will be set up, along with Traffic and Pedestrian Control Plan that will follow Maintenance of Traffic (MOT) requirements set forth by USDOT. Mobilization of machinery and equipment will follow proper site setup for safety and protection of workers and environment.

Approximate Timeline – 48 days

Phase 2 – Demolition

This phase will begin with initial site clearing and basic grubbing to prepare for demolition. Vegetation will be removed and sent to the WMA Transfer station for green waste. Demolition of the culvert, headwall and existing damaged road structure will occur next, with C&D waste disposed of in the Anguilla Landfill via permitted dump trucks. After full demolition and removal of C&D waste, grading and excavation of soil and substrate will commence to prepare new structures for installation.

Approximate Timeline – 10 days

Phase 3 – Earth and Culvert Construction

This phase will entail construction and installation of gabion baskets, embankment shaping and setting, culvert installation and headwall casting. Inlet and Outlet modification and installation will complete the infrastructure layout.

Approximate Timeline – 24 days

Phase 4 – Roadway Construction

This final phase will focus on roadway construction and profile. Aggregate base will be laid over newly installed infrastructure. New safety guardrails will be installed according to included site plan drawings, and final asphalt layers will be applied per road construction specifications, to provide correct profile for safe driving conditions and to allow for proper drainage and storm resistance. Finally, installation of signage and pavement markings will complete the construction work, and the site will be stabilized and closed through any necessary

landscaping and site cleanup as required by environmental standards and regulation.

Approximate Timeline – 16 days

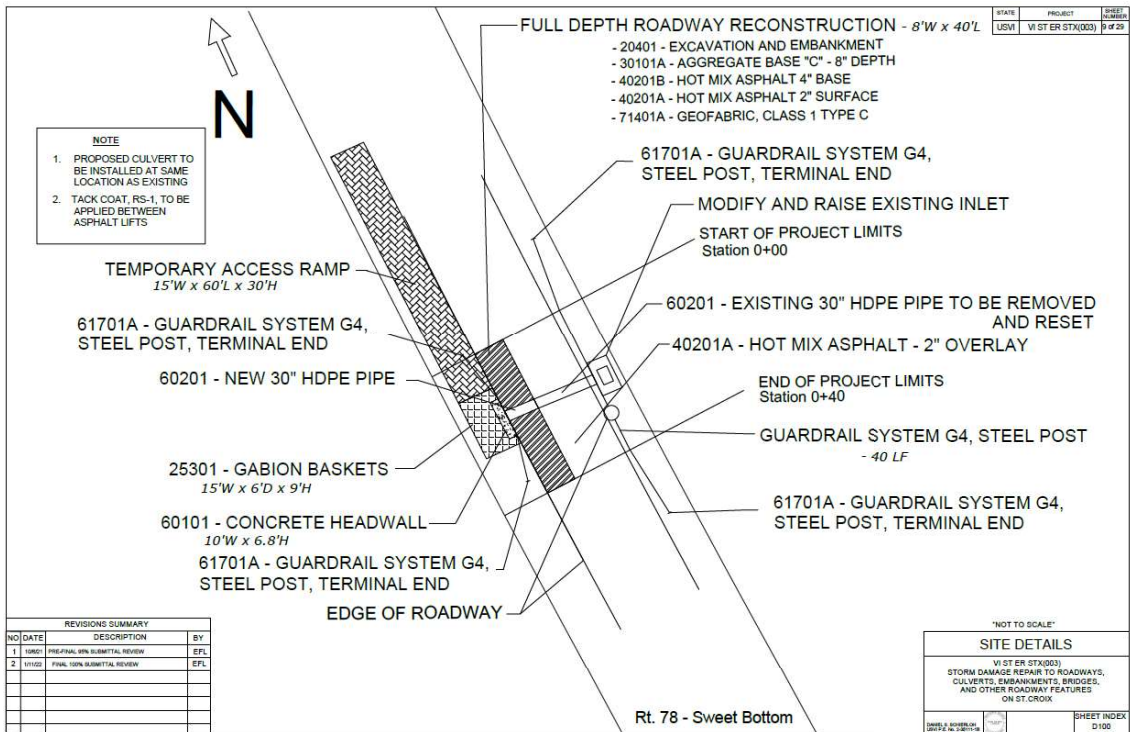
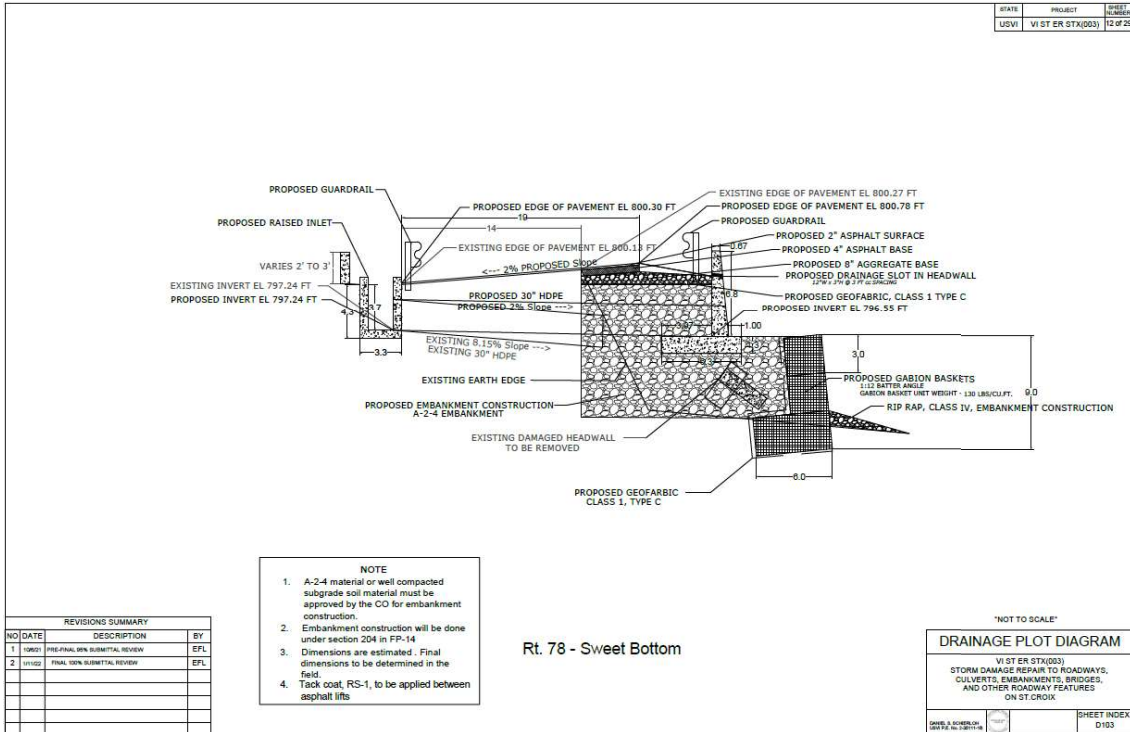
All work on this road project will follow Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects, as well as local building, environmental and safety regulations.

Total estimated time for construction completion is estimated at 98 days.

CHANGES FROM PREVIOUS SUBMITTAL

- New drainage and headwall supported by gabion basket substrate.
- Outlet rip rap reinforcement installed.

SITE MAPS



2.02 RT. 82 MP-0.5 – CHENAY BAY

PROJECT SUMMARY

The purpose of the project is to rehabilitate a 300-foot section of roadway which was damaged from Hurricane Maria in 2017. The location is along East End Road, Route 82. The existing double 30-inch pipe culverts will be demolished and replaced with a 4'x8' box culvert. The slope will be corrected by placing culvert outlet at lower elevation than the inlet to improve drainage. Concrete headwalls will be installed on both shoulders, backfill added and compacted, and a base asphalt layer along with surface layer will be applied with a crown profile. Additionally, rip rap will be installed at the spillway to further stabilize the culvert outlet.

TIMELINE

Phase 1 – Site Preparation

This phase will consist of mobilization and initial survey and staking. After layout determination and establishment, Erosion & Sediment control will be set up, along with Traffic and Pedestrian Control Plan that will follow Maintenance of Traffic (MOT) requirements set forth by USDOT. Mobilization of machinery and equipment will follow proper site setup for safety and protection of workers and environment.

Approximate Timeline – 48 days

Phase 2 – Demolition

This phase will begin with initial site clearing and basic grubbing to prepare for demolition. Vegetation will be removed and sent to the WMA Transfer station for green waste. Demolition of the culvert, headwall and existing road structure will occur next, with C&D waste disposed of in the Anguilla Landfill via permitted dump trucks. After full demolition and removal of C&D waste, grading and excavation of soil and substrate will commence to prepare new structures for installation.

Approximate Timeline – 10 days

Phase 3 – Earth and Culvert Construction

This phase will entail embankment shaping and setting, culvert installation and headwall casting. Inlet and outlet modification and installation will complete the infrastructure layout.

Approximate Timeline – 24 days

Phase 4 – Roadway Construction

This final phase will focus on roadway construction and profile. Aggregate base will be laid over newly installed infrastructure. New safety guardrails will be installed according to included site plan drawings, and final asphalt layers will be applied per road construction specifications, to provide correct profile for safe driving conditions and to allow for proper drainage and storm resistance. Finally, installation of signage and pavement markings will complete the construction work, and the site will be stabilized and closed through any necessary landscaping and site cleanup as required by environmental standards and regulation.

Approximate Timeline – 16 days

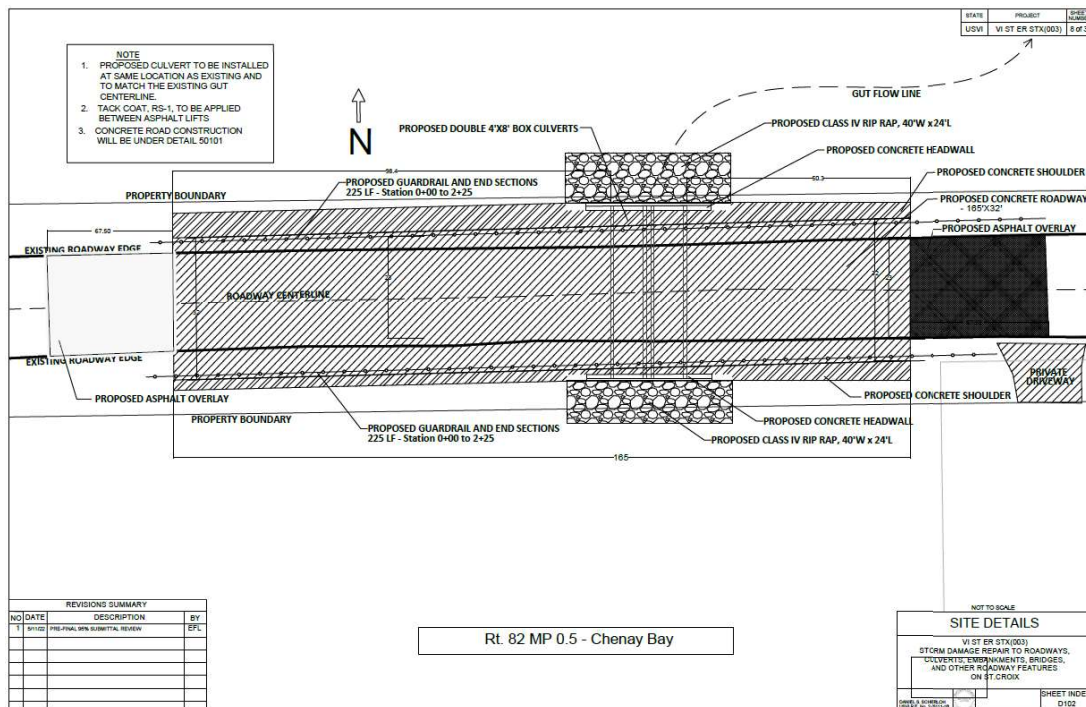
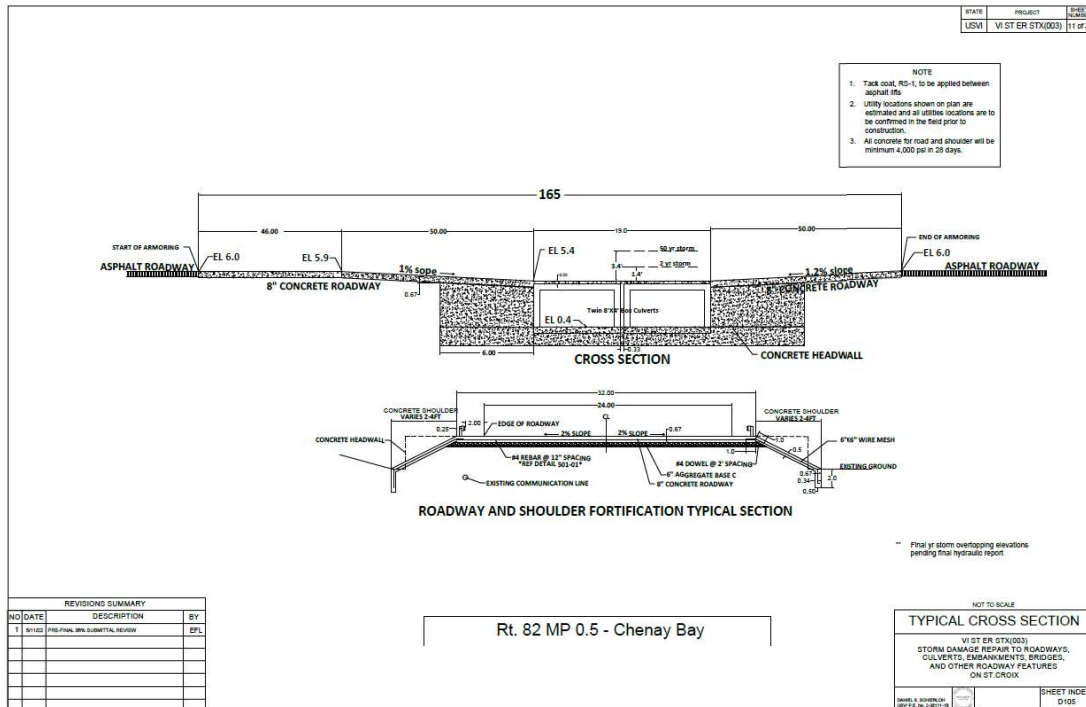
All work on this road project will follow Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects, as well as local building, environmental and safety regulations.

Total estimated time for construction completion is estimated at 98 days.

CHANGES FROM PREVIOUS SUBMITTAL

- Increase size of existing culverts from three 36-inch culverts to a 4'x8' box culvert.
- New northside headwall and outlet structure.
- Raised elevation of road with new profile to allow for drainage.

SITE MAPS



2.03 RT. 64 – EAST AIRPORT BRIDGE

For this site under project VI ST ER STX(003), 330 linear feet of roadway over the East Airport Bridge on Route 64 will be rehabilitated. This will occur after the existing bridge is removed and replaced with a precast bridge structure, slightly east of the existing bridge location. The new location will improve driver safety and bridge stability. The gut is anticipated to be dry during the work schedule timeline; however, there is no work expected to be done directly within the typical waterline of the Gut if water is flowing due to storm events. All necessary precautions will be taken in the event there is water at the site and additional stormwater BMPs are required.

TIMELINE

Phase 1 – Site Preparation

This phase will consist of mobilization and initial survey and staking as well as temporary access road installation. After establishing the layout, Erosion & Sediment control will be set up, to include turbidity curtains (if necessary) and silt fencing. Installation of the temporary detour route will be performed, setting up safety barriers and access routes. Mobilization of machinery and equipment will follow proper site setup for safety and protection of workers and environment.

Approximate Timeline – 108 days

Phase 2 – Foundation and Bridge Construction

This phase will entail foundation construction and placement of pre-cast bridge structure. To prepare for the new bridge, the site will require steel pile driving, concrete cast-in-place foundation construction, and riprap and other scour protection installation along entire gut and bank walls. After foundation installation and base stabilization, the new bridge unit will be put in place by crane.

Approximate Timeline – 50 days

Phase 3 – Roadway Construction

This phase will focus on roadway construction and profile. Aggregate base will be laid over newly installed infrastructure. New safety guardrails and concrete sidewalks will be installed according to included site plan drawings, and new permanent utility infrastructure will be installed. After compaction and final grading is complete, final asphalt layers will be applied per road construction specifications, to provide correct profile for safe driving conditions and to allow for proper drainage and storm resistance. Finally, installation of signage and pavement markings will complete the construction work, and the site will be stabilized and closed through any necessary landscaping and site cleanup as required by environmental standards and regulation. Removal of the temporary detour route and culverts will be performed carefully and with continued installation of turbidity curtains.

Approximate Timeline – 9 days

Phase 4 – Demolition and Site Clean Up

This final phase will entail general landscaping to ensure revegetation of the site and stabilization of banks to prevent erosion. Demobilization and trash cleanup will occur to restore the site to full functionality.

Approximate Timeline – 1 day

All work on this road project will follow Standard Specifications for Construction of Roads and

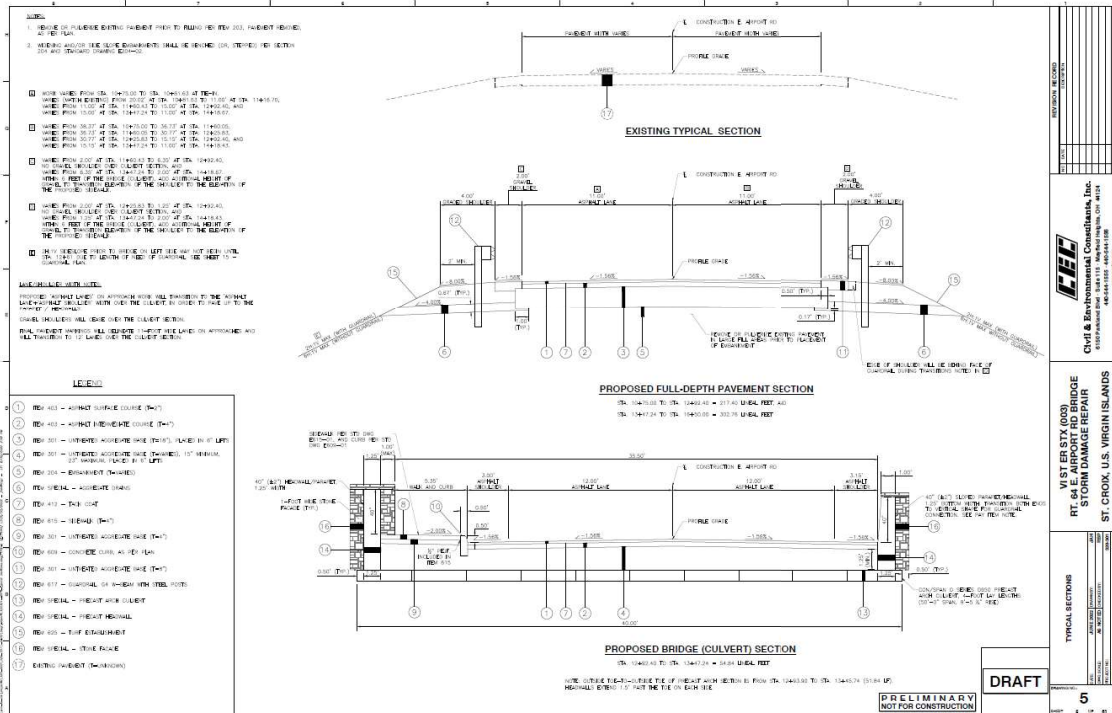
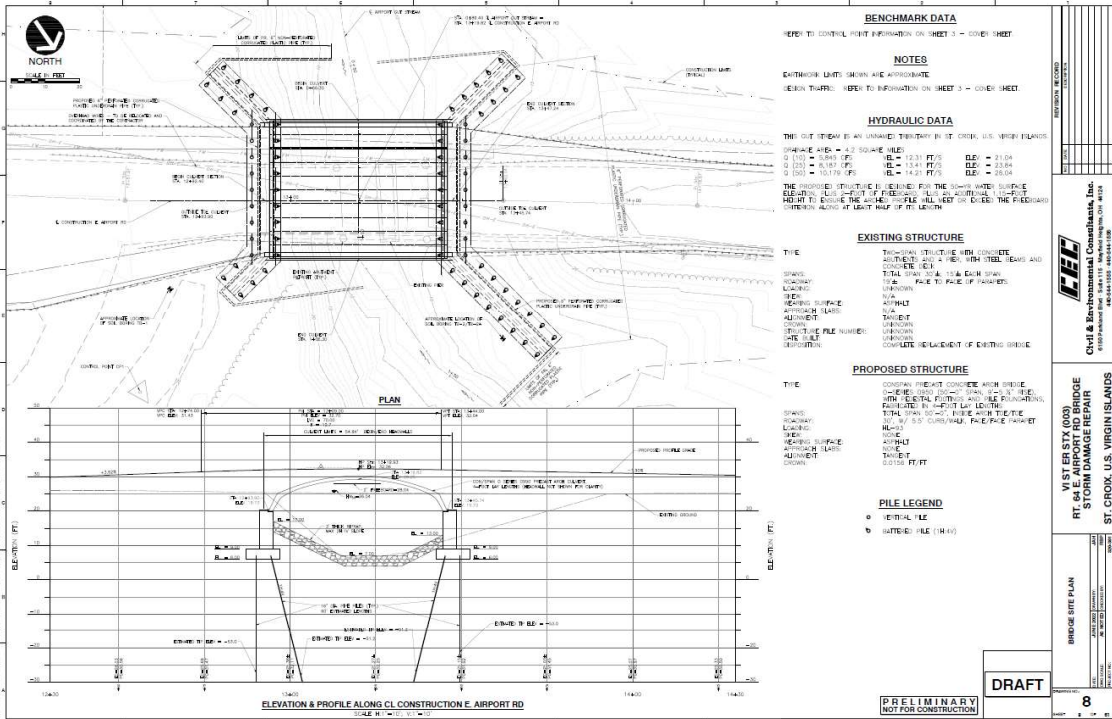
Bridges on Federal Highway Projects, as well as local building, environmental and safety regulations.

Total estimated time for construction completion is estimated at 168 days.

CHANGES FROM PREVIOUS SUBMITTAL

- Use of temporary bridge for detour installation instead of culverts

SITE MAPS



2.04 RT. 72 – MP 1.4 MIDLAND ROAD BRIDGE

For this site under project VI ST ER STX(003), 285 linear feet of roadway over the Midland Road Bridge on Route 72 will be rehabilitated. This will occur after the existing box culverts and bridge are removed and replaced with new box culverts and a cast in place concrete bridge structure in the same location as the existing structure. A new sidewalk will be installed on the south side of the roadway, along with guardrails and sidewalks. The culvert inlet will be lined with rip rap to slow the water flow and 3-6-foot boulders installed at culvert outlet to further improve stability.

The project will not require a temporary road structure to cross the Gut as a detour around existing roadways will be employed. A 12-inch temporary waterline will be installed no more than 50 feet from existing road edge and a new permanent 12-inch waterline will be mounted to the new box culverts after construction of the bridge. The gut is anticipated to be dry during the work schedule timeline; however, there is no work expected to be done directly within the typical waterline of the Gut when water is flowing. All necessary precautions will be taken in the event there is water at the site and additional stormwater BMPs are required.

TIMELINE

Phase 1 – Site Preparation

This phase will consist of mobilization and initial survey and staking. After establishing the layout, Erosion & Sediment control will be set up, to include turbidity curtains (if necessary) and silt fencing. Mobilization of machinery and equipment will follow proper site setup for safety and protection of workers and environment.

Approximate Timeline – 138 days

Phase 2 – Demolition

This phase will begin with initial site clearing and basic grubbing to prepare for demolition. Vegetation will be removed and sent to the WMA Transfer station for green waste. A temporary rerouting of utilities will follow, to ensure uninterrupted utility services. This will include a temporary 12-inch waterline installed 40 to 50 feet from the edge of the existing roadway.

Demolition of the existing culverts and bridge structure will occur next, with C&D waste disposed of in the Anguilla Landfill via permitted dump trucks. After full demolition and removal of C&D waste, preparation work will begin for new bridge construction.

Approximate Timeline – 12 days

Phase 3 – Culvert and Bridge Construction

This phase will entail culvert construction and installation of cast in place bridge deck structure. Four (4) box culverts each 10 feet by 7 feet high will be installed, a cast in place bridge deck, and riprap and other scour protection installation along culvert entrance and exit. Once the culverts are installed, the cast in place concrete deck will be placed.

Approximate Timeline – 40 days

Phase 4 – Roadway Construction

This final phase will focus on roadway construction and profile. A new concrete sidewalk will be installed on the south side of the road according to included site plan drawings, and new permanent utility infrastructure will be installed. After compaction and final grading is complete, final asphalt layers will be applied per road construction specifications, to provide correct

profile for safe driving conditions and to allow for proper drainage and storm resistance. Finally, installation of signage and pavement markings will complete the construction work, and the site will be stabilized and closed through any necessary landscaping and site cleanup as required by environmental standards and regulation.

Approximate Timeline – 12 days

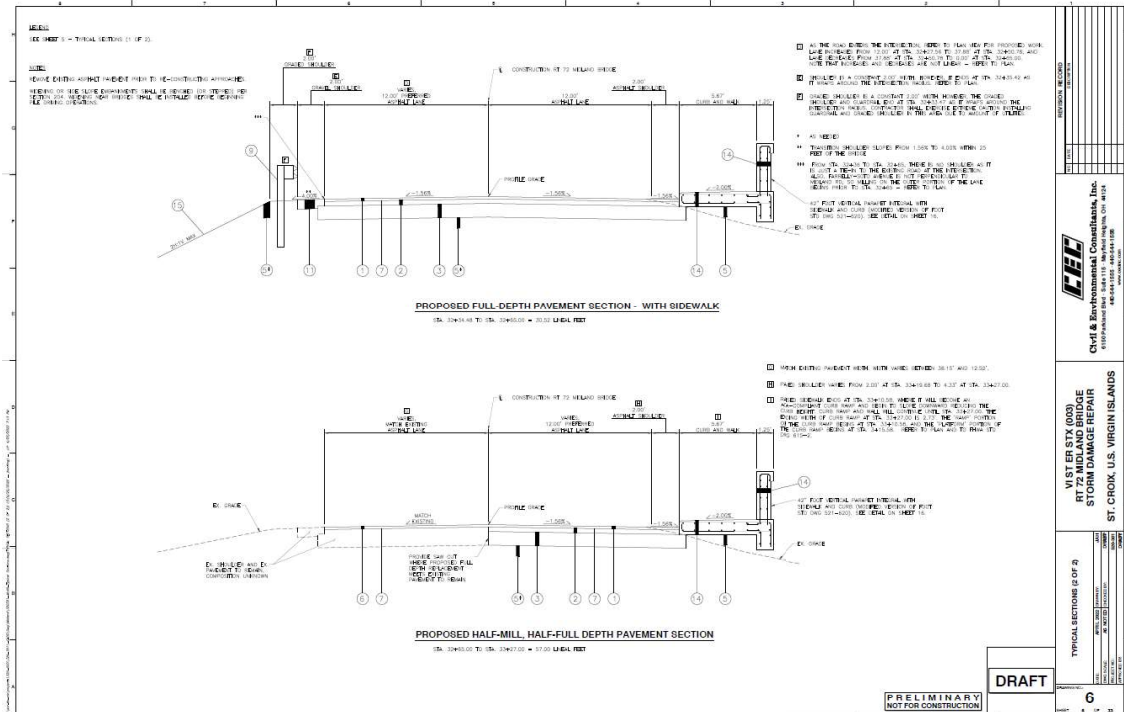
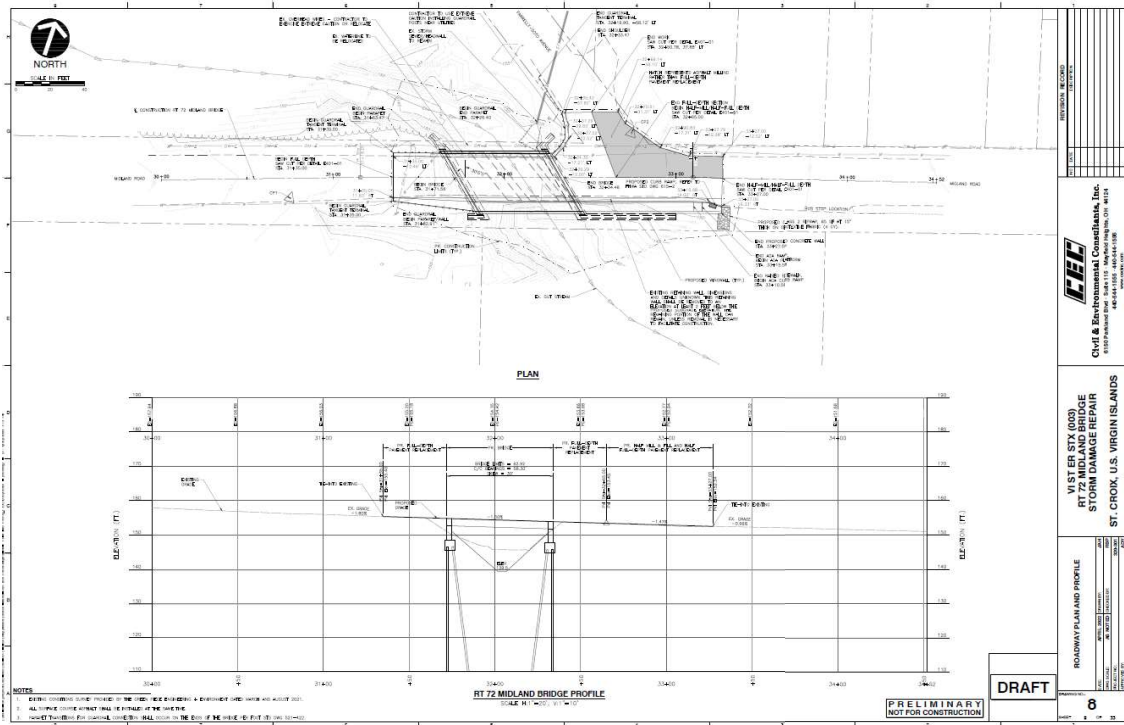
All work on this road project will follow Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects, as well as local building, environmental and safety regulations.

Total estimated time for construction completion is estimated at 202 days.

CHANGES FROM PREVIOUS SUBMITTAL

- None.

SITE MAPS



2.05 RT. 7532 - MP 0.02 ALTONA LAGOON BOX CULVERT

For this site under project VI ST ER STX(003), 175 linear feet of roadway will be replaced after existing box culverts are removed and replaced with a pre-cast bridge. The culverts are currently located between Altona Lagoon to the east and the Caribbean Sea to the west. These culverts will not be replaced as the inlet is proposed to remain open. A precast concrete bridge deck will be installed, supported by cast in place concrete footings on top of steel piles driven into either side of the Lagoon inlet. Sidewalks, guardrails, and handrails on both sides of the bridge will also be installed to meet minimum federal DOT requirements.

Since the site is located at a lagoon entrance and is in close proximity to shoreline with aquatic habitat and protected species, special attention will be placed towards the environmental managing to ensure minimal disturbance to the surrounding ecosystem and supported habitats.

TIMELINE

Phase 1 – Site Preparation

This phase will consist of mobilization and initial survey and staking as well as temporary access road installation. After establishing the layout, Erosion & Sediment control will be set up, to include turbidity curtains. Installation of the temporary Lagoon Crossing Road will be performed, setting up safety barriers and access routes. Mobilization of machinery and equipment will follow proper site setup for safety and protection of workers and environment.

Approximate Timeline – 112 days

Phase 2 – Demolition

This phase will begin with initial site clearing and basic grubbing to prepare for demolition. Vegetation will be removed and sent to the WMA Transfer station for green waste. Flagged and protected mangroves will not be removed, and a protective barrier placed around each identified plant, marked for protection throughout the entire project.

A temporary rerouting of utilities will follow, to ensure uninterrupted utility services.

Demolition of the box culverts, headwall and existing road structure will occur next, with C&D waste disposed of in the Anguilla Landfill via permitted dump trucks. After full demolition and removal of C&D waste, preparation work will begin for new bridge construction.

Approximate Timeline – 17 days

Phase 3 – Foundation and Bridge Construction

This phase will entail foundation construction and placement of pre-cast bride structure. To prepare for the new bridge, the site will require steel pile driving, concrete cast-in-place foundation construction, and riprap and other scour protection installation. After foundation installation and base stabilization, the new bridge unit will be put in place by crane.

Approximate Timeline – 40 days

Phase 4 – Roadway Construction

This final phase will focus on roadway construction and profile. Aggregate base will be laid over newly installed infrastructure. New safety guardrails and concrete sidewalks will be installed according to included site plan drawings, and new permanent utility infrastructure will be installed. After compaction and final grading is complete, final asphalt layers will be applied per road construction specifications, to provide correct profile for safe driving conditions and to allow for proper drainage and storm resistance. Finally, installation of signage and pavement markings will complete the construction work, and the site will be stabilized and closed through any necessary landscaping and site cleanup as required by environmental standards and regulation. Removal of the temporary access road will be performed carefully

and with continued installation of turbidity curtains.

Approximate Timeline – 13 days

All work on this road project will follow Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects, as well as local building, environmental and safety regulations.

Total estimated time for construction completion is estimated at 172 days.

CHANGES FROM PREVIOUS SUBMITTAL

- Box culverts will now be fully replaced by a pre-cast concrete bridge.
- Lagoon entrance will not be blocked at any time during construction due to design change to pre-cast concrete structure.
- Temporary detour crossing has changed from culverts to a temporary bridge structure.

SITE MAPS

