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

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

PRIMARY CONTRACTOR
Virgin Islands Paving, Inc.

PREPARED BY
Tysam Tech, LLC.

JUNE 30, 2021
# CZM PERMIT APPLICATION

**VI ST ER STX(003)**

**Applicant: Government of the USVI - DPW**

**June 30, 2021**

## Table of Contents

1.00 OVERALL PROJECT SUMMARY ................................................................. 3

2.00 BRIDGE REPLACEMENT LOCATIONS ......................................................... 4

   2.01 ROUTE 64 - EAST AIRPORT ROAD BRIDGE ........................................ 4

   2.02 ROUTE 72 - MP 1.4 MIDLAND RD BRIDGE ........................................... 6

   2.03 ROUTE 7532 - 0.02 – ALTONA LAGOON BOX CULVERT BRIDGE .......... 8

3.00 CULVERT & ROAD REPLACEMENT .......................................................... 10

   3.01 RT. 82 MP - 0.5 EAST END ROAD - CHENAY BAY .............................. 10

   3.02 RT. 82 MP-2.5 EAST END ROAD – COAKLEY BAY ................................. 12

   3.03 RT. 82 - MP 3.5 - COTTON VALLEY .................................................... 14

   3.04 RT. 63 CONCORDIA ROAD ............................................................... 16

   3.05 RT.78 WEST SCENIC ROAD IN SWEETBOTTOM ............................... 18

   3.06 RT. 80 NORTHSHORE RD EAST CULVERTS ..................................... 20

   3.07 RT. 80 NORTHSHORE RD WEST SINGLE CULVERT .......................... 22

4.00 ROAD REPLACEMENT ............................................................................... 24

   4.01 RT. 753 - MT. WELCOME ROAD ......................................................... 24

   4.02 RT. 763 RAINFOREST MAHOGANY ROAD ......................................... 26

   4.03 RT. 765 RAINFOREST FROM MAHOGANY RD ................................. 28

   4.04 RT. 80 - MP 0.8 NORTH SHORE RD BY CANE BAY ............................ 30

   4.05 RT 732 WINDSOR RD ........................................................................ 32
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)
US Department of Transportation Federal Highway Administration
Eastern Federal Lands Highway Division
US Virgin Islands Department of Public Works
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
- Route 64 - East Airport Road Bridge
- Route 72 - MP 1.4 Midland Rd Bridge
- Route 7532 - 0.02

Schedule B: Road & Culvert Rehabilitation Projects
- Route 82 - 0.5
- Route 82 - 2.5
- Route 82 - 3.5
- Route 753 Mt Welcome Rd
- Route 763 - 0.00
- Route 765 - 0.00
- Route 63 - MP 0.9 Concordia Rd
- Route 78 - W Scenic Rd in Sweet Bottom
- Rt 80 - MP 0.8 North Shore Rd
- Rt 80 Northshore Rd East Culverts
- Rt 80 Northshore Rd West Single Culvert
- Rt 732 Windsor Rd
2.00 BRIDGE REPLACEMENT LOCATIONS

These 3 project locations entail the demolition and replacement of existing bridges, along with rehabilitation of roadway and any existing utilities.

2.01 ROUTE 64 - EAST AIRPORT ROAD BRIDGE

PROJECT SUMMARY

This project entails the replacement of a degrading bridge and the rehabilitation of a 330-foot section of associated roadway which was further damaged from Hurricane Maria in 2017. The location is along Rt. 64, East Airport Road, just north of Route 66, Melvin H Evans Hwy. The existing bridge will be removed and replaced by a wider pre-cast bridge structure at a higher elevation, in order to eliminate the drop in elevation caused by the existing bridge. The new bridge location will be east of the existing structure.

Driver sightlines will be improved by the elevation increase to flatten the overall profile and also by the new location, eliminating an existing blind turn while traveling in either direction. In addition, the project will help to ensure that another major storm event does not degrade the bridge and roadway to the point of inhibiting passage through the area.

TIMELINE

Phase 1 – Site Preparation
This phase will consist of mobilization and initial survey and staking as well as temporary access road installation.
Approximate Timeline – 14 days

Phase 2 – Demolition
This phase will entail Bridge removal and historical abutment protection and preservation.
Approximate Timeline – 14 days

Phase 3 – Foundation and Bridge Construction
This phase will entail foundation construction and placement of pre-cast bridge structure.
Approximate Timeline – 67 days

Phase 4 – Roadway Construction
This final phase will focus on roadway construction and profile.
Approximate Timeline – 7 days

Total time for construction completion is estimated at 90-104 days.

CHANGES FROM PREVIOUS SUBMITTAL

- New proposed approach is to provide temporary detour bridge to maintain normal traffic.
- Demolition of Bridge will be done with intention of preserving North abutment and base of bridge.
- Recontouring of drainage gut will be required to preserve North abutment but will be done when no water is flowing in gut and maintain drainage cross-section based on hydrology study recommendations.
PROJECT SUMMARY

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 sidewalls. 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 suffice. 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.

TIMELINE

Phase 1 – Site Preparation
This phase will consist of mobilization and initial survey and staking as well as preparing detour signage.
Approximate Timeline – 14 days

Phase 2 – Demolition
This phase will entail Bridge removal and historical abutment protection and preservation.
Approximate Timeline – 7 days

Phase 3 – Foundation and Bridge Construction
This phase will entail foundation construction of cast in place box culvert bridge with sidewalks.
Approximate Timeline – 56 days

Phase 4 – Roadway Construction
This final phase will focus on roadway construction and profile.
Approximate Timeline – 28 days

Total time for construction completion is estimated at 90-104 days.

CHANGES FROM PREVIOUS SUBMITTAL

- New proposed approach is to provide temporary detour around area by different route.
- Demolition of box culverts to completely remove existing bridge.
- Cast in place box culverts. Bridge will be wider, provided with a stronger foundation. Ground level of culverts adjusted and reinforced with rip rap inlet.
PROJECT SUMMARY

For this particular 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. The culverts will be carefully removed as a single unit, and 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 management of the work to ensure minimal disturbance to the surrounding ecosystem and supported habitats.

TIMELINE

Phase 1 – Site Preparation
This phase will consist of mobilization and initial access road to provide a detour. Silt fencing and turbidity curtains will be established.
Approximate Timeline – 21 days

Phase 2 – Demolition
Demolition of the box culverts, headwall and existing road structure will occur quickly but carefully, after rerouting of existing utility infrastructure.
Approximate Timeline – 7 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 – 42 days

Phase 4 – Roadway Construction
This final phase will focus on roadway construction and profile. 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 – 37 days

Total time for construction completion is estimated at 107 days.

CHANGES FROM PREVIOUS SUBMITTAL

• New proposed approach is to provide temporary detour bridge to maintain normal traffic.
• Demolition of box culverts to completely remove existing bridge as a single unit. Use of
turbidity curtains ensure sediment plume control.

- Inlet to Lagoon is never blocked and stays open for flushing at all times.
- Water Quality Monitoring Plan used to ensure safety of marine animals, water quality and inlet protection.
- Pre-Cast Bridge shall be put in place on foundations installed outside of the waterline, ensuring in-water work is minimized.

SITE MAPS
3.00 CULVERT & ROAD REPLACEMENT

These 7 project locations entail the demolition and replacement of roadways along with existing culvert systems.

3.01 RT. 82 MP - 0.5 EAST END ROAD - CHENAY BAY

PROJECT SUMMARY

For this site location, 300 linear feet of roadway at MP 0.5 on Route 82 will be rehabilitated. The existing 30-inch HDPE pipe culvert will be removed and replaced with a 36-inch HDPE pipe culvert. The existing culvert outlet elevation is higher than the inlet elevation. This will be corrected during installation with a proposed 2% slope downward to new culvert outlet. The concrete headwalls on both sides of the roadway will also be replaced. Backfill will be 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. The damaged guardrail will also be removed and replaced.

TIMELINE

Phase 1 – Site Preparation
This phase will consist of mobilization, Erosion & Sediment control set up, along with Traffic and Pedestrian Control Plan that will follow USDOT Maintenance of Traffic (MOT) requirements. 
Approximate Timeline – 14 days

Phase 2 – Demolition
This phase will begin with initial site clearing and basic grubbing, followed by demolition of the culvert, headwall and existing road structure.
Approximate Timeline – 21 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 – 21 days

Phase 4 – Roadway Construction
This final phase will focus on roadway construction and profile, followed by installation of guardrails signage and pavement markings.
Approximate Timeline – 21 days

Total time for construction completion is estimated at 90 days.

CHANGES FROM PREVIOUS SUBMITTAL

- Correction of slope of culverts to improve drainage
- Increased size of pipes from 30 inch to 36 inch HDPE.
- New headwalls, road profile and riprap inlet and outlet protection.
PROJECT SUMMARY

For this particular site location, 250 linear feet of roadway at MP 2.5 on Route 82 will be rehabilitated. The existing 18-inch reinforced concrete pipe (RCP) culvert will be removed and replaced with a 36-inch HDPE pipe culvert. Culvert inlet elevation will be lowered, and inlet width increased. The concrete headwalls on both sides of the roadway will be removed and replaced and additional rip rap will be installed at the spillway to further stabilize the culvert outlet. The damaged guardrail will also be removed and replaced.

TIMELINE

Phase 1 – Site Preparation
This phase will consist of mobilization, Erosion & Sediment control set up, along with Traffic and Pedestrian Control Plan that will follow USDOT Maintenance of Traffic (MOT) requirements. 
Approximate Timeline – 14 days

Phase 2 – Demolition
This phase will begin with initial site clearing and basic grubbing, followed by demolition of the culvert, headwall and existing road structure. 
Approximate Timeline – 21 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 – 21 days

Phase 4 – Roadway Construction
This final phase will focus on roadway construction and profile, followed by installation of guardrails signage and pavement markings. 
Approximate Timeline – 21 days

Total time for construction completion is estimated at 90 days.

CHANGES FROM PREVIOUS SUBMITTAL

- Damaged concrete culvert will be fully replaced and upgraded from 18 inches to 36 inches.
- New drainage and headwall supported by gabion basket substrate.
- Outlet rip rap reinforcement.
SITE MAPS

RT. 82 MP 2.5
PROJECT SUMMARY

The purpose of this project location is to rehabilitate a 200-foot section of roadway, as well as replace the existing CMP culverts and damaged guardrail. To protect this section from future storm damage, the road will be raised to accommodate the larger culverts and rip rap and gabion baskets will be added to the east side of the roadway shoulder and in the culvert outlet to provide improved stability and protection of the road edge.

TIMELINE

Phase 1 – Site Preparation
This phase will consist of mobilization, Erosion & Sediment control set up, along with Traffic and Pedestrian Control Plan that will follow USDOT Maintenance of Traffic (MOT) requirements.
*Approximate Timeline – 14 days*

Phase 2 – Demolition
This phase will begin with initial site clearing and basic grubbing, followed by demolition of the culvert and existing road structure.
*Approximate Timeline – 21 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 – 21 days*

Phase 4 – Roadway Construction
This final phase will focus on roadway construction and profile, followed by installation of guardrails signage and pavement markings.
*Approximate Timeline – 21 days*

**Total time for construction completion is estimated at 90 days.**

CHANGES FROM PREVIOUS SUBMITTAL

- Increase size of culverts from 30 inch to 48 inch.
- New northside headwall and outlet structure.
- Raised elevation of road with new profile to allow for drainage.
- Rip rap spillway along north edge of road section improves shoulder structural integrity.
For the Rt. 63 Concordia site under project VI ST ER STX(003), 40 linear feet of roadway at MP 0.9 of Rt. 63 (Concordia Road) will be rehabilitated. This will include removal of the existing CMP culvert and replacement with an HDPE pipe culvert. Concrete headwalls will be added to both the inlet and outlet of the new culvert. The roadway will receive two inches of surface asphalt over the new culvert trench to seal the roadway and provide a crown profile for adequate drainage.

The proposed construction will remain within the footprint of the existing roadway.

**TIMELINE**

**Phase 1 – Site Preparation**
This phase will consist of mobilization, Erosion & Sediment control set up, along with Traffic and Pedestrian Control Plan that will follow USDOT Maintenance of Traffic (MOT) requirements.
*Approximate Timeline – 7 days*

**Phase 2 – Demolition**
This phase will begin with initial site clearing and basic grubbing, followed by demolition of the culvert and existing road structure.
*Approximate Timeline – 7 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 – 7 days*

**Phase 4 – Roadway Construction**
This final phase will focus on roadway construction and profile, followed by installation of guardrails signage and pavement markings.
*Approximate Timeline – 7 days*

Total time for construction completion is estimated at 28 days.

**CHANGES FROM PREVIOUS SUBMITTAL**

- Culvert size remains the same. Material is changed to longer lasting HDPE.
- New northside headwall and outlet structure.
- Raised elevation of road with new profile to allow for drainage.
- Rip rap spillway along eastern edge of road section improves shoulder structural integrity.
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, Erosion & Sediment control set up, along with Traffic and Pedestrian Control Plan that will follow USDOT Maintenance of Traffic (MOT) requirements.  
*Approximate Timeline – 14 days*  

**Phase 2 – Demolition**
This phase will begin with initial site clearing and basic grubbing, followed by demolition of the culvert and existing road structure.  
*Approximate Timeline – 14 days*  

**Phase 3 – Earth and Culvert Construction**
This phase will entail embankment shaping and setting, including major gabion basket substructure development. A 30 foot height will allow for new culvert installation and headwall casting. Inlet and outlet modification and installation will complete the infrastructure layout.  
*Approximate Timeline – 28 days*  

**Phase 4 – Roadway Construction**
This final phase will focus on roadway construction and profile, followed by installation of guardrails signage and pavement markings.  
*Approximate Timeline – 14 days*  

**Total time for construction completion is estimated at 56-84 days.**

**CHANGES FROM PREVIOUS SUBMITTAL**

- Culvert size remains the same. Slope is adjusted for better drainage.
- New inlet, headwall and outlet structure.
- Raised elevation of road with new profile to allow for drainage.
- Major shoulder reconstruction to address washout due to hurricanes.
- Rip rap spillway along eastern edge of road section improves shoulder structural integrity.
For the East Culverts on Rt. 80 Northshore, 332 linear feet of roadway on Rt. 80 North Shore Road will be rehabilitated. The existing 48-inch corrugated metal pipe (CMP) culvert will be removed and replaced with a 48-inch HDPE pipe culvert. The current culvert outlet elevation is higher than the inlet elevation. This will be corrected during installation with a proposed 2% slope downward to new culvert outlet. Concrete headwalls on both sides of the roadway will be replaced. The damaged guardrail will also be removed and replaced. Additional rip rap will be installed at the culvert outlet to provide improved stability.

The proposed construction will remain within the footprint of the existing roadway.

**TIMELINE**

**Phase 1 – Site Preparation**
This phase will consist of mobilization and initial survey, Erosion & Sediment control set up, along with Traffic and Pedestrian Control Plan that will follow a USDOT compliant Maintenance of Traffic (MOT).
*Approximate Timeline – 7 days*

**Phase 2 – Demolition**
This phase will begin with initial site clearing and basic grubbing, demolition of the culvert, headwall and existing damaged road structure, and finally grading and excavation of soil and substrate will commence to prepare new structures for installation.
*Approximate Timeline – 14 days*

**Phase 3 – Earth and Culvert Construction**
This phase will entail construction and embankment shaping and setting, culvert installation and headwall casting. Inlet and Outlet modification and installation will complete the infrastructure layout.
*Approximate Timeline – 21 days*

**Phase 4 – Roadway Construction**
This final phase will focus on roadway construction and profile, guardrails, installation of signage and pavement markings.
*Approximate Timeline – 14 days*

**Total estimated time for construction completion is estimated at 49-56 days.**

**CHANGES FROM PREVIOUS SUBMITTAL**

- Culvert size remains the same. Material is changed to longer lasting HDPE.
- New northside headwall and outlet structure.
- Raised elevation of road with new profile to allow for drainage.
- Rip rap spillway along northern edge of road section improves shoulder structural integrity.
RT. 80 EAST CULVERT
3.07 RT. 80 NORTHSHORE RD WEST SINGLE CULVERT

For the West Culverts on Rt. 80 Northshore, 189 linear feet of roadway on Rt. 80 North Shore Road will be rehabilitated. The existing 15-inch HDPE pipe culvert will be removed and replaced with an 18-inch HDPE pipe culvert. The concrete inlet will be increased in area to accommodate the increase pipe size, and the concrete headwall at culvert outlet will be replaced. The damaged guardrail will also be removed and replaced, and additional rip rap will be installed at the culvert outlet to provide improved stability and long-term resiliency to storm events and flooding.

The proposed construction will remain within the footprint of the existing roadway.

TIMELINE

Phase 1 – Site Preparation
This phase will consist of mobilization and initial survey, Erosion & Sediment control set up, along with Traffic and Pedestrian Control Plan that will follow a USDOT compliant Maintenance of Traffic (MOT).
Approximate Timeline – 7 days

Phase 2 – Demolition
This phase will begin with initial site clearing and basic grubbing, demolition of the culvert, headwall and existing damaged road structure, and finally grading and excavation of soil and substrate will commence to prepare new structures for installation.
Approximate Timeline – 14 days

Phase 3 – Earth and Culvert Construction
This phase will entail construction and embankment shaping and setting, culvert installation and headwall casting. Inlet and Outlet modification and installation will complete the infrastructure layout.
Approximate Timeline – 21 days

Phase 4 – Roadway Construction
This final phase will focus on roadway construction and profile, guardrails, installation of signage and pavement markings.
Approximate Timeline – 14 days

Total estimated time for construction completion is estimated at 49-56 days.

CHANGES FROM PREVIOUS SUBMITTAL

- Culvert size increased from 15 inch to 18 inch. Material is changed to longer lasting HDPE.
- New northside headwall and outlet structure.
- Raised elevation of road with new profile to allow for drainage.
- Rip rap spillway along northern edge of road section improves shoulder structural integrity.
4.00 ROAD REPLACEMENT

These 5 project locations entail the demolition and replacement of only surface roadways and shoulder reinforcement.

4.01 RT. 753 - MT. WELCOME ROAD

For this standard road rehabilitation site, 975 linear feet of asphalt will be removed from the site. To stabilize existing roadway, eight (8) inches of aggregate base will be added. To ensure waters from future rain and storm events do not settle on the roadway, a crowned profile will be created, and aggregate added to the southern shoulder, adding approximately two (2) feet of height to the road. Further installments of a four (4) foot-wide waterway on the West shoulder, and a concrete low water crossing at the existing low point, will facilitate water flow from west to east, off the roadway, into the existing undeveloped property that drains to the Altona Lagoon.

TIMELINE

Phase 1 – Site Preparation
This phase will consist of mobilization and initial survey, Erosion & Sediment control set up, along with Traffic and Pedestrian Control Plan that will follow a USDOT compliant Maintenance of Traffic (MOT).
Approximate Timeline – 7-14 days

Phase 2 – Demolition
This phase will begin with initial site clearing and basic grubbing, demolition of the existing damaged road structure, and finally grading and excavation of soil and substrate will commence to prepare new structures for installation.
Approximate Timeline – 7-14 days

Phase 3 – Earth, Subgrade and Waterway Construction
This phase will entail construction and embankment shaping and setting as well as concrete swale road crossing installation.
Approximate Timeline – 7-14 days

Phase 4 – Roadway Construction
This final phase will focus on roadway construction and profile. Aggregate base will be laid over newly installed infrastructure. 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.
Approximate Timeline – 7-14 days

Total estimated time for construction completion is estimated at 28-56 days.

CHANGES FROM PREVIOUS SUBMITTAL

- Addition of concrete swale road crossings for controlled water flow.
- Shoulder profiling for improved strength and long-term resiliency.
- Raised elevation of road with new profile to allow for drainage.
Rt. 763 on Mahogany Road entails the rehabilitation of 175 linear feet of roadway at Rt 76 (Mahogany Road) entering Rt 763. The roadway will be repaired by removing the existing asphalt and replacing with six inches of new hot mix asphalt over the existing macadam base. The roadway will be crowned to allow draining to the shoulders, which will be graded, and earth ditch swales installed to allow water to flow freely off of the roadway.

**TIMELINE**

**Phase 1 – Site Preparation**
This phase will consist of mobilization and initial survey, Erosion & Sediment control set up, along with Traffic and Pedestrian Control Plan that will follow a USDOT compliant Maintenance of Traffic (MOT).
*Approximate Timeline – 7 days*

**Phase 2 – Demolition**
This phase will begin with initial site clearing and basic grubbing, demolition of the culvert, headwall and existing damaged road structure, and finally grading and excavation of soil and substrate will commence to prepare new structures for installation.
*Approximate Timeline – 7 days*

**Phase 3 – Earth and Subgrade Construction**
This phase will entail construction and embankment shaping and setting, culvert installation and headwall casting. Inlet and Outlet modification and installation will complete the infrastructure layout.
*Approximate Timeline – 7 days*

**Phase 4 – Roadway Construction**
This final phase will focus on roadway construction and profile, guardrails, installation of signage and pavement markings.
*Approximate Timeline – 7 days*

**Total estimated time for construction completion is estimated at 28 days.**

**CHANGES FROM PREVIOUS SUBMITTAL**

- No changes, standard road rehabilitation and re-asphalting
Rt. 765 on Mahogany Road entails the rehabilitation of 700 linear feet of roadway at Rt 76 (Mahogany Road) entering Rt 765. The roadway will be repaired by removing the existing asphalt and replacing with six inches of new hot mix asphalt over the existing macadam base. The roadway will be crowned to allow draining to the shoulders, which will be graded, and earth ditch swales installed to allow water to flow freely off of the roadway.

**TIMELINE**

**Phase 1 – Site Preparation**
This phase will consist of mobilization and initial survey, Erosion & Sediment control set up, along with Traffic and Pedestrian Control Plan that will follow a USDOT compliant Maintenance of Traffic (MOT).
*Approximate Timeline – 7 days*

**Phase 2 – Demolition**
This phase will begin with initial site clearing and basic grubbing, demolition of the culvert, headwall and existing damaged road structure, and finally grading and excavation of soil and substrate will commence to prepare new structures for installation.
*Approximate Timeline – 7 days*

**Phase 3 – Earth and Subgrade Construction**
This phase will entail construction and embankment shaping and setting, culvert installation and headwall casting. Inlet and Outlet modification and installation will complete the infrastructure layout.
*Approximate Timeline – 7 days*

**Phase 4 – Roadway Construction**
This final phase will focus on roadway construction and profile, guardrails, installation of signage and pavement markings.
*Approximate Timeline – 7 days*

Total estimated time for construction completion is estimated at 28 days.

**CHANGES FROM PREVIOUS SUBMITTAL**

- No changes, standard road rehabilitation and re-asphalting
For this location under project VI ST ER STX(003), 150 linear feet of roadway at MP 0.8 on Route 80 will be rehabilitated. The North shoulder of the roadway, where wash-out occurred, will be cleared of trees and brush. Rip rap and geotextile will then be installed on the North edge for the stabilization of the roadway shoulder, and a base asphalt layer along with surface layer will be applied with a crown profile.

**TIMELINE**

**Phase 1 – Site Preparation**
This phase will consist of mobilization and initial survey, Erosion & Sediment control set up, along with Traffic and Pedestrian Control Plan that will follow a USDOT compliant Maintenance of Traffic (MOT).
*Approximate Timeline – 7 days*

**Phase 2 – Demolition**
This phase will begin with initial site clearing and basic grubbing, demolition of the north shoulder, and existing damaged road structure, and finally grading and excavation of soil and substrate will commence to prepare new structures for installation.
*Approximate Timeline – 14 days*

**Phase 3 – Earth and Subgrade Construction**
This phase will entail construction and embankment shaping and setting, including major rip rap installation.
*Approximate Timeline – 21 days*

**Phase 4 – Roadway Construction**
This final phase will focus on roadway construction and profile, shoreline embankment tie-in, and installation of signage and pavement markings.
*Approximate Timeline – 14 days*

**Total estimated time for construction completion is estimated at 28-56 days.**

**CHANGES FROM PREVIOUS SUBMITTAL**

- No changes.
- Road profile improved for drainage.
- Rip Rap embankment will match existing embankment material along this general area.
For this particular site under project VI ST ER STX(003), 300 linear feet of roadway of Rt 732 (Windsor Road) just off of Rt 80 (Northshore Road) will be rehabilitated. The roadway will be stabilized by removing the existing asphalt and replacing with a geotextile reinforcement prior to placing six inches of new hot mix asphalt. The existing gut will be cleared of debris to allow runoff to flow freely. In addition, the damaged guardrail will be removed and replaced.

The proposed construction will remain within the footprint of the existing roadway.

**TIMELINE**

**Phase 1 – Site Preparation**
This phase will consist of mobilization and initial survey, Erosion & Sediment control set up, along with Traffic and Pedestrian Control Plan that will follow a USDOT compliant Maintenance of Traffic (MOT).
*Approximate Timeline – 7 days*

**Phase 2 – Demolition**
This phase will begin with initial site clearing and basic grubbing, demolition of the existing damaged road structure, and finally grading and excavation of soil and substrate will commence to prepare new structures for installation.
*Approximate Timeline – 7 days*

**Phase 3 – Earth and Substrate Construction**
This phase will entail construction and substrate shaping and setting.
*Approximate Timeline – 7 days*

**Phase 4 – Roadway Construction**
This final phase will focus on roadway construction and profile, installation of signage and pavement markings.
*Approximate Timeline – 7 days*

**Total estimated time for construction completion is estimated at 21-28 days.**

**CHANGES FROM PREVIOUS SUBMITTAL**

- No changes.
- Road profile improved for drainage.