ORIGINAL

Response to Request for Proposals

I-64 CAPACITY IMPROVEMENTS – SEGMENT II

Newport News, York County and James City County, Virginia

State Project Nos.:	0064-965-264, P101, R201, C501, B627, B628, B629, B630, B631, B632, B633, B634, B635, D603, D604, D605, D606, D607, D608
Federal Project Nos.:	IM-965-5 (086)
Contract ID No.:	C00106665DB82

VOLUME I: TECHNICAL PROPOSAL

Submitted By:

SHIRLEY
CONTRACTING COMPANY, LLC

In Association With:

Dewberry®

4.1 - Letter of Submittal

SHIRLEY
CONTRACTING COMPANY, LLC

November 16, 2015

Mr. Joseph A. Clarke, PE, DBIA
Virginia Department of Transportation
1401 East Broad Street
Annex Building, 8th Floor
Richmond, VA 23219

RE: I-64 Capacity Improvements – Segment II
Newport News, York County and James City County, Virginia
Contract ID Number: C00106665DB82

Dear Mr. Clarke:

Shirley Contracting Company, LLC (Shirley), as the Offeror, and Dewberry Consultants LLC (Dewberry), as the Lead Designer, are pleased to submit our Team's Technical Proposal for the I-64 Capacity Improvements Segment II Project (the Project). Our Team has unmatched experience performing VDOT Design-Build Projects completing 16 projects valued at over $900 million. Additionally, as the Design-Build Team on the Segment I Project, we intend to leverage our experience and knowledge to the benefit of the Segment II Project. All of these benefits result in the Shirley/Dewberry Team being the best Team for the Project and ***we intend to achieve the early completion incentive date of May 24, 2019.***

4.1.2 - 4.1.3 Declarations: Should Shirley be selected, it is our intent to enter into a contract with VDOT for the Project in accordance with the terms of this Request for Proposal (RFP). Further, the offer represented by our Technical and Price Proposals will remain in full force and effect for one hundred twenty (120) days from the date this Technical Proposal is actually submitted to VDOT.

4.1.4 - Point of Contact: Garry A. Palleschi, Vice President, Shirley Contracting Company, LLC, 8435 Backlick Road, Lorton, VA 22079, 703.550.3579(P), 703.550.9346 (F) gpalleschi@shirleycontracting.com

4.1.5 - Principal Officer: Michael E. Post, President/CEO/Manager, Shirley Contracting Company, LLC 8435 Backlick Road, Lorton, VA 22079, 703.550.8100(P)

4.1.6 - Final Completion Date: July 26, 2019

4.1.7 - Proposal Payment Agreement: An executed Proposal Payment Agreement, Attachment 9.3.1 is included in the Appendix.

4.1.8 - Certification of Debarment: Signed Certification of Debarment Forms are included as an attachment in the Appendix.

On behalf of the entire Shirley/Dewberry Team, we thank VDOT for the opportunity to submit this Technical Proposal and look forward to your favorable review.

Sincerely,

Michael E. Post
President/CEO/Manager
Shirley Contracting Company, LLC

4.2 - Offeror’s Qualifications

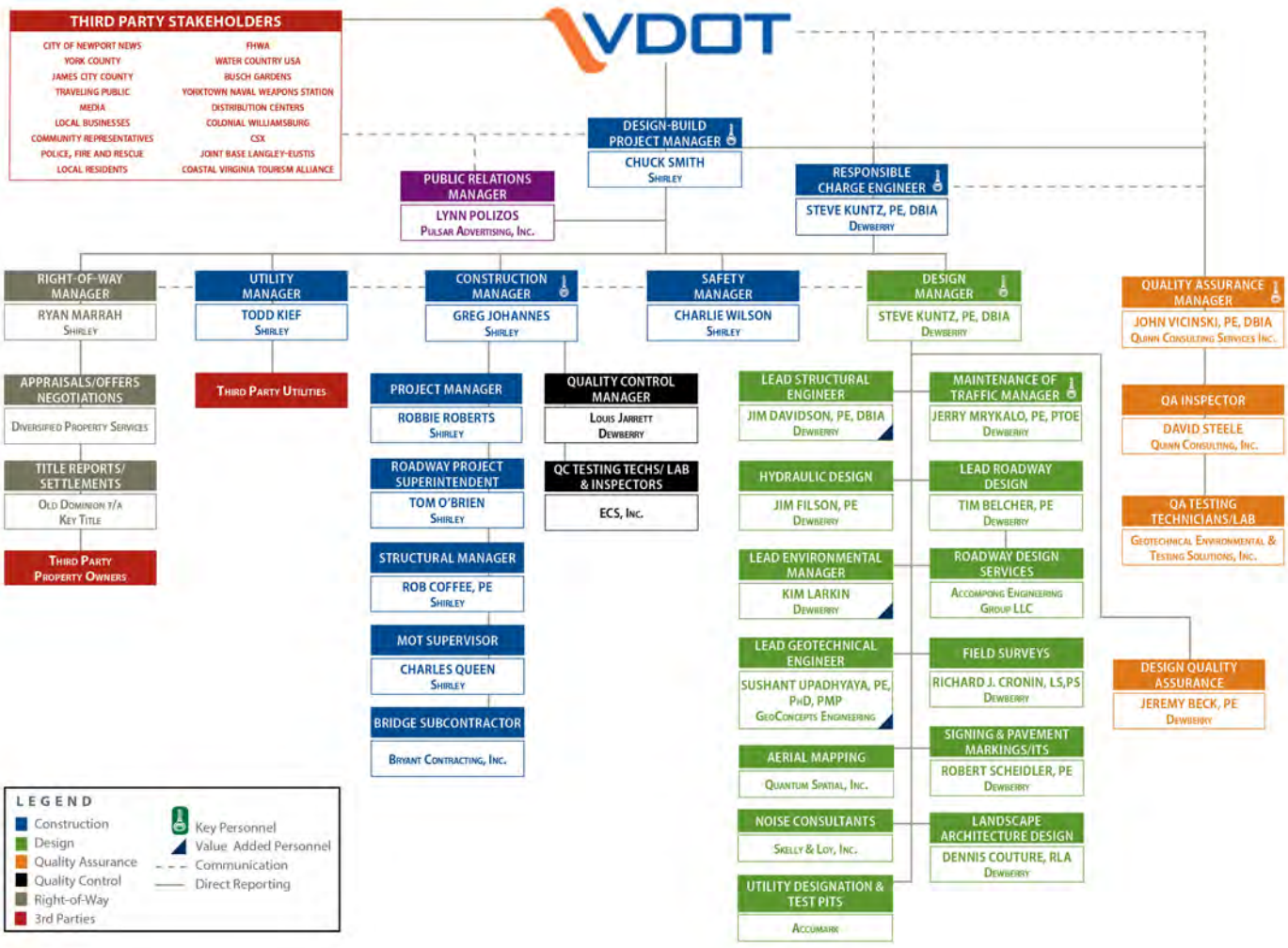
4.2 Offeror's Qualifications

4.2.1 Confirmation

We confirm that the information contained in our Statement of Qualifications (SOQ) remains true and accurate in accordance with Section 11.4 with one exception. Seth Bourne listed as Project Manager is no longer with the company. He will be replaced by Robbie Roberts. VDOT's APD Office was notified and approved this change on September 21, 2015.

4.2.2 Organizational Chart

The Project Organizational Chart below identifies the "chain of command" and major functions to be performed and their reporting relationships in managing, designing and constructing the Project, including quality control/quality assurance. The organizational chart has been updated to reflect the change in the Project Manager. As there is no change to the chain of command, an updated narrative is not required.



4.3 - Design Concept

4.3 Design Concept

Introduction

Our Team's approach to developing this comprehensive technical concept consisted of a thorough review of the RFP, all supporting documents, numerous trips to and through the Project site, and also a reliance on the experience we have gained from developing the final construction plans for I-64 Capacity Improvements - Segment I (I-64 Segment I) immediately to the east of this Project. The concept we have developed is tailored to meet the requirements of the RFP and is consistent with the conceptual plans provided with the RFP, but also incorporates enhancements which aim to address the following goals:

- Reduce impacts to the traveling public;
- Early opening of the third travel lane east of the Jefferson Avenue interchange;
- Reduce environmental impacts;
- Reduce right-of-way and easement impacts;
- Improve safety for the traveling public, construction and inspection staff; and
- Reduce risk to project stakeholders.

The concept developed by our Team also:

- ✓ Meets or exceeds all requirements listed in the Design Criteria Table;
- ✓ Is located within the existing or proposed right-of-way limits shown in the RFP conceptual plans, including stormwater management facilities, with the exception of permanent and temporary easements; and
- ✓ Does not include elements which require approval of design exceptions or design waivers beyond those already identified in the RFP or Addendum.

Immediately upon release of the RFP, our Team established weekly coordination meetings with all design disciplines including environmental, right-of-way, utility, and construction staff to identify project challenges, and develop solutions to eliminate risks. Details of the enhancements our Team has made are described in the following sections and are summarized in the table below.

Location/Design Element	Enhancement	Project Benefit
Horizontal Alignment between Route 199 and Busch Gardens Interchange	Shifted the horizontal alignment towards the median, maintaining minimum width of 50.5'	• Avoids outside shoulder widening and slope clearing • Avoids construction activities within the deflection area of temporary traffic barrier increasing safety. • Avoids environmentally sensitive areas and minimizes ROW impacts
Horizontal Alignment east of Busch Gardens Interchange to Eastern Project Limit	Shifted the horizontal alignment towards the median, maintaining a raised, planted median width of 6'	• Avoids outside shoulder widening and slope clearing • Avoids impacts to existing ITS devices and overhead signs • Eliminates box culvert extensions and associated wetland and stream impacts • Enhanced construction safety by allowing for greater offsets from travel lane to work zone
Stormwater Management	Reduced the number of SWM facilities from 27 to 26 and modified remaining facilities	• Eliminates ROW acquisition from six parcels • Reduces ROW and easement impacts by approximately 13 acres • Eliminates water quality facilities in the median, avoiding clearing within the Busch Gardens Interchange • Avoids 1.84 acres of wetland impacts
I-64 Median	Removed SWM basins to avoid forested clearing	• Eliminates median clearing within the Busch Gardens Interchange allowing for the preservation of the existing tree canopy, as preferred by the local community

4.3.1 Conceptual Roadway Plans

This Project generally consists of the addition of one thru lane in each direction, but also involves the complete reconstruction of the existing roadway pavement, construction of full width shoulders to both the left and right of the travel lanes, and widening and repairs to nine bridges. Improvements to I-64 are designed in accordance with the Design Criteria Table and VDOT standards for a GS-5 (Urban Principal Arterial – Interstate) facility. The design speed varies from 75 mph west of Route 199 to 70 mph east of Route 199. Three design waivers for bridge outside shoulder width, vertical clearance, and inside shoulder cross slope have already been approved by VDOT.

A. General Geometry

Following completion of this Project, I-64 will consist of a 6-lane median divided facility with three general purpose lanes in each direction. Our Volume II - Design Concept includes information related to horizontal curve data and required superelevation rates. This Project varies from that of Segment I, since the entire existing roadway will be demolished and replaced. This complete reconstruction of the existing roadway allows our Team to incorporate enhancements to the final roadway configuration, most notably adjusting the horizontal alignments of eastbound and westbound I-64 to avoid sliver widening and narrow fills of the existing outside shoulders. The adjustment to the horizontal alignments of I-64 were developed in a manner where minimum median widths are maintained, either in the "open section" area where a median ditch is incorporated, or in the "closed section" area where a raised planter and landscaping area is incorporated between the concrete median barriers.

B. Horizontal Alignment

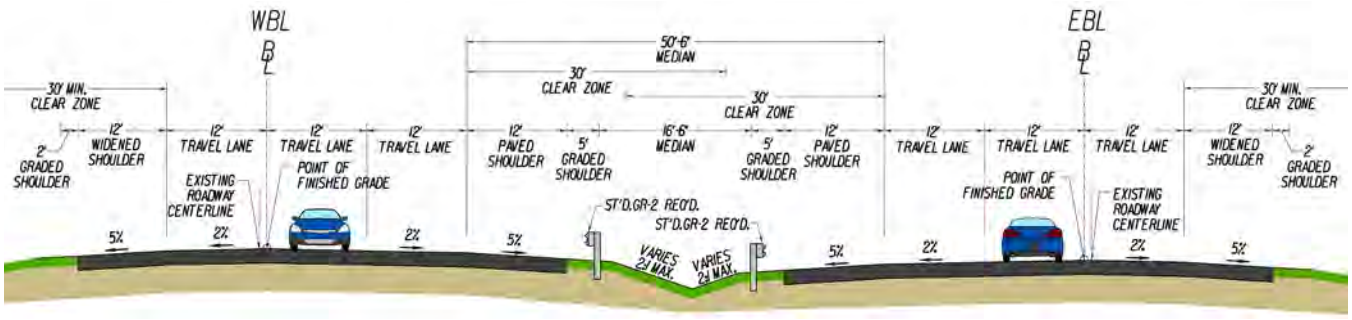
Our Team's horizontal alignment is similar to the RFP, but allows for:

- Improved construction access;
- Avoids temporary pavement beyond the limits of the permanent roadway footprint;
- Enhances construction safety by avoiding work within the deflection zone of temporary barrier;
- Avoids sliver widening of existing outside slopes; and
- Minimizes impacts to environmentally sensitive areas.

At the ends of the Project, the horizontal alignments have been transitioned back to match the existing condition (at the west end) and the final design alignment of I-64 Segment I (at the east end). Alignments through the interchange areas avoid impacts to the interchange ramps and eliminate the need for approval of Interchange Modification Reports (IMR) by Federal Highways. Because the entire existing roadway will be reconstructed, cross slopes for the entire length of the Project will be constructed in accordance with TC-5.11R criteria for a 75 mph design speed (west of Route 199) or a 70 mph design speed (east of Route 199). In general, there are two distinct typical sections:

1. ***Open Ditch Median –*** From the western project limit to east of the Busch Gardens Interchange, a minimum 50.5' median width is maintained by our concept as shown in Figure 1a. We shifted alignments of the eastbound and westbound roadways to avoid widening of the existing outside slopes, as well as to facilitate construction of additional pavement in the second stage of construction (after temporary strengthening of the existing outside shoulder is completed in the first stage). Horizontal lane shifts just west of the Penniman Road overpass and just east of the Route 199 interchange are utilized to create the shifted roadway alignments in a manner which avoids reconstruction of the existing Route 199 overpass bridges or reconstruction of the interchange loop ramps.

Figure 1a - Open Ditch Median Section



2. ***Closed Section Median –*** From east of the Busch Gardens interchange to the eastern project limit, a raised landscaped median with a width of 6' between the backs of the median barriers has been incorporated as shown in Figure 1b. By maintaining the 6' minimum width as opposed to the approximately 9' median width, we are able to avoid impacts to the outside roadway slopes and ITS facilities in all areas except where auxiliary lane improvements are required at the interchange ramps.

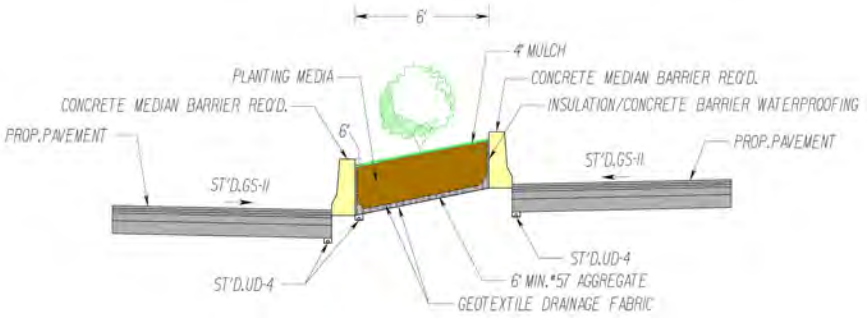


Figure 1b - Closed Median Typical Section

As shown on our conceptual plans, baseline stationing has been adjusted so that it is consistent with the stationing being used in the final design of the I-64 Segment I plans, which simplifies construction surveying and avoids any risk of marks being misinterpreted near the interface between I-64 Segment I and I-64 Segment II. In addition to added capacity associated with widening to a 6-lane facility, we incorporated the required deceleration and acceleration lane lengths at each of the interchange ramps.

As required by the RFP, there are several locations where limited clearing is required to improve sight lines or provide horizontal sight distances which are compliant with current criteria. In recognition that construction activities can sometimes cause a distraction to motorists, our Team will complete these tree clearing activities as an initial construction activity so sight lines are improved prior to any major construction activities beginning. Tree clearing activities will also be coordinated with time of year restrictions based on the recent listing of the Northern Long Eared Bat or other T&E species.

C. Maximum Grades

This Project consists of gently rolling terrain with minimal bifurcation between the eastbound and westbound lanes. As defined on the Design Criteria Table, design is to be based on GS-5 standards for a "Level" terrain, which limits the maximum vertical grade to 3% per AASHTO Chapter 7, Table 7-2, but allows an increase to 4% in "urban" areas. As shown on the RFP plans and discussed at our Team's proprietary meeting, a portion of the eastbound lanes of I-64 through the Route 199 interchange exceeds the 3% grade but is below the 4% maximum permitted for an "urban" classification. Since the entire pavement section is being reconstructed as part of this Project, our Team investigated ways to improve the vertical profile of the road such that the 3% maximum grade was not exceeded. As shown in our Volume

II - Design Concept, our Team has developed a profile through the Route 199 interchange which provides a maximum vertical grade of 3%. Cut and fill adjacent to the existing roadway is balanced to avoid earthwork hauling on I-64, and the vertical clearance below Route 199 is maintained. ***The 3% maximum vertical grade represents the steepest grades on I-64 proposed by our Team, and will help improve the flow of traffic through the Route 199 Interchange.***

At the west end of the Project, vertical adjustment of up to 2.5' is necessary to correct a substandard vertical curve and provide a final profile which meets 75 mph design criteria. Instead of trapping water in this area adjacent to the left travel lane, our Team will temporarily overlay the existing left lane of I-64 so that roadway surface runoff is directed to the outside of the existing roadway (See Figure 2). This eliminates the need to provide temporary outfalls through the construction site, and eliminates all concerns associated with temporary ponding depth and spread adjacent to the temporary barrier. Throughout the remainder of the Project, profiles are established such that new pavement construction is completed at elevations slightly lower than the existing, so pavement runoff is accommodated beyond the temporary barrier and through the worksite without ponding impacts to travel lanes.

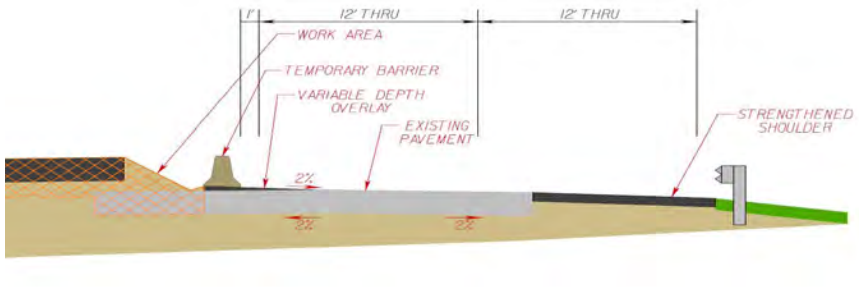


Figure 2 - Temporary Overlay of Inside Travel Lane

D. Typical Sections of Roadway Segments

In addition to widening I-64 to six lanes, the Project includes full width shoulders ranging from 10' to 14', lengthened auxiliary lanes at ramp terminals, and improved medians either through construction of a raised planter area or depressed area that can be used for stormwater management and/or landscaping. Because the entire existing roadway will be demolished and reconstructed, cross slopes of the roadway are fully compliant with design criteria, including shoulder breakovers on the high-and low-sides of the road.

Based on our Team's unique roadway alignments, the raised, barrier separated median required at the eastern end of the Project maintains a 6' width between the back sides of the median barrier. This typical section extends from just east of the Busch Gardens Interchange to the eastern project limit. Consistent with RFP requirements, the area between the median barriers will be treated with insulation on the back sides of the barrier, and then backfilled with a drainage layer and planting medium.

Additional typical section graphics are included in our Volume II - Design Concept, and discussion of the bridge typical sections is included in Section 4.3.2. Consistent with the RFP conceptual design, we do not anticipate the need to construct any retaining walls. Areas where walls could have been considered to avoid box culvert extensions or impacts to wetlands are addressed by our Team's adjusted roadway alignments, avoiding the need for retaining walls and their associated long-term maintenance as well as avoiding the environmental impacts associated with widening of the existing outside fill slopes.

E. Hydraulic and Stormwater Management

Storm Drainage

Storm drainage improvements will be completed along the entire limits of the Project in order to properly convey flow from the new travel lanes and shoulders to stormwater management basins, large culverts, and adequate outfalls. Computations will be developed by our Team as part of the roadway design development, and will be submitted along with each plan submission for review and approval prior to construction. ***Based on our Team's unique horizontal alignment concept, we reduced modifications to outside slopes and ditches, and the associated clearing and grading which was required by the RFP concept.*** With the exception of locations where auxiliary lanes are being extended and improved, this horizontal alignment enhancement offers the following unique drainage benefits:

- Requires only one box culvert extension on the outside of I-64;
- Eliminates wetland and stream impacts associated with sliver slope widening; and
- Reduces clearing of trees along the outsides of I-64.

In the western area of the Project, an open median ditch will be graded to convey surface runoff to desired outfall locations. In the eastern area, closed system storm sewers will be installed below the proposed median barriers to convey flow. A single trunk line along the lower "barrel" of roadway will be used to collect flow and convey it to desired locations. Based on the conditions and sizes of existing drainage facilities in the corridor, our Team anticipates the need to install 13 new lateral storm sewer crossings of I-64. Based on our revised horizontal alignments, each of these new crossings will be installed outside of traffic, in phases using standard installation methods. Since these storm sewers are expected to be placed at shallow depths, installation using jack and bore is not feasible, so our revised horizontal alignment also accommodates necessary room for pipe installation in addition to providing the environmental and traffic control benefits described previously.

Based on the adjusted horizontal alignments of I-64, our Team avoids extension of the existing box culverts at Kings Creek (D-606). Two of the remaining three box culverts requires extension in the median of I-64, and the final box culvert located at Skiffes Creek only needs to be extended along the westbound side of I-64 to accommodate the extended auxiliary lane from the Jefferson Avenue entrance ramp. Hydrologic and hydraulic analysis (H&HA) will be completed per Chapter 12 of the VDOT Drainage Manual for Blows Mill Run, Skiffes Creek, Williamsburg Golf Club (Tributary to Kings Creek), Whiteman Swamp, and Ions Mill Pond.

Stormwater Management

When developing our Team's concept for stormwater management improvements, we considered the following project challenges, and areas where improvements could be made to benefit VDOT, the traveling public and local communities:

- Ability to avoid adjacent cultural resources, wetland and stream impacts;
- Avoid private properties and reduce right-of-way impacts;
- Honor tree preservation areas;
- Avoid impacts to and protect two public water supply reservoirs; and
- Reduces long-term maintenance.

OUR TEAM PROVIDES VDOT WITH EXPERIENCED STAFF

- 9 Trained and Certified DEQ SWM combined Administrators;
- Experience designing more than 100 II-B BMP facilities; and
- A DEQ Stormwater Advisory Committee Member

With these challenges, our Team's design incorporates the following enhancements:

- ***Wetlands and Streams:*** Due to coordination between hydraulic, roadway, and environmental design staff, we relocated, reshaped, or eliminated SWM facilities to avoid environmentally sensitive areas. Based on knowledge gained from working on I-64 Segment I, we intend to utilize Level 2 BMP's which provide higher treatment efficiency and are possible based on the types of soils encountered in the corridor. ***These enhancements result in a reduction of one-third of the expected wetland impacts.***
- ***Right-of-Way Avoidance:*** By optimizing the SWM layout, ***our Team reduced right-of-way impacts associated with the stormwater management basins by 12.8 Acres, and completely avoid six properties which were impacted by the RFP concept.***
- ***Tree Preservation Area:*** The vast majority of public comments received on conceptual plans for this section of I-64 centered around the desire to maintain the treed canopy and wooded median, especially within the Busch Gardens Interchange. In recognition of this community desire, our Team reduced tree clearing in the median of I-64. By incorporating improved drainage layouts, completing additional analysis of adequate outfall locations, and based on extensive field research and site visits, ***we eliminated SWM facilities in the median within the Busch Gardens Interchange.***
- ***Water Supply Reservoirs:*** Our Team's SWM approach for both the Skiffs Creek and Newport News Reservoirs provides 50% phosphorous removal for runoff within each of the facilities drainage areas. This is fully compliant with the reservoir protection area requirements, and additional efforts will be implemented in our erosion and sediment control plan development during construction to ensure there are no impacts to the reservoirs or drinking water supplies. Use of super silt fence, over-designed check dams, and clean water diversions will ensure the protection of the watersheds both during and following construction.
- ***Reduced Long-Term Maintenance:*** Our optimized design relies on experience gained from stormwater management designs completed on I-64 - Segment I. Based on our Team's refined SWM concept, we are able to ***reduce the number of stormwater management facilities from 27 to 26 as compared to the RFP concept.*** We are utilizing facility types which require less long-term maintenance, including reduced mowing frequency or the ability to avoid installation of filter media or complex planting schemes. For example, we utilized filtering practices to the maximum extent practical. These types of facilities incorporate a sand mixture with a 4" to 6" topsoil layer to promote grass growth. There are no requirements for specialized planting or media as is required for bioretentions, ***therefore decreasing maintenance and replacement costs.***

Figure 3 - Filtering Practice (Minimum Maintenance)

- ***Small Whorled Pogonia:*** Although Small Whorled Pogonia habitat is not expected to be encountered, our SWM design focused on avoidance of these locations. We removed and reduced the footprint of BMP's located in or adjacent to the previously identified potential habitat areas. In most cases, we provide an additional 80' setback from those designated areas.

The Project impacts four Virginia 6th Order HUC basins (Warwick River, James River, York River, and Queen Creek) and creates a water quality requirement of 112.5 lbs of phosphorus treatment. Our Team's unique stormwater management concept meets the treatment requirements for the Project through implementation of constructed wetlands, bio-retentions, filtering practices, wet and dry swales, and purchase of 28.1 lbs of nutrient credits. Purchase of these nutrient credits is compliant with only purchasing

up to 25% of the required nutrient credits for the Project, and has reduced project impacts to adjacent properties, existing streams and wetlands, and avoids utility relocations. Nutrient credits will be purchased from two different nutrient banks based on 8-digit HUC watersheds, York and Lower James. Pamunkey Farms Nutrient Bank located in the York watershed will provide 12.5 lbs and Cranston Millpond Nutrient Bank in the Lower James watershed will provide 15.6 lbs.

Water quantity and adequate outfall requirements are documented and addressed in compliance with II-B Technical Criteria requirements, including the reduction of post-construction flows to pre-construction conditions. Stormwater management basins are utilized to aid in providing the required runoff reductions for the Project, and other design strategies are utilized including increasing the flow paths to project outfalls such that the 1-year, 24-hour flows are reduced along with channel and ditch velocities. This approach is critical to our Team's concept to avoid clearing in the median within the Busch Gardens Interchange.

F. Proposed Right-of-Way Limits

Based on the relatively wide existing right-of-way width along the I-64 corridor, right-of-way impacts required are minimal and are associated primarily with construction of stormwater management basins or widening of fill slopes at the approaches to the existing bridges. Consistent with our Team's approach on every design-build project, and as discussed in Section E above, we developed a roadway design and stormwater management approach that ***eliminates six property impacts and reduces the total right-of-way acquisition from 21.0 acres to 9.8 acres.*** Locations of reductions are shown in our Volume II - Design Concept. In addition, our unique concept to shift the roadway improvements slightly to the median eliminates the need to complete slope widening on the outside of the existing roadway. Since complete drainage concepts were not identified in the conceptual RFP plans, a comparison of easement impacts associated with drainage adjustments can't be made. Our investigation of the RFP concept and associated slope widenings indicates that drainage easement acquisition would be required from seven properties, some of which are not identified in the RFP plans. Easements in these locations would have been necessary to reconstruct ditches, move drainage channels away from the existing slopes, or flatten slopes to the current standard of 2:1 beginning at a point 3' behind the face of guardrail. By eliminating the outside slope and sliver widenings, ***we avoid easement impacts to five of the seven properties.***

G. Utility Impacts

As with all of our projects, our goals are to avoid conflicts with existing utilities and eliminate the need for relocations, minimize environmental impacts, and integrate necessary impacts for utility relocations into the Project permits. ***The horizontal alignment enhancements described in several of the previous sections assisted in this goal by avoiding impacts to the existing VDOT ITS facility*** which is located immediately behind the existing guardrail. By adjusting the horizontal alignment and developing a profile which closely matches the existing conditions, we are able to avoid relocation of this facility and maintain operations throughout all stages of construction. Our Team's approach to utility conflicts, avoidance and relocation is described in more detail in Section 4.4.2.

H. Noise Wall Locations

One noise wall, identified as Barrier 42 in the Noise Technical Memorandum provided with the RFP documents, will be constructed by our Team in an effort to reduce noise impacts to the Williamsburg Golf Club. Consistent with the RFP plans, this noise wall is expected to be approximately 2,625' in length with an average height of 20'. Our Team investigated multiple alignment options to determine which location was easiest to construct, reduced impacts to environmental features and utilities, provided the greatest

benefit to the protected property, and would result in the lowest long-term maintenance costs to VDOT. Based on our analysis of the various noise wall alignments, we have selected a noise barrier which utilizes the existing berms to reduce the height of the noise barrier. The barrier alignment transitions towards the shoulder in two locations to avoid wetland and drainage impacts. Where the noise wall is installed immediately adjacent to the roadway, double sided barrier (MB-7D) will be installed to replace the existing guardrail, and the void between the noise wall and the back of the barrier will be filled in accordance with VDOT requirements.

4.3.2 Conceptual Structural Plans

As our Team is presently designing the bridges for I-64 Segment I, we are working through the details to address similar challenges that we expect to encounter on Segment II. We will utilize the experience we gained working with the Hampton Roads District to provide a consistent approach to the design and construction of the bridges for both segments of I-64. Our Team's Conceptual Structural Plans are included in our Volume II - Design Concept. We reviewed the RFP documents for each bridge and concluded that the best way to meet all of the Project objectives is to widen and repair the existing bridges. Our design approach is described below, and details for each bridge widening as shown on Exhibit 4.3.1 on page 11.

The widened portions of the bridges are designed using AASHTO LRFD Bridge Design Specifications, 7th Edition, VDOT Modifications and the additional foundation criteria (Attachment 2.3). Maintenance of traffic during construction is coordinated with the TMP (refer to Section 4.5.2 for more detail), and the required number of traffic lanes required for each bridge is maintained during all phases of bridge construction. Load ratings will be completed and submitted for approval by VDOT before implementation of either temporary or final traffic configurations.

Bridge Rehabilitation

Superstructure: In addition to constructing new, widened portions of the superstructure, the following elements will be completed for each bridge:

- The existing inside (median side) fascia girder of each bridge is evaluated during Stage I design to determine whether to replace or rehabilitate;
- Bearings for the existing beams will be replaced utilizing steel-reinforced elastomeric pads;
- All existing bridge deck to remain is repaired by;
  - Removing the existing overlay and the top ¾" of the deck slab and patch areas as required
  - Latex Modified Concrete Overlay on the portion of the existing deck that is retained
- For Span C of the eastbound bridge over Route 143, the remaining bridge deck will be repaired by;
  - Removing the existing overlay and a maximum of 1" below the top mat of reinforcing steel
  - Patch areas and install galvanic anode units as required
  - Place Class A4 concrete up to the original deck surface
  - Latex Modified Concrete Overlay on the portion of the existing deck that is retained;
- Deck joints over the piers will be eliminated utilizing the detail shown in the Structure and Bridge Manual, Volume V, Part 2, File No. 10.02-2;
- Deck joints at the abutments will be eliminated as shown in Figure 4 Abutment Modification Details on page 12;
- The existing approach slabs will be replaced, from curb line to curb line with buried approach slabs;
- All Category E and E' fatigue prone details will be retrofitted using Ultrasonic Impact Treatment;
- Coatings of existing structural steel for B630, B631, B632 and B633 will be removed and repainted;

EXHIBIT 4.3.1

PROJECT MANAGER Shirley Contracting Company, LLC
SURVEYED BY, DATE
DESIGN BY Dewberry
SUBSURFACE UTILITY BY, DATE

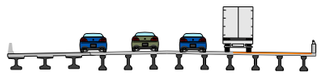
REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	64	0064-965-264, P-101, R-201, C-501	

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

Rte. 64 over Rte. 641 Penniman Rd. and Abandoned Railroad (B627 & B628)

SCOPE:
- Widen, modify and repair existing bridges.



FINAL TYPICAL SECTION (Each Bridge):
- 14'-0" (min.) inside shoulder, 4 - 12'-0" lanes, 12'-0" (min.) outside shoulder.

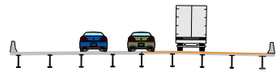
PROPOSED SUBSTRUCTURE WIDENING:
- Cast-in-place concrete abutments on pile foudations.
- Two column piers on pile foundations.
- New substructure will aesthetically complement existing substructure.
- Existing crashwall on Pier 1 modified to current VDOT geometric requirements.
- New portion of Pier 1 constructed with crash wall meeting current VDOT requirements.
- Pier 2 evaluated (both new and existing) for need to provide pier protection.

PROPOSED SUPERSTRUCTURE WIDENING:
- New girders will be prestressed concrete girders.

PROPOSED VERTICAL CLEARANCE:
- No less than existing over inactive railroad.
- 16'-6" minimum over Penniman Road.

Rte. 64 over Rte. 143 (Jefferson Avenue) (B632 & B633)

SCOPE:
- Widen, modify and repair existing bridges.

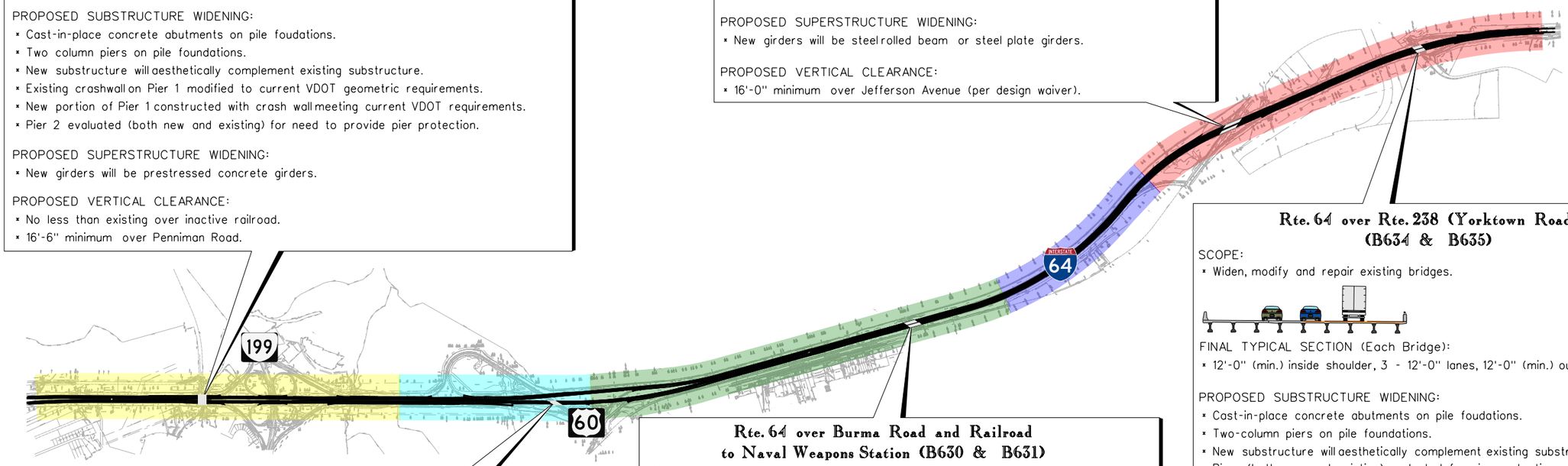


FINAL TYPICAL SECTION (Each Bridge):
- 12'-0" (min.) inside shoulder, 3 - 12'-0" lanes, 12'-0" (min.) outside shoulder.

PROPOSED SUBSTRUCTURE WIDENING:
- Cast-in-place concrete abutments on pile foudations.
- Two-column piers on pile foundations.
- New substructure will aesthetically complement existing substructure.
- Piers (both new and existing) evaluated for pier protection.

PROPOSED SUPERSTRUCTURE WIDENING:
- New girders will be steel rolled beam or steel plate girders.

PROPOSED VERTICAL CLEARANCE:
- 16'-0" minimum over Jefferson Avenue (per design waiver).



Rte. 64 over Rte. 238 (Yorktown Road) (B634 & B635)

SCOPE:
- Widen, modify and repair existing bridges.

FINAL TYPICAL SECTION (Each Bridge):
- 12'-0" (min.) inside shoulder, 3 - 12'-0" lanes, 12'-0" (min.) outside shoulder.

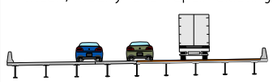
PROPOSED SUBSTRUCTURE WIDENING:
- Cast-in-place concrete abutments on pile foudations.
- Two-column piers on pile foundations.
- New substructure will aesthetically complement existing substructure.
- Piers (both new and existing) evaluated for pier protection.

PROPOSED SUPERSTRUCTURE WIDENING:
- New girders will be prestressed concrete girders.

PROPOSED VERTICAL CLEARANCE:
- 16'-6" minimum over Yorktown Road.

Rte. 64 EB over Rte. 64 WB to Rte. 143 (B629)

SCOPE:
- Widen, modify and repair existing bridge.



FINAL TYPICAL SECTION:
- 12'-0" (min.) inside shoulder, 3 - 12'-0" lanes, 12'-0" (min.) outside shoulder.

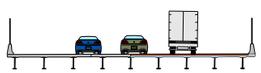
PROPOSED SUBSTRUCTURE WIDENNG:
- Cast-in-place concrete abutments on pile foudations.
- Two-column piers on pile foundations.
- New substructure will aesthetically complement existing substructure.
- Piers (both new and existing) evaluated for pier protection.

PROPOSED SUPERSTRUCTURE WIDENING:
- New girders will be steel rolled beam or steel plate girders.

PROPOSED VERTICAL CLEARANCE:
- 16'-6" minimum.

Rte. 64 over Burma Road and Railroad to Naval Weapons Station (B630 & B631)

SCOPE:
- Widen, modify and repair existing bridges.



FINAL TYPICAL SECTION (Each Bridge):
- 12'-0" (min.) inside shoulder, 3 - 12'-0" lanes, 12'-0" (min.) outside shoulder.

PROPOSED SUBSTRUCTURE WIDENING:
- Cast-in-place concrete abutments on pile foudations.
- Two-column piers on pile foundations.
- New substructure will aesthetically complement existing substructure.
- Provide crash wall (both new and existing) for piers adjacent to railroad
- Evaluate piers (both new and existing) adjacent to Burma Road for pier protection.

PROPOSED SUPERSTRUCTURE WIDENING:
- New girders will be steel rolled beam or steel plate girders.

PROPOSED VERTICAL CLEARANCE:
- 23'-0" minimum over railroad.
- 16'-6" minimum over Burma Road.

LEGEND
- Area 1
- Area 2
- Area 3
- Area 4
- Area 5

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Dewberry

	PROJECT	SHEET NO.
	0064-965-264	

- For B629, existing structural steel will be spot painted; and
- For B627, B628, B634 and B635, existing concrete girders will be repaired as necessary.

Substructure: In addition to widening the existing abutments and piers to support the new, widened portion of the superstructure, the following elements will be completed for each of the bridges:

- Substructure will be rehabilitated per the items and quantities in the RFP Information Package
- Slope Protection in front of abutments will be repaired as necessary
- The need for pier protection (for both existing and new) will be evaluated and provided if required.
- Crash walls will be provided\modified for B627, B628, B630 and B631

We have found on Segment I, and anticipate the same for the Segment II bridges, that two items have risen to the top of the list as far as complexity and impact to the Project. The first issue is bridge drainage during construction. We anticipate that the temporary 2' wide shoulders shown in the RFP plans are inadequate to keep the spread during the design storm event completely within the temporary shoulders (our Segment I calculations show spread of as much as 7'). For Segment I, the Hampton Roads District indicated they will not allow any encroachment of the spread into the temporary travel lanes during construction. We addressed this requirement on Segment I by providing analysis of temporary rainfall intensities which resulted in no changes to the bridge width and without introducing scuppers to the bridges and anticipate being able to do the same for the Segment II bridges. This saves cost as well as eliminates the need to maintain the scuppers for the life of the bridge.

The other issue that we have worked through on Segment I is modifying the slab and abutments to eliminate the joints and constructing buried approach slabs. Working with our construction personnel, we developed details as shown below, for the modification of the existing abutments which meets the design requirements while eliminating construction issues. We will utilize what we have developed on Segment I for the Segment II bridges in order to provide a consistent, cost effective product for both segments.

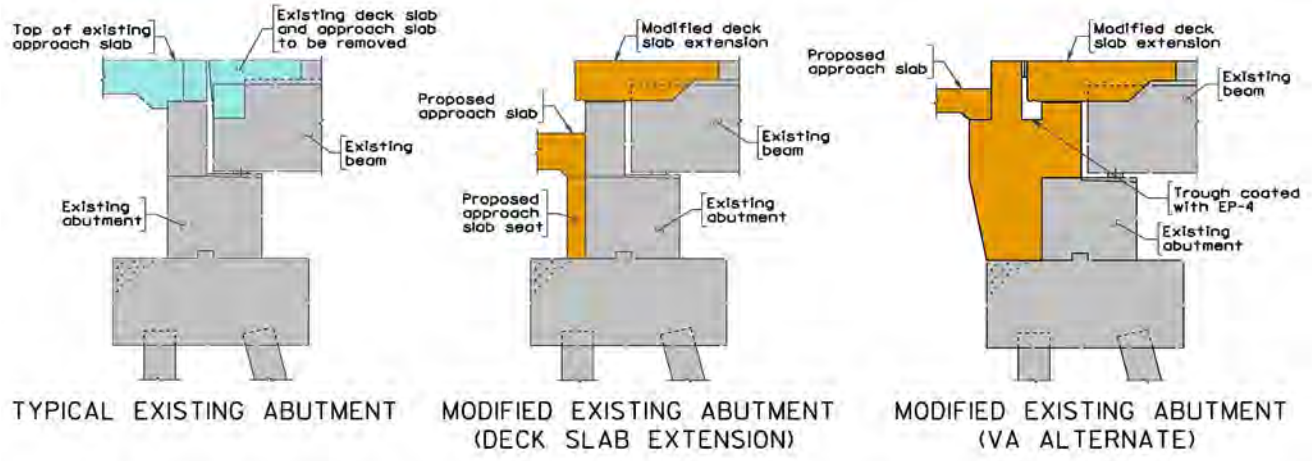


Figure 4 - Abutment Modification Details

Retaining Walls

Our concept does not require any retaining walls to be constructed for this project. However if, during final design it becomes necessary to add retaining walls (e.g. to avoid impacts to a wetland not initially identified), we will develop wall details at that time.

Major Drainage Structures

The only major drainage structures which will be completed with this Project are the extensions of three existing box culverts. Two extensions (D603, D604, D605, D608) will be located within the median of I-64 and will consist of connecting the existing separate double box culverts which extend under eastbound or westbound I-64. Standard VDOT details will be utilized for each of these culvert extensions, unless more detailed surveys indicate that extension of the boxes results in a "shift" at the interface in the median. In this case, details for skewed extensions will be developed, or a special design junction chamber will be installed in the median to allow for standard box extensions to be completed into the junction chamber. The final box extension (D607) is along the westbound lanes of I-64, where an existing quad box culvert will be extended to accommodate the extension of the westbound Jefferson Avenue entrance ramp auxiliary lane. Standard box culvert extension details will be used at this location, eliminating the need for development of special design details.

Material Selection, Maintenance & Construction Considerations: Our Team proposes to provide all rehabilitation/repairs to the existing bridges as required by the RFP Concept Plans and required by the RFP. Once completed, the maintenance requirements of these bridges moving forward are expected to be minimal. The table below shows the elements that will be incorporated into the bridge design and construction to improve long-term performance and reduce long term maintenance of these bridges.

Item	Benefit
Use of Corrosion Resistant Reinforcing Steel (CRR) in new construction	• Eliminates concrete degradation due to corrosion of reinforcing steel
Use of Low Permeability Concrete in new construction	• Reduces the ability of moisture to migrate into the concrete and cause degradation due to freeze\thaw
Deck Slab Repair\Overlay	• Repair of existing deficiencies. • Latex Modified Concrete Overlay seals the existing deck and reduces the ability for moisture intrusion, which reduces future maintenance costs
Eliminate deck joints at abutments and piers	• Eliminates the number one source of bridge degradation. • Eliminates the need for future maintenance of leaking joints and repairs of beams and substructure resulting from leaking joints
Replace existing bearings	• Replacement of damaged and\or non-functioning bearings • Reduces future maintenance due to non-functioning bearings
Re-Paint Existing Structural Steel	• Protects existing steel and reduces future maintenance costs due to corrosion • Extends the useful life of the bridges
Repair Existing Beams	• Fixes known damage to the existing beams • Reduces future maintenance due to further degradation • Extends the useful life of the bridges
Retrofit of Existing Category E and E' Fatigue prone details with ultrasonic impact treatment	• Fixes potential failure mode of steel girders, reducing potential future maintenance issues • Extends the useful life of the bridges
Rehabilitation of existing abutments and piers	• Repairs known deficiencies • Reduces future maintenance due to further degradation if unrepaired • Extends the useful life of the bridges
Repair of existing slope protection	• Repairs known deficiencies • Reduces future maintenance due to further degradation if left unrepaired

4.4 - Project Approach

4.4 Project Approach

4.4.1 Environmental Management Approach

Our Team integrates environmental management into the entire project so that environmental considerations are reflected throughout the Project design and construction process. Our ongoing experience on I-64 Segment I and past successful completion on the following design-build environmental activities ensure we have the experience needed to manage the environmental scope:

- Obtained 60 U.S. Army Corps of Engineers (USCOE) and Virginia Department of Environmental Quality (VDEQ) permits;
- Completed eight National Environmental Policy Act (NEPA) documents and supplements;
- Conducted numerous cultural resources surveys;
- Relocated a cemetery;
- Mitigated/avoided hazardous material contamination;
- Conducted endangered species surveys;
- Verified noise analysis and provided noise mitigation; and
- Coordinated encroachments on one local and five regional parks in Virginia.

Management of the environmental scope is best described by the following flow of work and processes:

INTEGRATE →	IDENTIFY →	COORDINATE →	EDUCATE
Our Team is fully integrated into the D-B process - from development of this Technical Proposal to Final Acceptance. With direct input into design, ROW, utility, and construction disciplines, we proactively avoid and minimize impacts, create a realistic project schedule that mitigates potential for delays, and ensures permit compliance.	Earliest possible identification of project constraints and environmental commitments (beginning in the RFP phase) of potential impacts and recognized environmental conditions facilitates avoidance and minimization across the Project implementation	Proactive coordination with the entire Project Team, regular meetings with VDOT and early regulatory agency coordination allows us to refine and improve avoidance and minimization efforts, resulting in schedule efficiencies.	Education by the Team across disciplines facilitates creative and innovation solutions to perform the work in an environmentally responsible manner, while meeting objectives and permit requirements.

Our proven environmental management approach involves not only an environmental plan, but a philosophy of project management that integrates environmental considerations into every stage of the Project. It is headed by our Environmental Manager, Kimberly Larkin. Her 28 years of experience in the environmental field with experience in regulatory permitting and NEPA documentation and 13 years of Design-Build implementation means she understands the constraints, the permitting requirements, as well as what is needed by the Construction Team to construct the Project. Our Environmental Team has over 60 years of experience and includes the following individuals:

Team Member	Experience	Responsibilities
Kimberly Larkin Environmental Manager	**28 Years**	▪ Primary Regulatory & VDOT Environmental Contact ▪ Identifies & Tracks Constraints, Permits and Clearances ▪ Performs QA/QC on Permit Applications & Reports ▪ Assures Team Project Coordination Integration ▪ Reports to Design Manager & DB Project Manager
Chris Wilkinson, PWD Permitting & Compliance	**9 Years**	▪ Leads Wetland & Waters Delineations ▪ Joint Permit Application Preparation Support – Bat coordination ▪ Provides water quality & permit compliance monitoring
Scott Shifflett, MEM Permitting and T&E Support	**9 Years**	▪ Creates & Maintains Constraints Layers ▪ Provides NEPA support documentation as necessary ▪ Provides Threatened & Endangered Species Studies & Support as a continuation of Segment I
Christopher Lund Hazardous Materials Support	**15 Years**	▪ Conducts Phase I ESA per ASTM (Hazardous Materials) ▪ Addresses Hazardous Materials discoveries ▪ Coordinates with DEQ as necessary

Constraints, Commitments, and Risk Identification

Identification of the Project constraints, commitments and risks begins at the RFQ stage and is continually refined during the RFP stage and through construction. Constraints, commitments and risks include project scheduling and project delivery dates, FEIS and ROD requirements, limits of prior studies and surveys, and geotechnical survey. Project risks are not only inclusive of project constraints and commitments, but incorporate potential factors not identified in the RFP and supporting documentation. Risks involve items such as wetland impacts and associated mitigation quantity and availability, cultural resource encroachments or additional surveys, or hazardous materials discoveries, etc.

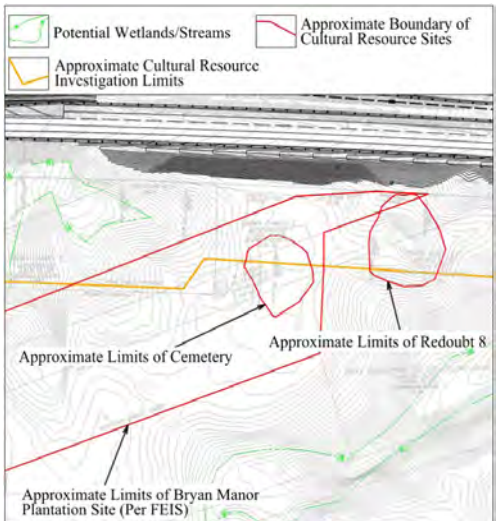
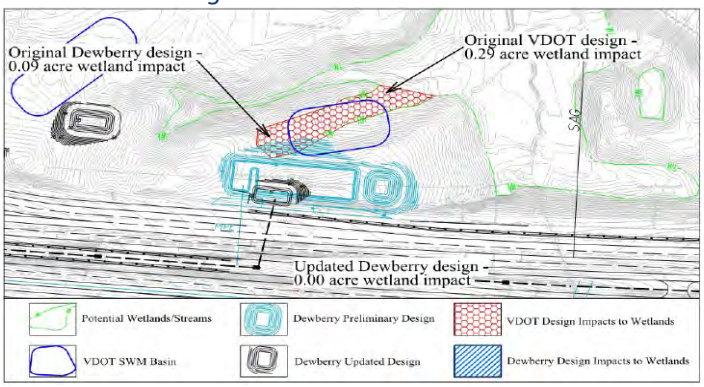


Figure 5 - Environmental Constraint Map

To ensure that each of these commitments and risks are recognized by all Team members and to assist with regulatory compliance, we create Environmental Constraints Maps (ECM) (see Figure 5) specific to the Project. The ECM details the specific NEPA commitments/constraints and survey limits, permitted impact limits, and environmental control requirements in a convenient and usable form for all members of the Team, providing a clear visual representation of all environmental constraints.

A sample ECM (Figure 5) details some of the constraints noted on this Project. These maps are utilized extensively throughout the design process to avoid and minimize impacts to the identified resources and are coordinated with our Construction Team to ensure the resource impacts identified and permitted are sufficient for construction. Additionally, this approach allows the Team to document all avoidance and minimization efforts made which assists during permitting. An example of this Avoidance and Minimization Process is detailed in Figure 6.

Figure 6 - Avoidance and Minimization Process



The ECM includes an accompanying compliance and clearance checklist which assists with tracking project milestones, public and consulting party involvement, permit applications submissions and approvals, permit modifications, compliance with permit conditions and NEPA requirements, and to document permit close-out and project completion.

The table below summarizes the environmental commitments and constraints identified to date as well as methods to limit project risks.

Environmental Resources	Requirements	Method to Limit Risk
EQ-103 & RFP Commitments not noted below	▪ Notify VDOT if outside of ROW developed for the conceptual plan since additional cultural resources survey may be required. ▪ Comply with fire ant quarantine ▪ Avoid and Minimize impacts to Chesapeake Bay Act RMA & RPA buffers	▪ Utilize ECM, over the shoulder and weekly design review to address minimization efforts ▪ Place RPA buffer limits on ECM
Noise	▪ Final barrier conditions determined in final design: Conform with VDOT requirements and public commitments. ▪ Complete Final Noise Analysis based on design ▪ Comply with Section 107.16 (b)(2) of VDOT Road and Bridge Specifications ▪ VDOT may restrict noise between 10 am & 6 pm, or if decibels exceed 80 during noise sensitive activities	▪ Reviewed preliminary noise model and update to match our Team's design ▪ Inform public during pardon our dust meetings ▪ Adjust alignment to improve efficiency and avoid environmental impacts
Threatened and Endangered Species (T&E species)	▪ Coordinate with USFWS, VDGIF & VDCR regarding the identification of state and federal T&E species, as well as address the impact assessment. Potential to encounter Northern Long Eared Bat (NLEB) & Segment I discovery of Indiana Bat, Mabees Salamander, and Eagle nests less than 1 mile from the Project site. ▪ Project and schedule includes provision for the Indiana & NLEB TOY restriction as required	▪ No impacts to T&E species are expected based on distance from work area, avoid encroachments within 300' of vernal pools ▪ Utilize barriers to keep Mabees out of work area ▪ Incorporate TOY for bats in project schedule, perform bat inspections on bridges, net to preclude roosting ▪ Show LOD & Habitat Areas on plans and mark in field to be avoided ▪ Coordination with DGIF during JD
Cultural Resource Constraints Commitments (Redoubt #8, Byran Manor Plantation, and 44NN0350)	▪ Conform to the FHWA, NPS, VSHPO and VDOT Programmatic Agreement ▪ Remain within the ROW limits noted on the RFP to avoid additional impacts ▪ Portion of site 44NN0350 outside ROW potentially eligible for listing. Project improvements within the existing ROW are to avoid impacts ▪ Construct improvements within existing ROW to avoid diminishing the setting of Redoubt #8 ▪ Design and construct Route 199 deceleration lane with a sufficient buffer to avoid Redoubt #8 setting	▪ Utilize ECM overlay of Cultural Resource Study Limits to avoid need for additional surveys ▪ Clearly mark Study Limits or LOD prior to construction to avoid construction disturbance for staging/ laydown. ▪ Assure project grading & utilities do not encroach outside ROW ▪ Require design grading of ditches adjacent to special sites to ensure avoidance

Environmental Resources	Requirements	Method to Limit Risk
Wetlands/ Streams/ Water Quality Permitting	▪ Conduct wetland delineation and obtain Corps Jurisdictional Determination and Obtain Water Quality permits ▪ Continue to Evaluate and document possible avoidance and minimization alternatives ▪ Provide mitigation for unavoidable wetland and waters impacts	▪ Study existing and historic aerial photographs, Digital Elevation Models, field checks, topography & delineation from Segment I to accurately estimate probable wetland impacts. ▪ Begin wetland delineation at NTP ▪ Document Avoidance/Minimization efforts for rapid permit issuance ▪ Conduct Early Coordination during JD to address questions and concerns, facilitating permit approval in a timely manner
Hazardous Materials	▪ Conduct Phase I ESA for all ROW acquisitions. ▪ No ROW to be taken from Naval Weapons station (Site of Potential Concern) ▪ Conduct Asbestos and Lead Based Paint testing of bridges & structure demolitions by independent asbestos inspector licensed in VA by DPOR ▪ Perform abatement prior to demolition. Recognized Environmental Condition's are not anticipated. ▪ Handle all hazardous waste, solid waste, and hazardous materials in compliance with local, state, and federal regulations ▪ Complete & distribute comprehensive spill prevention, control, and countermeasure plan	▪ Conduct review of State and Federal databases, one spill noted on VDOT facility ▪ No ROW from Naval Weapons Station, & avoided the placement of SWM basins down gradient of spill location on VDOT property to avoid potential REC's. ▪ Begin Phase I ESAs as following Notice-To-Proceed as parcel impacts mirror RFP Concept. ▪ Prepare and maintain Spill Prevention Plan

Team Coordination

Design Phase Approach

During the design phase, our Team engages all key staff to ensure all constraints, commitments and risks are addressed. This is accomplished through our integrated environmental management process with key elements noted below:

- Informal "Over the Shoulder" interaction daily with engineers and Environmental Manager to avoid and minimize impacts within the Project area and resolve any design issues or concerns.
- Weekly technical design meetings attended by environmental staff, design engineers, and construction representatives to comment on the design activities, schedules, issues, and concerns. Technical input, recommendations, and ideas related to the permit requirements, project constraints and commitments are offered in order to stay in compliance, avoid conflicts between design and construction, and look for ways to streamline or provide further avoidance and minimization opportunities while maintaining constructability.
- Internal reviews are conducted regularly to ensure the subsequent design revisions are in compliance with the Project environmental commitments. We have found this is especially critical during right-of-way and utility negotiations since changes often occur to accommodate request from the impacted owners.

Construction Phase Approach

Once plans are finalized and released for construction, the environmental team shifts focus to construction monitoring of the permit and environmental commitments in the field. Prior to the start of construction,

the original wetland team returns to the field to remark the limits of streams and wetlands as well as the permitted impact limits. Critical areas are delineated with safety or silt fence to prevent accidental access and prescribed Erosion and Sediment (E&S) control measures are installed in accordance with the plans. To ensure compliance, our environmental approach incorporates the following:

- Preconstruction Constraints and Commitments Training ensures the Construction Team understands the constraints, where they are located, and how they are identified in the field.
- Daily E&S Compliance checks performed by the Project Inspectors to identify good trends and areas where additional work is needed. These checks are also intended as a part of the ROD and permit commitment checks through the life of construction.
- Monthly meetings with the inspector and Construction Manager to discuss environmentally sensitive areas included in the next month's work. These meetings give the ability for the group to resolve any construction issues identified, and to highlight those constraints for construction staff.
- Construction field changes are reviewed by the design team and the environmental team, limiting risk and potential for non-compliance.

Coordination of Construction Schedule and Environmental Risk

The creation of a project schedule that realistically accounts for the time to obtain the required permits and time of year restrictions is essential in order to move the Project to timely completion. Based on recent VDOT design-build projects, regulatory agencies are closely scrutinizing permit applications with a concentration on the avoidance/minimization efforts made during the design stage. During design, we document each avoidance and minimization effort and include them in support of the Joint Permit Application and NEPA commitments, minimizing the risk of a lengthy permit approval process.

This schedule coordination is particularly vital on this Project given the numerous constraints along and immediately adjacent to the right-of-way. Based on our Team's I-64 Segment I experience, we have determined that there are more jurisdictional streams and wetlands then identified in the ROD. Utilizing our field expertise and the ECM, we were able to determine wetland/stream impacts based on both the VDOT RFP design and our Team's conceptual design. ***Our Team reduced wetland impacts by over two acres and reduced stream impacts by over 1,000 LF as compared to the RFP concept.*** The table below details the anticipated wetland and stream impacts for the RFP concept and our Team's conceptual design:

Cowardin Classification	VDOT RFP Design			Shirley/Dewberry Design		
	PreliminaryDesign Impacts (Acre of Wetland/Linear Feet of Stream)	Mitigation Ratio	Mitigation Requirements Credits	PreliminaryDesign Impacts (Acre of wetland/Linear Feet of Stream)	Mitigation Ratio	Mitigation Requirements Credits
Palustrine Emergent	0.77 acre	1:1	0.77	0.87 acre	1:1	0.87
Palustrine Forested	4.15 acre	2:1	8.30	1.78 acre	2:1	3.56
Palustrine Forested - Site Distance Clearing	0.27 acre	1:1	0.27	0.27 acre	1:1	0.27
R3 Stream (linear ft)	207	1.25:1	258.75	195	1.25:1	243.75
R4 Stream/Ditch (linear ft)	2,696	1:1	2,696	1,665	1:1	1,665

Our focus on avoidance and minimization enables our Team to obtain permits by documenting these efforts, which include avoiding clearing in the median of the Busch Gardens interchange as requested by the public and as shown in Figure 7.

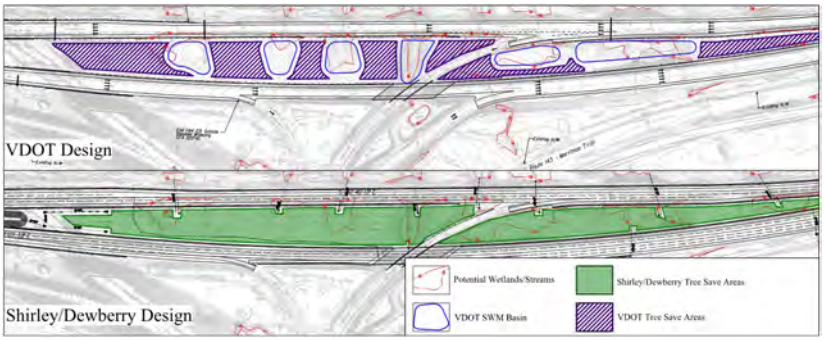


Figure 7 - Minimization Efforts

In addition to the wetland impact permit requirements, we anticipate the Project requires the following clearances:

Federal Clearances	
FHWA	▪ Provide VDOT information or survey finding to update ROD Revision as needed
US Fish and Wildlife Service	▪ Coordinate SWP & Bats (NLEB & Indiana) with Water Quality permit acquisition
USEPA	▪ Address additional project comments during Water Quality Permitting
US Army Corps of Engineers	▪ Individual CWA Section 404 Water Quality Permits
State and Local Clearances/Reviews/Approvals	
VA DEQ	▪ Individual Virginia Water Protection Permitting (CWA Section 401) Unknown/undocumented Hazardous Materials Issues & Remediation (as necessary) ▪ Air Quality (fugitive dust & VOC cutback asphalt restrictions) ▪ Coastal Zone Management Act (NEPA & WQ permitting) ▪ VSMP – Construction Permit under authorized VDOT using LD-445 series sheets & a SWPPP
VA Department of Game & Inland Fisheries	▪ No adverse impact to State Threatened and Endangered Species (excluding insects & plants) Coordination Part of WQ permitting
VA Dept. of Conservation and Recreation	▪ SWP Coordination & no adverse effect to other State Threatened and Endangered Species of Plants and Insects (for VDACS) Part of WQ permitting. ▪ Erosion and Sedimentation Control and Stormwater Management Coordination (as necessary)
VA Dept. of Historic Resources (SHPO)	▪ Assure compliance with Programmatic Agreement. Minimize Project Effects on Cultural Resources Primarily Archaeological and Architectural Resources
Dept. of Labor and Industry	▪ Asbestos Removal & Demolition Permit (as necessary)
VDOT	▪ Submit for approvals the following: ◆ Phase I ESA's ◆ Spill Prevention Control &Countermeasure Plan, ◆ Landscape Plans ▪ Notify if project exceeds the 30% Conceptual Plan footprint ▪ Other requirements and approvals noted in the RFP

No Virginia Marine Resource Commission permits are anticipated due to lack of jurisdiction. Each of the agencies above will be coordinated with during design to ensure appropriate permits and approvals are obtained for construction.

Environmentally Inclusive Scheduling

The start and finish dates for the permitting activities are linked to the appropriate design, right-of-way, utility, and construction milestones, and were developed through an iterative process of coordination with each discipline. Our overall schedule and timeframes reflect the individual permit timeframes including

threatened and endangered species Time of Year Restriction (TOYR) that may be conditions of the permit, including the Indiana and the Northern Long Eared Bat (NLEB) from April 15th to September 15th for tree clearing.

In order to meet the aggressive project delivery schedule, and minimize project schedule risk our Team proposes to deploy the phased approach we successfully utilized on I-64 Segment I and other design-build projects. This phased approach begins before design and includes the following steps:

- Obtain Nationwide Permit for geotechnical borings prior to the geotechnical work, and ensure access is within the Project limits inclusive of the areas cleared for Cultural Resources;
- Combine Lead Based Paint and Asbestos testing of bridge structures with geotechnical investigation to limit shoulder closures;
- Provide early permit sketches and impact areas during the JD which is attended by both the US Corps. of Engineers and DEQ to allow for open discussion of not only the primary impacts, but also what the agencies would consider "fragmentation" or hydrologic impacts/secondary impacts; and
- Conduct Phase I Environmental Site Assessments (ESA) at 60% design.

Based on the timeline required to obtain permits once the steps above are completed, we plan to prepare staged construction plans similar to the process we used on I-64 - Segment I. These phased plans will be developed in the following manner:

1. ***Phase I -*** MOT plans and clearing in non-jurisdictional areas within the median and for site distance improvements. Work will be done outside of the TOYR for Indiana & NLEB. Simultaneously we will coordinate with regulatory agencies, and proceed with jurisdictional determination/early coordination; and
2. ***Phase II –*** All remaining construction elements, including work in jurisdictional areas after permits and have been acquired.

This phased approach reduces overall project delivery risk by maximizing schedule flexibility. Given our Team's comprehensive integrated environmental approach, our schedule and design are inclusive of the typical risks found on design-build projects.

4.4.2 Utilities

One critical element of a complex design-build project such as this Project is the effective and efficient integration of the utility process into each project discipline. Our current work on I-64 Segment I is a benefit to the Project due to our coordination efforts with the same utility owners impacted by I-64 Segment II. Knowing how much of an impact utilities can have on the project schedule and cost, our Team has expended considerable efforts to coordinate with all impacted utility owners. We carefully studied the RFP conceptual plans, reviewed the utilities in the field, discussed the Project extensively with each impacted utility company, researched available records, and developed our Conceptual Plan and Schedule accordingly. This information has directly impacted our Team's concept and proposed phasing and sequence of work resulting in reduced impacts to utility owners, and reduced risks of schedule delays.

Shirley's Utility Experience on VDOT D-B Projects

- Over 13 Years of Utility Relocation Experience
- Successfully Coordinated Utilities on Over 35 Design-Build Projects
- Over $100 Million in Utilities Relocated on Design-Build Projects

Team Utility Coordination Experience

Our Team has successfully managed utilities on design-build projects for VDOT including the I-64 Segment I project. The key to our success is having the experienced in-house resources, with knowledge of governing bodies' policies and procedures, and established relationships with each utility owner. Our Utility Team is fully engaged throughout the design process coordinating with right-of-way, permitting, construction, and scheduling of all other project disciplines. Our first and highest priority related to utilities is to completely avoid utility impacts. If conflicts cannot be avoided by design, we work diligently with each utility owner to minimize relocations through a combination of design and/or protection measures that allow the utilities to remain in place. Only as a last resort will we relocate utilities to eliminate conflicts with new construction. During construction, our Utility Team remains fully engaged to coordinate relocations between utility companies and the Construction Team, ensuring their timely and successful completion.

Mitigation Strategies

Our design concept was developed after reviewing the existing facilities and proposed work with each utility owner. Through this coordination we established the needs for each utility owner and the impacts our concept will have on their facilities. This experience has led to the following project specific concepts that we will implement on the Project:

- Adjusted the alignment to minimize the widening to the outside to decrease the amount of cut/fill around the facilities adjacent to the Project, eliminating the impact to Metro Fiber Network along Merrimac Trail and reducing the risk of unknown utility impacts.
- Adjusted stormwater management basin locations to avoid direct conflict with Virginia Natural Gas' 16" transmission line and Newport News Water Works' 42" watermain.

When utilities cannot be avoided, our Team uses proven construction methods to limit the impacts and determine the most efficient way to relocate the utilities. Below are project specific examples of how our Team will implement these concepts:

- We have held meetings with DVP Transmission and Virginia Natural Gas to coordinate the location of each BMP, and to determine the requirements of their encroachment agreements. This allows us to ensure that we have met or exceeded their standards, successfully eliminating all conflicts between the BMP's and the adjacent transmission facilities.
- Each bridge that will be widened has utilities within 10' of their existing piers. During the widening of those bridges our Team exposes those facilities and protects them while driving pile and constructing the pier footer. Avoiding these relocations minimizes the risk of delay, and allow us to maintain control of the schedule.

Specific Utility Impacts

At this stage our Team identified multiple conflicts with the proposed widening. Listed below is a summary of the known utilities and their potential conflicts:

Utility/Owner Description	Approximate Location	Known/Potential Conflict	Relocation Plan/ Mitigation Strategy
OVERHEAD POWER/COMMUNICATION LINES			
Dominion Virginia Light Pole	Station 2473+00	Proposed Bridge Widening	Remove lighting in conflict
UNDERGROUND POWER/COMMUNICATION LINES			
Cox Communication Underground Coax	Station 2168+00	Bridge Pier	Adjust in place
Metro Fiber Network	Station B632-B633	Bridge Pier	Adjust in place
Cox Communication Underground Coax	Station B634-B635	Conflict with Bridge Pier	Abandoned According to Field Inspection
Metro Fiber Network	Stations 1305+00 to 1320+00	Grade Changes Due to Widening	***Conflict Eliminated by widening to the median***
DVP Distribution Underground Power	Stations 1779+00 to 1181+00	Pond Excavation	Lower in place
OVERHEAD POWER			
DVP Transmission	Station 1210+00 to 1235+00	Noise Barrier Construction	Coordinate outage with utility owner
VDOT SYSTEMS			
VDOT Fiber	Stations 1305+00 to 1320+00	Widening	Relocate Outside of Shoulder
VDOT Power	Stations 1305+00 to 1320+00	Widening	
VDOT Fiber	Stations 1385+00 to 1396+00	Widening & SWM Pond	
VDOT Power	Stations 1385+00 to 1396+00	Widening & SWM Pond	
GAS			
Virginia Natural Gas	Station 2335+00	Pile Driving	Expose & Protect During Pile Driving Operations & Monitor Vibration
Virginia Natural Gas	Station 2167+00	Pile Driving	
WATER			
Newport News Waterworks 16" Water	Station 2473+00	Pile Driving	Expose & Protect During Pile Driving Operations & Monitor Vibration
Newport News Waterworks 42" Water	Station 2425+00	Pile Driving	
Newport News Waterworks 39" Water	Station 2425+00	Pile Driving	
SEWER			
6" Sanitary Force Main	Station 2167+00	Pile Driving	Expose and Protect During Pile Driving Operations & Monitor Vibration

Schedule and Mitigation of Delays

Our Team's design concept was developed to avoid utility impacts and minimize impacts where they cannot be avoided. We have successfully phased the Project so utilities are not on the Critical Path of our schedule. However, these conflicts can have an impact on the Project success if they are not properly incorporated into the sequence of work. During the RFP phase, our Team coordinated with each discipline to develop phasing for each utility relocation, as detailed in Section 4.7 Proposal Schedule. We held multiple discussions with each utility owner, and utilized historical data developed from our past experience with these utilities. Our Team uses the data we gathered to develop durations for each relocation, so it can be incorporated into the project schedule. Our Team has had success on previous projects adjusting facilities

in place, avoiding a time consuming relocation. We intend to implement the same strategy on this Project to reduce the risk of any delay to the project schedule.

Approach To Utility Coordination

For this Project, our Team follows the VDOT Utility Relocation Policies and Procedures Manual with regard to the utility scope of work. The following is a general outline of the steps and activities we perform once the Project is underway:

1. Obtain utility designations
   - Review test pit information
   - Identify locations of existing easements
2. Provide feedback to design, permitting and right-of-way managers on potential conflicts
   - Develop plans for avoidance of utilities or minimization of utility relocation
3. Review plans for avoidance or relocations with utility companies
   - Coordinate with ROW managers on easements that might be needed to accommodate the relocations
4. Hold UFI meetings with private utility owners where conflicts exist
   - Establish utility relocation plan, budget and schedule
   - Incorporate relocations into the Project schedule
5. Verify each private utility's prior rights
   - Prepare UT-9 forms
   - Finalize pro-rata share budgets and relocation schedules
6. Meet with public utilities to finalize avoidance and/or relocation plans
   - Incorporate plans into design documents and submit for approval
   - Obtain necessary right-of-way (easements) for the utility relocations
7. Incorporate approved utility relocation plans into the construction schedule
   - Identify utility relocation activities which fall on the critical path
   - Evaluate resources needed to accomplish critical relocations
8. Proceed with utility relocations
   - Take immediate action on unforeseen utility conflicts
   - Maintain team approach to achieve quick resolution on unforeseen conditions and other field issues

4.4.3 Geotechnical

Having just completed the full geotechnical program for the I-64 Segment I, our Team has the unique ability to take lessons learned and immediately apply them to ensure a safe and accurate program is completed on Segment II. One of the unique challenges for geotechnical exploration is that the vast majority of field exploration will need to be completed at night to reduce impacts to the traveling public. The experience gained from I-64 Segment I, including coordination with State Police, traffic control, and VDOT's GEC will ensure the geotechnical program is managed appropriately.

Figure 8 - Geotechnical Operations on I-64 Capacity Improvements Segment I

The Project site is located within the Coastal Plain Physiographic Province of Virginia. This province is generally characterized by sedimentary deposits of soft to firm medium to highly plastic and compressible clays and silts, that are interbedded with generally loose to medium dense clayey sands. The thickness of highly plastic clays and silts are highly variable. Subsurface exploration will be completed in accordance with the VDOT Materials Manual of Instruction (MOI), taking into consideration all previous test borings performed within the Project area. In-situ CPT and DMT tests and collection of undisturbed samples are planned at bridges, critical slopes, existing culverts, and the noise barrier. Test borings along with laboratory tests and in-situ tests provides better confidence on the soils physical properties and their engineering behavior.

The sequence of the subsurface exploration will be coordinated such that the test borings required for design of the bridges and walls will be completed early, allowing design activities on critical elements to be advanced without impacting either the design or construction schedule. Selection of boring locations will be coordinated with design and permitting staff, ensuring that appropriate geotechnical information can be collected while avoiding environmentally sensitive areas. Site visits have already been completed by our Team to identify critical areas, some of which have been addressed by the design enhancements described. Once more detailed plans are developed and a final boring layout has been identified and marked, field visits by geotechnical staff, environmental staff, and design staff will be completed to identify best field access locations, areas where boring adjustments would be beneficial and acceptable, and identify restricted areas where impacts are to be avoided.

Geotechnical Risks

The geotechnical risks for the Project are mainly related to the presence of compressible soils that could result in significant settlement for roadway embankments, bridge piers, and abutments, as well as global stability issues. From the information obtained from the RFP GDR, the compressible soils consist mainly of lean clay (CL), fat clay (CH), and occasionally elastic silt (MH) and clayey sand (SC) ranging from depths of 8 to 50' from the existing ground surface. Detailed information on the risks, potential impacts, and recommended mitigation strategies are presented below.

Figure 9 - Pavement Treatment Subgrade Options

Issue	Potential Risk	Modifications & Mitigation
Unsuitable Pavement Subgrade Materials	▪ Soils at design subgrade elevations will predominately consist of lean clays, clayey sands, and some high plasticity clays, all exhibiting relatively high moisture content	▪ Undercut and replacement ▪ Soil-cement modification ▪ Partial removal and replacement with suitable fill and geogrid ▪ Pavement treatment subgrade options shown in **Figure 9**
Maintaining or Reconstructing Existing Slopes	▪ Slope failure adjacent to existing drainage channels ▪ Discovery of perched groundwater ▪ Inadequate slope and global stability for placement of additional fill material	▪ Adjust horizontal alignment to avoid slope widening ▪ Installation of slope drains to eliminate perched groundwater ▪ Use of lightweight fill material at bridge abutments ▪ Install densified aggregate piers or pin piles to address global stability concerns

Issue	Potential Risk	Modifications & Mitigation
Bridge Embankments and Foundations	▪ Extension of the abutments will induce stresses and consolidation settlement ▪ Differential settlement may cause localized distress of bridge joints and irregularities in the pavement surface ▪ Addition of new fill on soft and compressible layers may result in negative skin resistance, vertical ground movements from swelling soils, lateral squeeze of foundation soils, and pile heave.	▪ Perform in-situ testing such as Cone Penetrometer Testing, Dilatometer Testing, and Pressuremeter Testing ▪ Consolidation and triaxial testing to determine compressibility and shear strength characteristics of the underlying soils ▪ Preconsolidation of compressible soil layers ▪ Lightweight fill or foam concrete to reduce settlement ▪ Evaluate the axial resistance of various pile types based on the soil setup and relaxation in the cohesive and cohesionless soils ▪ Install piezometers within the influence zone to monitor pore pressure dissipation ▪ Drivability of the piles will be evaluated using Wave Equations, dynamic load testing, and static load testing
Working within the Vicinity of Existing Structures	▪ Require added precautionary measures to guarantee the structural integrity and cause minimal disturbance ▪ Working in close proximity to the existing bridges include additional settlement of existing structures and negative skin friction on existing foundations	▪ Install settlement plates prior to placement of new fill ▪ Monitor vibrations on the existing bridges during pile driving ▪ Perform preconstruction survey of surrounding structures prior to driving piles ▪ Determine threshold level and action level vibration limits based on conditions of existing structures ▪ Prebore piles to eliminate vibration concerns
Settlement of Existing Drainage Structures	▪ Existing box culverts may experience distress due to differential settlement along their alignment associated with placement of fill in the median above new culvert extensions.	▪ To avoid adverse settlement in the areas of culvert extensions, soils testing will determine if modified pipe bedding is necessary ▪ Study settlement mitigation solutions to avoid long waiting periods. Use lightweight fill material, soil improvement techniques and/or the use of wick drains to accelerate soil consolidation and settlement
Noise Barrier Walls	▪ No borings have been completed	▪ At the outset of design, borings will be completed for the noise barrier to develop a subsurface profile to understand the subsurface conditions and provide site specific design parameters for foundations
Corrosive Soils	▪ Corrosive soils are expected to be encountered ▪ Results of corrosion analyses presented in the GDR show pH values below 5.5, which is considered corrosive according to the AASHTO LRFD bridge design manual.	▪ Perform additional testing in the vicinity of pile foundations, bridge abutments, and concrete culverts, to evaluate the severity of corrosion and delineate the limits of the corrosive soils ▪ Where soils are confirmed corrosive, the Team will work together to select the most cost efficient corrosion protection for each structure type
Storm Water Management (SWM) Facilities	▪ Shallow groundwater will affect the performance of SWM facilities planned within this project ▪ Previous test boring logs indicate groundwater depths as shallow as 8 feet; however, no long term measurements are available.	▪ Install groundwater monitoring wells to record long term groundwater levels ▪ Perform infiltration testing for level II bioretention basins ▪ Textural analyses will be performed on the subgrade soils to evaluate the infiltration rates based on the published values

4.4.4 Quality Assurance/Quality Control

Our Team will deliver a superior quality project that minimizes VDOT's effort. Over the past 13 years we have continuously refined our QA/QC approach resulting in a reduction of VDOT staffing and oversight. Most recently we have refined our QA/QC plan and approach to be coordinated and acceptable to VDOT and their GEC on the I-64 Segment I project. This document will serve as the basis for our Segment II QA/QC plan. Our QA/QC Plan addresses both design and construction and defines the organization, work processes, and systems necessary to provide assurance and evidence that the Project is another quality undertaking successfully delivered by our Team. Our QA/QC Plan is in accordance with VDOT's *Minimum Requirements for Quality Assurance and Quality Control on Design Build and Public-Private Transportation Act Projects (January 2012)* and establishes criteria for quality control, quality assurance, owners independent assurance, verification and oversight duties for all personnel.

Design QA/QC Approach

Our approach to design QA/QC includes implementing multiple processes with various QA/QC personnel throughout the duration of the Project. This ensures that appropriate quality standards are included in the plans and other design documents, suitable materials are selected, and work is constructed in a safe manner. Our design QA/QC process is well-structured, easily audited and is continually maintained to minimize VDOT's efforts.

Our Team implements design QA/QC by adhering to the approved QA/QC Plan, conducting design reviews, completing interdisciplinary coordination, performing constructability reviews, involving VDOT in the overall design review process, and ensuring that all field changes follow the same process as the original design. A brief discussion of these activities is provided below.

Design QA/QC Plan

As the Design Manager, Steve Kuntz, PE implements and manages the overall design QA/QC program (a subset of our QA/QC Plan) which identifies design quality assurance and quality control requirements. The design QA/QC program establishes the following:

- Procedures for preparing and checking all drawings, specifications, and other design submittals including procedures to correct errors and deficiencies prior to submission;
- Processes to ensure design submittals are stamped, signed, and dated by the responsible Professional Engineer licensed by the Commonwealth of Virginia;
- Actions to ensure that the level, frequency, and methods for review of design, including independent review are in compliance with VDOT's functional requirements for the Project;
- Procedures for coordinating work performed by different persons in the same or different area, fabrication shops, casting yards, and other pertinent fabrication facilities at remote locations, or in related tasks to ensure that conflicts, omission, or misalignments do not occur;
- Procedures for identifying elements of design that require special construction QA/QC attention or emphasis;
- Identification by firm, discipline, name, qualification, duty, responsibility, and authority for all personnel and/or entities responsible for design QA/QC, including sub-consultants; and
- Establishment of design QA/QC functions, including scheduled activities for design QA/QC, identifying the drawings, specifications, and other design submittals that will be submitted to VDOT.

Steve verifies conformance with the QA/QC Plan using informal observations or by conducting audits of the checking and review processes established within the QA/QC Plan. Documents identified as "Released

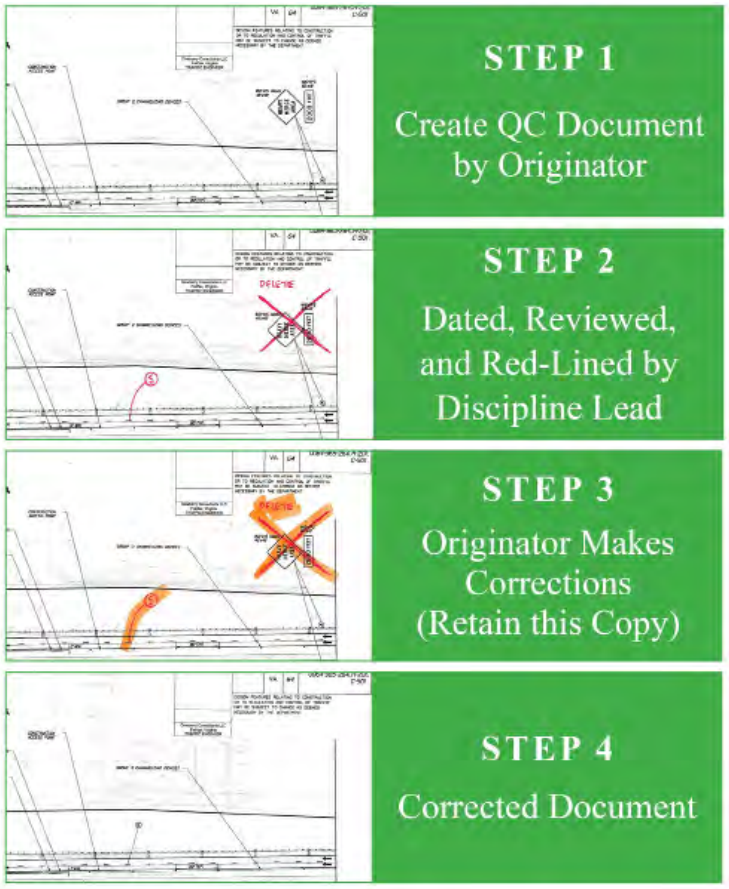
for Construction" are accompanied by written notification from Steve certifying that the documents were reviewed in accordance with the QA/QC Plan.

Design Review

Design quality control includes review of drawings, engineering computations, and other design related documents for technical accuracy, conformance to Contract requirements, as well as form, content, and spelling. Design quality assurance evaluates whether the designers assessed problems appropriately, applied correct analyses, and assigned qualified personnel to tasks when conducting design related activities.

Design quality control functions are provided by design discipline leads checking completed work and are carried out to a level commensurate with the complexity of the design element. This effort is managed by the Design Manager who ensures formal and documented reviews occur at predetermined times for submitted design documents as identified within the QA/QC Plan.

Figure 10 - QC Design Review Steps



The process (shown in Figure 10) of checking deliverable documents first involves the creation of the QC Document (a copy of the deliverable) by the Originator (designer, writer, etc.). The QC Document is then dated, reviewed, and "red-lined" as appropriate by the design discipline leads who then return the QC Document to the Originator. The Originator "highlights" the "red-line" comments on the QC Document once the correction has been made or discusses the comments with the discipline leader for final determination, making note of final resolution. The Originator keeps the QC Document for record purposes and as evidence of performing design quality reviews in accordance with the QA/QC Plan. The Design Quality Assurance Supervisor ensures that design activities adhere to this process and records of reviews are kept.

He also performs design quality assurance reviews throughout the duration of the Project as set forth in the QA/QC Plan. He ensures and verifies that required quality control functions were performed properly, and in conjunction with the Design Manager, and directs the correction of nonconforming design practices. He ensures design standards, methods, and requirements of the Project are met, professional engineering judgment was applied correctly, and appropriate degree of care was utilized.

Interdisciplinary Coordination

Coordination between disciplines is critical to the success of the Project, not just during design, but also during right-of-way acquisition, utility relocation, and construction phases. Interaction between all discipline leaders through all phases ensures that project elements are properly coordinated, and schedule

impacts and conflicts are avoided from the outset. During design, weekly meetings are held so details can be discussed and coordinated with the multiple design discipline leaders including roadway, structural, hydraulics, and traffic engineers. Additionally, environmental permitting, utility relocation, right-of-way acquisition, and construction staff are involved to ensure design progresses in a manner which considers long lead items (such as environmental permits or structural steel orders), is compliant with environmental regulations (including consideration and documentation of avoidance and minimization strategies), and matches the required phasing for completion of the Project (such as advancing right-of-way or utility relocation plans on critical properties). Potential conflicts or challenges are recognized and discussed at these meetings, and the entire project team is able to efficiently identify alternate solutions. Coordination between disciplines continues beyond the design phase, ensuring that unforeseen situations which may arise are addressed as efficiently and collectively throughout the duration of the Project.

Constructability Review

Throughout our Team's history of working on VDOT design-build projects, we have found that regular, informal, over-the-shoulder type reviews from construction personnel work best to produce quality designs. These types of reviews are conducted at weekly internal progress meetings where the Design Manager (and the discipline leads as appropriate) present roll plots and/or developed plans to the construction personnel who are building particular pieces of the Project. Immediate feedback regarding the design is provided and appropriate adjustments are discussed so that unnecessarily difficult, unsafe, or out of schedule construction is avoided. Conversely, explanations regarding design requirements are conveyed to construction personnel, ultimately resulting in a greater overall understanding of project requirements. This type of on-the-spot review regularly occurs within our design offices between discipline leads and construction personnel, as is typical of all of our VDOT design-build work.

In addition to informal constructability reviews, the Design Manager and Design-Build Project Manager coordinate formal reviews of the design by construction personnel prior to each plan submission. Comments regarding the constructability of the design is provided to the Design Manager for incorporation and/or further discussion prior to completing each design phase.

Quality Assurance and Quality Control of Design and Field Changes

Design changes, including field adjustments, will adhere to the requirements of the QA/QC Plan, commensurate with those applied to the original design. The Design Manager ensures that QA and QC reviews of changes after plan approval occur throughout the duration of the Project. Each change is submitted to VDOT for concurrence prior to implementation in the field.

QA/QC Staffing Plan

The personnel selected as our QA/QC Team provides VDOT with unparalleled experience and understanding of the quality processes and coordination needed to successfully deliver the Project. Our design and construction staff has worked together and for VDOT for many years and is responsible for assembling and overseeing our QA/QC Plan. A description of our QA/QC staff and duties is listed below:

Design-Build Project Manager
As Design-Build Project Manager, ***Chuck Smith,*** provides supervision and administrative management of the entire project including the overall design and construction and reports at the executive level. He establishes the QA/QC program and adjusts the process as needed to assure quality of design and construction. Chuck is also serving as the Design-Build PM for I-64 Segment I ensuring the coordination of design elements and construction activities between the two projects.

Quality Assurance Manager
John Vicinski, PE, DBIA is the Quality Assurance Manager and is responsible for the development of and adherence to the QA/ QC Plan, ensuring all work and materials as well as testing and sampling is performed in accordance with the Contract and approved construction plans and specifications. He has full authority to initiate work stoppage and is able to recommend to VDOT withholding payment for design and/or construction activities that are not acceptable - this authority will be made in writing as part of the QA/QC Plan.
Quality Assurance Testing and Inspection Technicians
Quinn Consulting Services, Inc. provides a full-time Lead Quality Assurance Inspector supplemented by additional inspectors to ensure quality assurance testing and inspections of work items is performed, QC inspections are observed, and correction of non-conformities are completed in accordance with the Contract documents. The Lead QA inspector reports directly to our Quality Assurance Manager. ***Geotechnical Environmental & Testing Solutions, Inc. (GET Solutions, Inc.)*** performs QA laboratory testing for the Project. GET Solutions, Inc. is a AMRL and CCRL certified laboratory and is independent from QC laboratory testing on the Project.
Design Manager
Steve Kuntz, PE, DBIA, directs and coordinates the design process including work by sub consultants and is accountable for the design QA/QC Plan. He is responsible for implementing, monitoring, and as necessary adjusting the Design QA/QC Plan to ensure acceptable quality of the design work.
Design Quality Assurance Supervisor
Jeremy Beck, PE is responsible for quality assurance of design elements included in the Project. Following completion of quality control reviews he performs a complete QA review of all design documents prior to submission to VDOT.
Independent Design QC Reviewers
Independent Design QC Reviewers perform the design QC function on each design element. The Design QC reviews are completed by qualified independent reviewers who do not have a direct role in the design development or the QA review function.
Construction Manager
Greg Johannes, is the Construction Manager and is accountable for day-to-day construction operations, the construction portion of the QA/QC Plan, and for ensuring construction is in accordance with the Project requirements. He is on the Project site for the duration of construction operations.
Construction Quality Control Manager
Louis Jarrett, is responsible for construction quality control and oversees construction quality control testing and inspection operations. Louis assigns inspectors and testing technicians for each work package and monitor reporting documentation to ensure that the work packages were completed in conformance with the contract requirements.
Construction Quality Control Inspections and Testing
Together, ***Dewberry Consultants LLC & ECS, Inc.*** are responsible for quality control testing and inspection of construction for conformance with the QA/QC Plan and project related documentation. They possess current VDOT materials certifications for the types of testing and/or inspections they are assigned to complete. ECS provides the independent AMRL and CCRL certified QC Laboratory to perform all QC laboratory tests.

Design QA/QC Procedure for One Unique Project Element

The design element which we consider to be unique on this Project is the landscaping of the median and the Busch Gardens interchange which will require a comprehensive approach to communication and coordination with multiple stakeholders. The outcome of that coordination and the requirements and desires of the stakeholders will then determine how the landscaping is designed and incorporated into the final construction plans of the Project.

Based on information provided with the RFP documents and comments raised during the public outreach process, we know that landscaping in the median of I-64, and especially within the limits of the Busch Gardens Interchange, is an important element of creating a successful project. The concept of landscaping a median on an interstate does however introduce challenges with trying to balance the aesthetic desires of the community with the safety and design standards required for design, construction, and operation of

the roadway. Recognizing the desire to maintain a heavily landscaped, and ideally a wooded median, our Team developed the concept of shifting the horizontal alignment of the roadway and eliminating all of the stormwater management facilities within the Busch Gardens Interchange. The horizontal alignment shift eliminates the need to clear the large trees on the outsides of the road, helping to preserve the tree canopy, while the elimination of the stormwater management facilities avoids tree clearing in the median.

Final landscaping design will be the subject of a work order as outlined in Part 2, Section 2.8 of the RFP documents. However, in order to facilitate beneficial meetings with representatives of VDOT, James City County, York County and the City of Williamsburg to finalize the landscaping scope, our Team will begin the roadway design by first developing the horizontal alignment of the roadway and preparing preliminary cross sections and grading limits. Based on that information, we will identify the limits of clearing and grading in the field, and mark the trees which would be impacted by the proposed design. Once those surveys are completed, we will meet with agency representatives to show which areas will be impacted and identify specific larger caliper trees which will need to be cleared. Based on the survey information and coordination with agencies, we will determine if specific trees can be retained through design modifications, such as installation of guardrail, steepening of ditch slopes, or installation of closed system drainage facilities (to eliminate the ditches).

Once the final clearing limits are identified within the Busch Gardens Interchange, and design modifications are incorporated to retain specific trees, landscaping concepts for the entire corridor will be developed by our Team's Landscape Architect. During development of the concepts, we will coordinate with construction staff to ensure the species of plants and quantities needed will be available during the required planting seasons. Options for alternate plant species will also be identified for discussions with VDOT and the other interested agencies identified above. In addition to coordination between construction and landscaping design staff, roadway, hydraulic and environmental staff will review the conceptual landscaping plans to ensure the layout maintains required clearzones, doesn't impact drainage facilities, avoids environmentally sensitive areas, uses native species, and won't adversely impact the long-term stability of the barriers in the raised median area of I-64. The landscaping concept will be developed for the corridor "as a whole", so that the narrow median plantings are similar and complimentary to the retained trees and fill-in landscaping identified for the Busch Gardens Interchange.

Following development of the conceptual landscaping plans, additional meetings will be established with VDOT, James City County, York County and the City of Williamsburg to present the concepts, identify alternates as necessary, and come to a combined agreement on the landscaping design.

Description of Construction QA/QC Procedures

Our Team's Construction QA and QC Procedures, found within our QA/QC Plan, have been established to conform to VDOT's Minimum QA/QC Requirements. Our Plan stipulates the specific requirements of the Project and implements appropriate Witness and Hold Points for inspection of work at critical stages. These critical inspection points allow for VDOT review and approval and identify inspection requirements by the key members from the Design Team prior to construction activities continuing. Having this level of Design Team involvement in construction activities allows the engineer to confirm that actual construction conditions conform to the parameters anticipated during design.

During construction, the QA and QC Teams follow the established and approved QA/QC Plan. The QA/QC plan is structured to ensure that QC and QA functions are performed independently and that procedures and work products are regularly audited. Key elements of the Construction QA/QC Procedures are summarized in the following paragraphs.

Construction Quality Assurance

The Quality Assurance Manager (QAM), John Vicinski, P.E. with Quinn Consulting Services, Inc., is independent of the Designer, Contractor and QC Team, and is responsible for the Quality Assurance of the roadway, bridge and other physical construction operations, including the independent QA testing technicians. The QAM reports directly to the Design-Build Project Manager and has the authority and responsibility to stop work and withhold payment for any work not being performed in accordance with the Contract requirements or lacking the QA/QC documentation necessary to prove that the work meets the Contract requirements. The QAM oversees and directs the personnel responsible for performing QA inspections and testing of all materials used and work performed on the Project. He has personnel representing the QA Team that reports directly to him and are not part of the QC Team.

All QA inspection staff complete daily reports and QA Independent Assurance (QA IA) and verification sampling and testing (QA VST) reports of all quality assurance inspections. The QAM compares QA IA and QA VST results to the QC, Owner Independent Assurance (OIA) and Owner Verification Sampling and Testing (OVST) results to ensure consistency and accuracy at all testing levels. The QAM determines and certifies to VDOT whether the materials and work are in compliance with the approved drawings, specifications, and applicable VDOT standards and reference documents as outlined in the Contract. The QAM ensures that all inspectors have adequate certifications for the testing performed and that copies are maintained in the QAM project files on site. The QAM has autonomy and the responsibility to coordinate QA inspections and report findings directly to VDOT.

Construction Quality Control

The Construction Quality Control Manager (QCM), Louis Jarrett, with Dewberry Consultants LLC, manages the day-to-day QC inspections and material testing of the construction as directed by the Construction Manager and reports directly to the Construction Manager. The QCM and the QC Team is responsible for inspection of the construction activities and all QC sampling, testing and analysis of materials on the Project to ensure that construction quality is verified at frequencies exceeding those required by the VDOT Construction Manual, the Materials Manual of Instructions and Tables A-3 and A-4 of VDOT's Minimum QA/QC Requirements. As the QCM, he assures that the QC materials sampling and testing is consistent with the QC plan.

All QC staff actively inspecting and/or testing segments of work complete an Inspector Daily Report (IDR). The IDR's are electronic dairies in accordance with VDOT's Construction Division Memorandum CD-2000-14 and include, as an attachment, copies of all QC materials tests completed for the day's activities. Signed hard copies of the IDR's are submitted to the QCM on a daily basis for review and approval. The QCM completes an electronic Daily General Report, which summarizes the work covered by the IDR's. Copies of all signed Daily General Reports, IDR's, and test reports are then forwarded to the Construction Manager, QA Manager and others on the design-build team for use and review while the original documents are placed in three-ring binders, by project and month and maintained as part of the permanent QC records. All binders are stored in fireproof storage cabinets at the Project site and are available for audit by the QAM and VDOT at any time. A weekly report is produced by the QCM that contains summaries of tests, materials placed, actions taken for failing materials, NCR's, safety, inspection, environmental and schedule challenges.

Construction QA/QC Procedure For One Unique Project Element

A key and unique construction element on the Project will be manufacture and placement of the Cold Central Plant Recycling Material (CCPRM). This material is specified for use as the base layer in the pavement section for both the new inside lane and shoulder as well as the reconstruction of the existing I-64 travel lanes throughout the Project. The Virginia Center for Transportation and Innovation and Research (VCTIR) has been instrumental in developing, researching, testing and ultimately specifying this material for use on the Project. Our Team will deliver the CCPRM through a highly qualified specialty contractor. A thorough review of the two CCPRM special provisions included with the RFP have been made in preparation of our Technical Proposal. Our Team will provide and implement an I-64 Segment II Project Specific Quality Control Plan to ensure all material and Job Mix Formulas are in compliance with the special provisions. Furthermore, this plan addresses all placement procedures, testing and sampling frequencies and weather limitations of the CCPRM. The Technical Representative (TR) for CCPRM, will be a highly qualified and experienced individual submitted and approved by VDOT Materials section. The TR will be present on-site to train all contractor's inspectors, technicians, and key personnel for best practices for production, laydown, and testing of the CCPRM material and paving.

Following approval of the CCPRM Quality Control Plan and prior to Job Mix formulation, our Team will arrange a Preparatory Meeting with the CCPRM TR and VDOT Quality Assurance staff to discuss plans and procedures for development of the Job Mix Formulas. It will be important that the TR walk through the planned steps from material transportation to lab procedures to assure that all parties are confident in the process.

Likewise, following approval of the Job Mix Formulas but prior to placement, an additional Preparatory Inspection Meeting will be held to discuss the test CCPRM Trial Section plan and procedures. Our Team's Quality Assurance Manager will run the meeting with VDOT QA staff to again ensure that the process is communicated properly amongst all parties.

Job Mix Formulas: The CCPRM specialty contractor will be able to supply the Project for the raw recycled materials for the CCPRM from current stockpiles of recycled asphalt materials (RAP) located in regional asphalt plants. The CCPRM mix designs will be performed by the CCPRM TR at an approved AASHTO Materials Reference Library (AMRL) R18 accredited laboratory. The laboratory will be highly experienced in performing in-place recycling mix designs, such as CCPRM, cold in-place recycling, and full depth reclamation. Testing capabilities include asphalt binders, asphalt emulsions, aggregate, soil, mixtures, and mixture performance testing. Multiple mix designs will be performed due to using the various stockpiles of RAP; some of the larger stockpiles may require multiple designs. The Job Mix Formulas will also include trials with additional aggregates from the regional stone yards to assure that a contingency plan is in place in case RAP supply becomes an issue in the area. The mix designs will be established to produce mixtures exceeding the specification requirements for a consistent and reliable product.

The CCPRM Plant will be placed in a regional asphalt plant location no less than 60 days prior to starting job mix production on the Project. The CCPRM TR will assist the Asphalt Producer's Control Manager and the Dewberry QCM with initial trial section production and to assure reliability of plant operations and consistency of the job mix formulas. All Project sample testing and procedures will occur at Dewberry's approved QC laboratory in the region. During CCPRM production the following steps will be taken to assure conformance with specifications and reliance of the Job Mix Formulas:

- Perform sample testing at the rate of no less than 1 per 1,000 tons of mix produced;
- Perform Asphalt Content testing in accordance with VTM-102;
- Assure that the approved testing lab for the Project has the trained personnel and testing equipment adequate for the CCPRM requirements; and
- Assure that all Project samples are delivered timely to the approved lab in the area.

CCPRM Placement: The asphalt paving QCM and the Project QC Team will be responsible for inspection of the CCPRM placement and laydown activities. The QC Team will perform all required sampling, testing and analysis of materials on the Project to ensure that construction quality is verified at frequencies exceeding those required by the Project requirements. The QCM assures that the QC materials sampling and testing is consistent with the QC plan. Test and inspection records for the Project will be filled out daily by the QC personnel and checked by the QCM and TR. Records will be stored in a location accessible to VDOT QA personnel.

Figure 12 - CCPRM Placement

The TR will be on site during the initial Trial Section of the CCPRM placement. This trial will take place no less than 30 days prior to the start of CCPRM production for new pavement sections. Our Team is aware that VDOT will be responsible for Quality Assurance inspection and testing of the CCPRM placement. Our Team will coordinate all QC and VDOT QA activities to assure that the Trial Section is representative of the materials, placement procedures, and testing required for a successful CCPRM operation.

During CCPRM placement the following steps will be taken to assure conformance with specifications:

- Review of weather forecasts including overnight temperatures to assure placement limitations are within acceptable ranges.
- All nuclear density gauges are in good working order and calibrated to VDOT specifications
- Test control strips and roller patterns are performed at the proper frequency and marked per VTM-76 procedures. Additional control strips will be constructed if Job Mix Formulas change or density tests are failing.
- Depth checks are performed at the proper frequencies
- Any required curing materials, fog sealers, and blotter sand are installed at the proper rates of application and at the proper time in the placement operations to prevent CCPRM raveling. Prior to placement of any ensuing asphalt layers the QC team will ensure proper curing of the CCPRM has occurred by moisture testing in accordance with AASHTO/VTM procedures.

The Quality Control procedures described above along with the qualified personnel that our Team is bringing to the Project for the CCPRM will be able to provide confidence to VDOT that the operations will be carried out in accordance with the RFP requirements with minimal VDOT intervention.

4.5 - Construction of the Project

4.5 Construction of the Project

4.5.1 Sequence of Construction

Throughout development of our Technical Proposal, our Team focused on means and methods to finish critical stages of work quickly and efficiently. Key elements of our Team's collaborative process included optimizing the sequence of work which allows our Team to achieve the goals of:

- Early completion of the Project achieving the No Excuse Incentive;
- Ensuring the safety of the traveling public and workers;
- Providing efficient mobility and full connectivity for the traveling public;
- Effective management of environmental and geotechnical constraints; and
- Proactive stakeholder coordination.

Our Team's Proposal Schedule, presented in Section 4.7, was developed with input from all Project disciplines including design and engineering, permitting, utilities, right-of-way, QA/QC, and construction. We have planned for and incorporated numerous enhancements to exceed the above goals, including:

Enhancements	Benefits
Opening all roadway areas by November 2018, approximately 8 months in advance of Final Completion Date	▪ Allows traveling public full benefit of third through lane throughout the Project
Opening of Area 5 WBL by October 2018, approximately 9 months early	▪ Allows earlier operation of new WB travel lanes continuing from the I-64 Segment I project
Scheduling of work to achieve the maximum incentives available for early completion.	▪ Allows early completion of new travel lanes and increased mobility through the corridor
Use of Early MOT (TTC) Plan set to allow work to commence within existing VDOT ROW	▪ Allows critical construction work to begin prior to completion of environmental permitting and right-of-way acquisitions
Logical segmentation of the Project to 5 Work Areas	▪ Allows for focused construction management teams and utilizes the allowable maximum work zones for efficient staging and sequencing of the Project
Narrowed permanent median width for western half of the Project	▪ Increases worker safety by creating the required deflection zone behind the temporary traffic barrier service and reduces hundreds of lane closures that would be required for pinning of barriers
Optimize noise barrier wall locations to avoid utility conflicts and environmental impacts	▪ Allows noise barriers to be constructed early in the schedule; ▪ Eliminates costly impacts to existing facilities and features
Lengthening emergency pull-offs from 200' minimum length to the desirable 1320' listed in the Work Area Protection Manual	▪ Provides motorists and emergency personnel with more refuge area, and allows acceleration and deceleration lengths for vehicles pulling into or out of the pull-offs ▪ Allows for construction vehicles to utilize these pull-offs in order to decelerate and accelerate without impacting I-64 thru traffic

The construction sequence of the Project was developed to provide a cohesive approach that focuses the entire Project Team on minimizing impacts to the traveling public while maximizing the opportunity to obtain early completion. Our approach to the construction sequencing is centered on the following:

- Providing safe and efficient access to the work areas that allow ingress and egress of truck traffic and workers vehicles from cross streets instead of I-64;
- Optimizing workforce by allowing crews to work in productive work areas and share resources efficiently;

- Concentrating work efforts on the eastern portions of the Project so that maximum benefit can be gained by attaining an early tie-in to the completed I-64 Segment I Project;
- Providing safe emergency pull-offs that are more than ***six times longer than the required minimum length***; and
- Sequencing work in a manner that minimizes the need for temporary lane closures.

Project Work Areas

In order to efficiently execute our construction plan for the Project, the Project length has been broken into five major Work Areas as shown in the Figure 13. The areas are divided by logical break points that allow for effective construction sequencing. This segmentation was also developed in conjunction with our Maintenance of Traffic Plan (Temporary Traffic Control plan) and are of sufficient scope and size to allow individual construction management teams to oversee the operations. This allows for maximum utilization of resources and maximum oversight of construction activities from a safety and quality perspective. These areas translate roughly into three 1-3/4 mile long areas and two 3/4 mile long areas as follows:

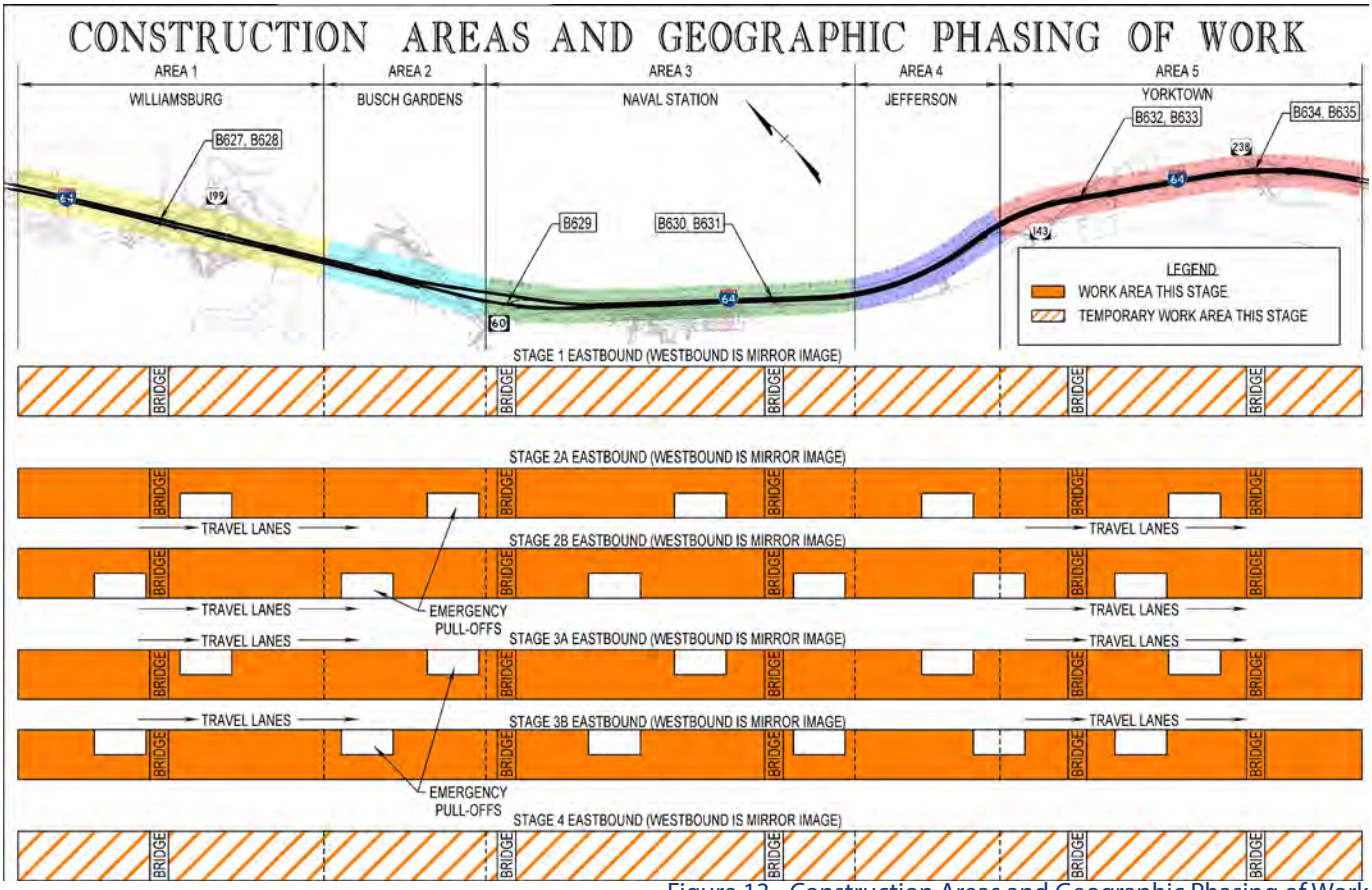


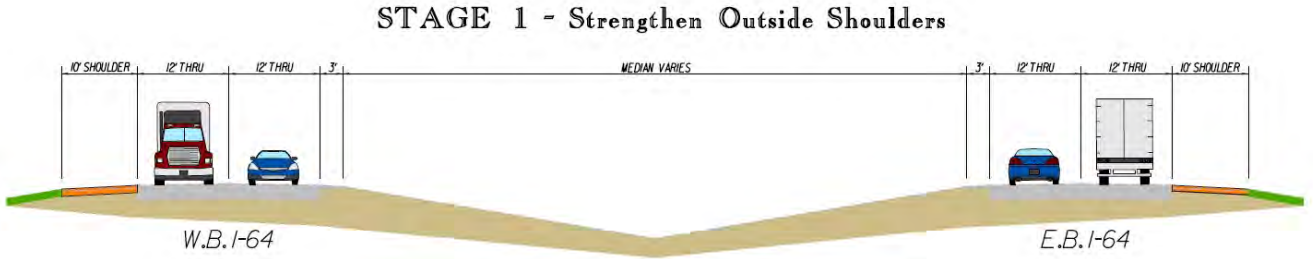
Figure 13 - Construction Areas and Geographic Phasing of Work

Construction Sequence

Organizationally, we propose four major Stages of construction corresponding to our Team's Transportation Management Plan detailed in Section 4.5.2. Each Stage corresponds to a major traffic control sequence as construction activities progress throughout the Project. Along the 7.1 mile long work corridor, work in all five Work Areas described above in Figure 13 will be constructed concurrently during each major traffic Stage, with space reserved for temporary pull-offs. In Stages 2B and 3B, the emergency pull-offs will be relocated to areas completed in Stages 2A and 3A in order to finish the reconstruction activities. As seen in

Figure 13, the emergency pull-offs have been strategically located in order to meet the RFP requirements of one mile maximum spacing, while also allowing for continuous construction of all bridge structures in both the "A" and "B" Stages.

STAGE 1 - OUTSIDE SHOULDER STRENGTHENING AND LANE SHIFTS



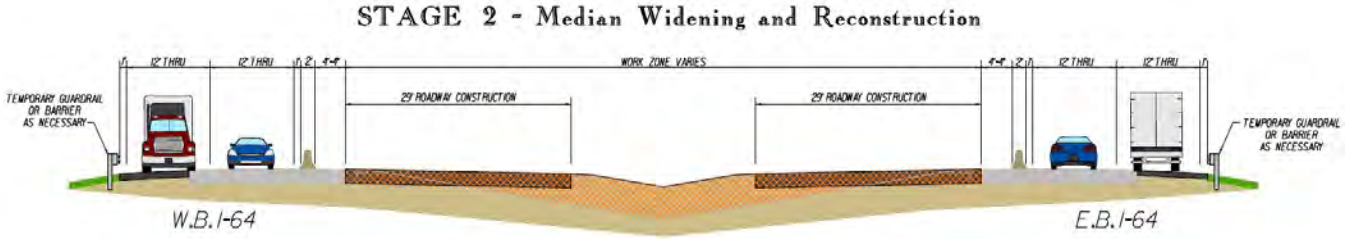
Since all Stage 1 work for the Project is contained within existing VDOT right-of-way and requires no drainage adjustments, upon approval of the early TTC Plan Set, we will begin the outside shoulder strengthening in July 2016. This allows the lanes shifts to the outside to be completed when permitting and final plan approval is obtained in late July 2016.

To allow room for the placement of temporary traffic barrier service along the median widening, the existing I-64 eastbound and westbound travel lanes must be shifted several feet to the outside. Strengthening of the outside shoulder will be necessary to support the additional traffic loading. The approximate 6" deep existing shoulder will be removed by milling and repaved with temporary base and intermediate asphalt. The exact pavement section will be determined during the geotechnical and early design phases of the Project. This shoulder strengthening operation will be performed at night with required lane closures. Operations will be planned so that no drop-offs greater than 2" are remaining at the end of the shift.

Temporary pavement markings and markers will be placed on the new alignment to maintain 12' travel lanes and a 1' buffer to the temporary concrete barrier which will be placed adjacent to the median widening work completed in Stage 2. ***Due to our Team's unique concept of reducing the permanent median widths for the western half of the Project, traffic barrier service can be installed to allow for the full deflection zone between the barrier and the work zone as a worker safety benefit.*** Furthermore, this eliminates the need of pinning of the traffic barrier and eliminates the exposure of workers in several weeks of night-time temporary lane closures. For the eastern half of the Project where median widths were minimally reduced, MB-11A barrier will be pinned down where required per Section 2.10.3 of the RFP.

Correct placement of temporary traffic barrier service at the end of Stage 1 is critical in the overall traffic sequencing for the Project. Per the detail below, we will be constructing 29' of new roadway in Stage 2. This is necessary at the completion of Stage 2 so that two-12' wide travel lanes can be provided and room for traffic barrier and allowable offsets. By building additional width in Stage 2, the demolition of existing concrete pavement installation of new pavement is performed safely behind traffic barrier service.

STAGE 2 - I-64 NEW INSIDE LANES AND WIDENING OF EXISTING OF BRIDGES



Once our Team shifts traffic as noted at the end of Stage 1, construction of the majority of the Project elements will begin. Specifically, Stage 2 consists of all of the I-64 median widening, drainage improvements, and bridge widening. As stated earlier, all Project Work Areas will be constructed concurrently with emphasis on Area 5 to allow for the early completion of eastern third of the Project to tie into the I-64 Segment I Project. To allow placement of the emergency pull-off areas, Stage 2 work has been separated into two sequences titled Stage 2A and Stage 2B. Stage 2B work includes reconstruction in the areas what were reserved for Stage 2A emergency pull-off areas, while finishing the adjacent bridge and roadway work.

Stage 2A/2B Roadway And Drainage Construction

Following the issuance of the final environmental permits for the Project, clearing and grubbing activities will begin and roadway drainage and excavation activities will commence concurrently all Work Areas. For this median widening work it is planned that all construction run-off can be controlled in Phase 1 erosion and sediment control devices such as check dams, silt logs, sediment traps, and inlet protections. Drainage work in the Stage 2 median widening areas includes construction of the required box culvert extensions D603, D604, D605, and D608. All required new drainage piping and inlets will be installed. Our Team has identified that 13 additional drainage crossings of I-64 are required. In Stage 2 of the Project, we will install the initial half of these crossing pipes by standard installation methods to a point that allows us to continue the balance of the crossings in the Stage 3 when traffic is not impacted.

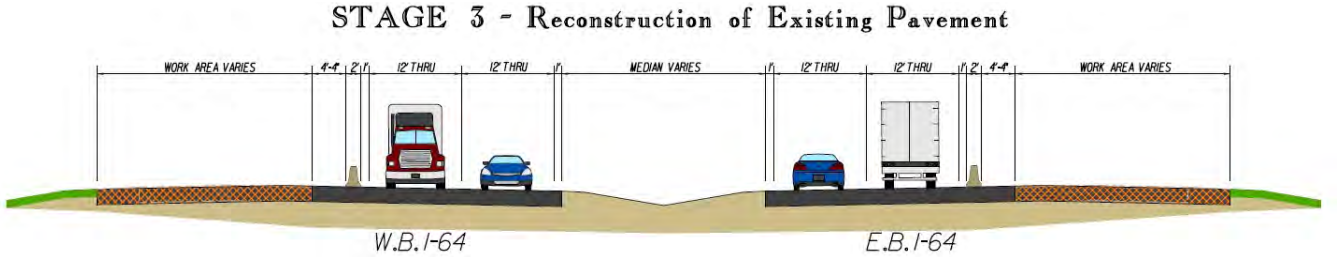
Roadway excavation and grading consists of stripping of all native topsoil. Any suitable excavation will be cut and placed in fill areas such as backfilled box culvert areas up to subgrade. In all areas, we have allowed time in our excavation activities to account for the remediation or removal and replacement of soft or unsuitable soils. Furthermore, our Team has secured the required crushed concrete and/or recycled asphalt pavement required to be processed and treated with cement which will be placed as the pavement subbase. Installation of any required median barriers occurs at this time and asphalt crews will place the 2” Open Graded Drainage Layer followed by the 6” of Cold Central Plant Recycling Material (CCPRM). Finally, 2” of Intermediate Asphalt (SMA-19.0) will be placed prior to temporary pavement markings and the required guardrail installations.

Stage 2A/2B Bridge Construction

Our Team is uniquely qualified to perform the bridge widening and repair work as we are currently in the process of completing design work for the I-64 Segment I Project which will require nearly identical, sequencing, and methods of construction. Phase 1 bridge work will focus on the start of the structures in Segment 5 including Bridges B-632 and B-633 over Route 143, Jefferson Avenue and the Bridges B-634 and B-635 over Yorktown Road. These pairs of bridges will be worked concurrently to economize the use of specialty crews such as bridge demolition and pile driving. Phase 1 bridge work at all locations will require the partial demolition of the existing structures to create the joint as necessary for the widening tie-in. Temporary shoring will be required to support excavation of new piers and abutment elements. Major structures in Work Area 3 include Bridge B-629 of EB I-64 over the I-64 WB Ramp to Route 143 in York County and Bridges B-630 and B-631 over Burma Road and the Railroad to the Naval Weapons Station. Work Area 1 bridge work includes Bridges B-627 and B-628 over Penniman Road and the abandoned Railroad in York County. ***All structural work in Stage 2 is scheduled to complete by December 2017.***

STAGE 3 - PHASE 2 OF BRIDGES, CONCRETE PAVEMENT REMOVAL AND FULL DEPTH RECLAMATION (FDR), AND NOISE WALLS CONSTRUCTION

Following completion of Stage 2 work at the beginning of 2018, travel lanes will be shifted to the newly constructed inside travel lane and left shoulder. On the right side, the existing traffic barrier service will be relocated to allow all Stage 3 work to commence behind the temporary barrier. Similarly as in Stage 2, emergency pull-offs will be provided, exceeding minimum length requirements of the RFP.



Stage 3A/3B Roadway and Drainage Construction

Demolition of the existing concrete pavement will occur in Stage 3. Our Team will use a variety of methods to rubbilize and remove the concrete pavement. Some of these include excavator mounted hoe-rams, breaking sleds, and resonance machines.

Upon removal of the concrete rubble and debris, the 12" deep Full-Depth Reclamation (FDR) process of the existing subbase aggregates and soils will commence. This process requires planning and care as to not allow over-exposure of the grade to wet weather elements. Following FDR, new underdrains will be installed and the 2" Open Graded Drainage Layer will be installed followed by the CCPRM and 2" of Intermediate Asphalt.

In Stage 3 we will complete the remaining half of the new drainage crossing pipes started in Stage 2 utilizing standard installation methods behind temporary barrier.

Figure 14 - Hoe-Ram and FDR Process

Stage 3A/3B Bridge Construction

Phase 2 construction of Bridges B-627, B-628, B-629, B-630, B-631, B-632, B-633, B-634 and B-635 will be performed in this stage. The required milling of the bridge decks will be performed in order to determine the amount of deck surface repairs that will be required. The existing bridge deck joints will be removed and the abutment backwalls will be reconstructed. Following placement of the required reinforcing steel, concrete closure pours will create the 'jointless' structures in accordance with the RFP requirements. Concurrently, bridge deck surface repairs will be performed. The existing approach slabs will be demolished and new 'buried' approach slabs will be formed and poured, and all required substructure repairs will be made. Finally, the decks will be overlaid to create a new riding surface.

In the case of the Bridges B-627 and B-628 over Penniman Road, we have introduced a required Stage 3A and 3B in our Maintenance of Traffic Sequence in order to create working room for bridge repairs while maintaining the existing ramp traffic for the Route 199 Interchange. Stage 3A of the bridge pairs at these bridges will be required to re-construct the 'middle' portion of the bridges while Stage 3B will reconstruct the outer-most portion of the bridges. In addition, the required rehabilitation and recoating of structural steel framing will be performed in accordance with the Contract Documents.

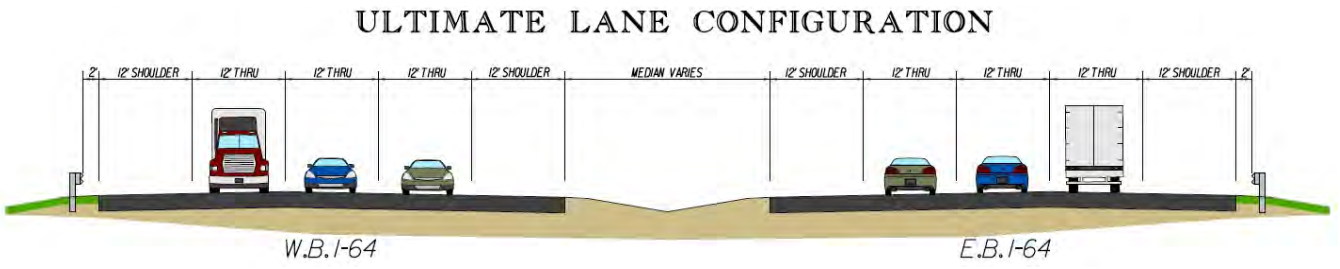
Stage 3 Work Beyond Travelway

As right-of-way and environmental permits are acquired for stormwater management controls, crews will construct the bio-retention basins or ponds in order to collect and treat the final run-off from the new impervious pavement areas. Construction run-off to these areas will be diverted and temporarily treated until establishment of the area is attained and approval of the basin construction is granted. Protection of the basins will be critical to their functionality and our Team has experience in constructing over twenty large basins meeting the Criteria II-b required for this Project.

During Stage 3, work on the outside of the I-64 travel lanes will also include construction of the required noise barrier wall located adjacent to the Williamsburg Golf Club. Crews will begin the majority of the construction of the noise barriers in Fall 2018. Installation of the required ITS infrastructure and system requirements as well as any remaining outside foundations for the new overhead sign structures will also be constructed and erected in this Stage.

As the Stage 3 work completes, all MOT devices can be removed and the new inside travel lanes can open prior to final overlay paving. ***Our Team intends to open Work Area 5 to eastbound traffic by November 2018 and to westbound traffic by October 2018.*** The lanes can remain open for their intended purpose while final paving is performed during allowable closure periods.

STAGE 4 - FINAL SURFACE PAVING AND PAVEMENT MARKINGS



Stage 4 work will consist of placement of all final surface asphalt material. 2" of SMA 12.5 Asphalt will be placed on all new travel lanes and 2" of SM-12.5D will be placed on all new and reconstructed shoulders. Two months for asphalt overlay and pavement markings is anticipated. Due to the multiple pavement shifts during construction, placement of surface asphalt at the end of all construction ensures that temporary pavement markings are not used on the finished product, and ensures that all final paving is completed at the same time. This provides for a smooth, "clean" look at the completion of the Project when all of the through lanes are opened to traffic on a permanent basis.

Safety & Operations

The safety of the public, workers, inspectors, and operational efficiency of our construction sequencing has been at the forefront of our thought processes in the development of this Technical Proposal. Our goal for the Project is to establish a zero incident/zero accident work site. We understand VDOT's commitment to safety of the public, safety of its employees, and safety of all project stakeholders, and we fully plan to align our Team's vision of safety on the Project with VDOT. We expect each and every project individual to be involved, empowered, and accountable for project safety. Our Safety Program will be led by Charlie Wilson, our Safety Manager who is in charge of implementing a Project Specific Safety Program, and working directly with VDOT personnel. He will also have overall responsibility for ensuring the Project is delivered with a goal of zero incidents.

Safety Approach

Our Team's approach to safety is based on two primary facets each presenting their own safety challenges: construction safety and traffic safety.

Construction Safety - Each stage of the Project from earthwork to bridges, from utility installation to noise walls have distinct safety challenges associated with them. We will work closely with our design partners to finalize a design that incorporates and considers safety elements and fully integrates anticipated

construction processes and staging requirements. An example, is our Team's concept to reduce the permanent median widths for the western half of the Project. This allows the temporary traffic barrier service to be installed outside of the full deflection zone, saving hundreds of manhours of workers being exposed to traffic while pinning barrier, and creating safe work areas.

Safety - Each of us has the responsibility to ourselves, our families, our co-workers, our clients, and the public to ensure a safe work environment-regardless of cost.

Shirley's Core Values

Traffic Safety - Our Team's Transportation Management Plan, Temporary Traffic Control Plans, and Construction Sequencing have all been developed to provide the safest work zones while attaining the peak operational capacity of the roadway. Following traffic counts at the onset of design, all plans will be adjusted to allow the maximum flow of traffic through the corridor. As detailed in Section 4.5.2, enhanced safety strategies exceeding VDOT requirements will also be utilized to maximize safety, such as better quality pavement markings, additional PCMS signs, and long emergency pull-offs that accommodate vehicle acceleration and deceleration needs. During construction, the VDOT Work Zone Safety Checklist will serve as the minimum standard to assure conformance with the Project's safety requirements, and checks will be performed daily.

Implementation of Safety Controls

Planning

- ***Design -*** A safe design is only safe if it can be constructed safely. Proper allowances will be integrated into our planning for equipment placement, material staging and storage, safe and secure work zones, as well as safe and efficient construction access points and entrances.
- ***Safety by Contract -*** Our Team develops a Project Specific Safety Program that will also be utilized by our subcontracts outlining project safety requirements including OSHA/VOSH related safety provisions.
- ***Safe Start Process –*** Everyone working on the Project is required to complete our Safe Start program prior to starting work. Some key aspect of this process include task specific Job Hazard Analyses (JHA), Hazard Communication Plans, and Fitness for Duty Certifications. The Team will also meet individually with each subcontractor's onsite field supervision and Project Manager to establish clear safety goals for the Project and expectations from subcontractors.
- ***Worker Orientation -*** All workers must complete safety orientation before entering the jobsite. The site-specific orientation includes a comprehensive review of our Safety and Health Program and safety policies. Hardhat stickers are provided to employees certifying completion of orientation.

Safety Meetings

- ***Safe Plan of Action (SPA) -*** A daily SPA meeting or "Take 5" is our forum to communicate each day's safe work plan to all workers. Each foreman and crew will review their tasks, required tools, potential hazards, and related safe work protocol. During this meeting, all employees will participate in a "stretch and flex" session. Useful in prevention and treatment of soft tissue injuries, including sprains and strains, stretch and flex programs have been proven to enhance balance, coordination and circulation, stretching increases flexibility, which directly translates into reduced risk of injuries.
- ***Superintendent/Foreman Meetings -*** The Team's Superintendent and Safety Manager meet with Foreman every week to discuss current safety concerns and the proposed plan to resolve them. The week's area logistics plans are reviewed so all crews are aware of other construction activities. We anticipate VDOT team member involvement in these weekly meetings.

- ***Safety Stand Down Meetings -*** Each month, the Project Manager and Superintendent assemble crews to discuss safety conditions and safety trends. These meetings afford all workers the opportunity to speak directly with the Project Manager and Superintendent. If a safety incident has occurred, the circumstances and future preventative measures are discussed.

Recognition/Reward

- ***Recognition Program -*** This program consists of several tiers for rewarding individuals, crews, and subcontractors who meet and/or exceed criteria such as man hours worked without incident, demonstrating outstanding safety practices or other safety criteria established by the Project Team.

Geotechnical Constraints

The sequence of the subsurface exploration will be coordinated such that the test borings required for design of the bridges and walls will be completed early, allowing design activities on critical elements to be advanced without impacting either the design or construction schedule. Selection of boring locations will be coordinated with design and permitting staff, ensuring that appropriate geotechnical information can be collected while avoiding environmentally sensitive areas.

Since our Team will complete the required geotechnical investigations and propose methods for remediation of poor soils along the roadway prior to construction, sequencing of work will be developed to include these geotechnical constraints/soil remediation. Roadway considerations such as unsuitable materials, low CBR value materials, and increased pipe bedding requirements will be identified in the geotechnical report and mitigation measures and recommendations may include practices such as:

- Surcharging,
- Undercut & replacement with suitable material
- Lime or cement soil stabilization
- Use of geo-stabilization grids & fabrics

Bridge geotechnical solutions will be based on the concerns of settlement and global stability of new fills at abutment locations, bridge foundation requirements and capacities, negative skin friction exerted on piles during anticipated settlement periods. Other constraints will also be identified in the geotechnical report and completed in conjunction with the appropriate elements and areas of improvement, and are not expected to cause any concerns or impacts to the construction schedule. As indicated in Section 4.7, we have allowed construction time for remediation of poor soils in all activities.

Environmental Impacts

Construction Phase

During the construction phase our Team ensures that all permits necessary for the work have been obtained, and the work is completed in compliance with all commitments and permit conditions. Incorporating the permitted impact limits in the Environmental Constraint Maps (ECM) and including them on the Project plans assures the Project will remain in compliance during project construction.

Our Team has a long standing relationship with the US Fish and Wildlife Service (USFWS) which has served us well in coordinating projects with the USFWS concerning endangered species. It is vital for our Team to obtain a determination from the USFWS early in the Project for threatened/endangered species such as the Northern Long Eared Bats, Indiana Bats, and the Small Whorled Pogonia because the Time of Year Restrictions (TOYR) for these protected species will drive construction scheduling.

As the Indiana Bat was found in close proximity to Segment II, our Team is anticipating a TOYR from April 15th to September 15th for the clearing of trees in 16 of the 20 clearing areas. Resequencing of four small clearing areas may be required if this condition actually exists. There is a vernal pool with a documented Mabee's Salamander just off the Project limits. Our Team will coordinate with VDGIF and implement a barrier system to keep the salamanders out of the work areas.

Figure 15 is an excerpt from our Team's conceptual CPM schedule depicting the environmental activities in the Proposal Schedule. As shown, our Team has accounted for these constraints in all construction planning even at this early planning stage. This allows us to focus our environmental planning studies to critical areas of the schedule.

ENVIRONMENTAL PERMITTING PHASE		236
HAZARDOUS MATERIALS		92
ENV1210	P/S SPILL PREVENTION, CONTROL AND COUNTERMEASURE PLAN (SPCCP)	30
ENV1220	VDOT R/A SPCCP	21
ENV1230	PERF ASBESTOS INSPECTION ON ALL STRUCTURES	45
VA STORMWATER MANAGEMENT PROGRAM (VSMP) PERMITS		36
ENV1190	P/S LD 445 / VSMP / SWPPP	20
ENV1200	AGENCY R/A VSMP PERMIT	21
THREATENED & ENDANGERED SPECIES		40
BAT SPECIES		40
ENV1240	T&E SPECIES SURVEYS - BATS	20
ENV1250	T&E SPECIES IDENTIFICATION AND IMPACTS COORDINATION - BATS	10
ENV1260	P/S T&E SPECIES DOCUMENTATION WITH AHJ - BATS	10
OTHER T&E SPECIES		40
ENV1270	T&E SPECIES SURVEYS - OTHER	20
ENV1280	T&E SPECIES IDENTIFICATION AND IMPACTS COORDINATION - OTHER	10
ENV1290	P/S T&E SPECIES DOCUMENTATION WITH AHJ - OTHER	10
NOISE ANALYSIS & SOUNDWALL DESIGN		90
ENV1070	PERF FINAL DESIGN NOISE ANALYSIS	10
ENV1080	P&S/A DRAFT OF NOISE ABATMENT DESIGN REPORT (NADR)	5
ENV1090	VDOT/FHWA R/A DRAFT OF NADR	21
ENV1100	INCORPORATE VDOT COMMENTS INTO FINAL NADR	5
ENV1110	P&S/A FINAL NADR	5
ENV1120	VDOT/FHWA R/A FINAL NADR	21
ENV1130	MAIL CONCURRENCE LETTER & SURVEY BENEFITTED RECEPTORS	14
ENV1140	P&S/A BENEFITTED RECEPTORS SURVEY	5
ENV1150	VDOT R/A BENEFITTED RECEPTORS SURVEY	21
ENV1160	MAIL 2ND CONCURRENCE LETTER (IF REQUIRED)	5
ENV1170	P&S/A SOUND WALL DESIGN	15
ENV1180	VDOT R/A SOUND WALL DESIGN	21
JOINT WETLANDS AND WATERS PERMITTING		236
ENV1000	CONDUCT WETLANDS DELINEATION, STREAM ASSESSMENT & PERMIT IMPACT S	30
ENV1010	COMPLETE UNIFIED STREAM METHODOLGY	30
ENV1020	OBTAIN COE JURISDICTIONAL DETERMINATION	21
ENV1030	PREP JOINT WETLAND AND WATERS PERMIT	30
ENV1040	PURCHASE COMPENSATORY MITIGATION	21
ENV1050	SUBMIT JOINT PERMIT APPLICATION (JPA)	1
ENV1060	AGENCY R/A JPA	125
ENV1065	14 DAY AHJ NOTIFICATION TO BEGIN WORK	14

Figure 15 - Environmental Proposal Schedule Activities

Once plans are finalized and released for construction, the environmental team shifts focus to construction monitoring of the permit and environmental commitments in the field. Prior to the start of construction, our Team will conduct an educational program for the construction staff slated to work on the Project. The educational program will touch on the environmentally sensitive areas of the Project including but not limited to:

- Wetlands and streams;
- Threatened and endangered species;
- Environmental protection, including E&S measures;
- The importance of staying within the approved LOD; and
- Archaeological/architectural resources.

This program will then transition into the monthly safety meetings where a member of the environmental staff will meet with all construction personnel and discuss any lessons learned from work in the past month, room for improvement, and/or highlight compliance with environmental requirements.

Additionally, prior to the start of construction the original wetland team returns to the field to mark the limits of streams and wetlands at the permitted impact limits. Critical areas are delineated with safety or silt fence to prevent accidental access and prescribed Erosion and Sediment (E&S) control measures are installed in accordance with the plans. During construction, monitoring and inspection is conducted in compliance with all permits, commitments and regulatory requirements.

As construction progresses, our Team ensures E&S control documents are strictly adhered to and the approved Stormwater Pollution Protection Plan (SWPPP) is available for review and is followed. This starts with installation of all Phase I E&S devices such as silt fence, diversion dikes, sediment traps and basins prior to grubbing and grading operations. Our Team ensures stabilization of denuded areas is performed within the required time frames. Most importantly, we dedicate an erosion and sediment maintenance crew to the Project at all times to monitor the site and relieve over-burdened E&S devices, re-install or reinforce existing devices and prepare for forecasted rain and storm events. The crew is led by a foreman carrying the VDOT ESCCC and DEQ Registered Land Disturber credentials. VDOT Forms C-107a and C-107b as well as proper documentation is kept current at all times per DEQ and VDOT regulations.

Right-of-Way Acquisition (ROW)

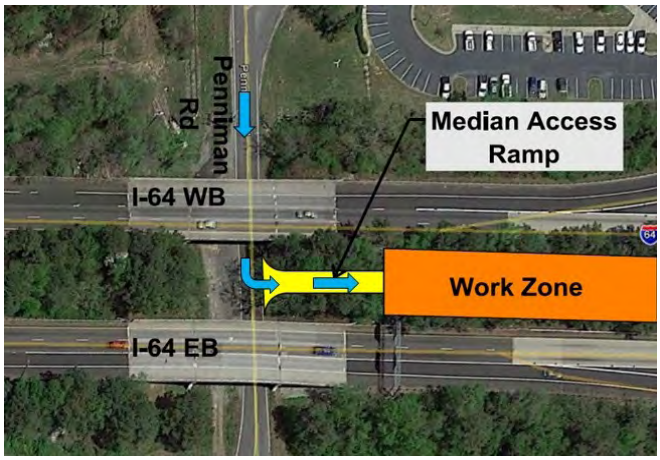
Similar to permitting, the ROW acquisition process must be well integrated into the design, utility and construction schedules, and started as early as possible. As we developed our schedule and sequence of work, we continually analyzed the affect these disciplines have on public and private properties and our ability to minimize and avoid them. As described on our Team's Design Concept in Section 4.3 and as detailed in our Volume II Plans, we already achieved significant reductions in the number of parcels impacted and the total area of acquisition. Furthermore, our planned construction sequencing and stormwater management phasing has allowed adequate time for all property rights acquisitions. Our plan removes the right-of-way process from the critical path of the proposed CPM Schedule.

For all planned acquisitions, our Team has prioritized their acquisition to match the sequence of work. This is critical to our ability to meet the planned traffic sequencing and completion of the stormwater management basins scheduled in Stage 3 of the Project. If conditions change, we have the ability to immediately react by adjusting the priorities, resources, and sequence if necessary. Key to doing so is our Team's in-house ROW resources dedicated to managing the acquisition process. The highest priority parcels are those needed in Stage 3 required to construct Stormwater Management Basins on the outside of the Project. Our schedule of work has provided the maximum amount of float to acquire these properties. Many of these parcels must be acquired from the same local governmental agencies as the I-64 Segment I Project. Our Proposal Schedule included in Section 4.7 outlines the complete acquisition process.

Staging and Storage Areas

To maximize safety and avoid delays to the schedule, staging and storage areas must be well-planned and integrated into the overall sequence of work. When planning these areas, the objectives are to establish locations that minimize impacts to public traffic, do not create a public nuisance, and are close enough to the work area to avoid production inefficiencies.

The location of staging areas will be coordinated with these access points. Where access directly from I-64 is required, we developed a median access plan from I-64 that allows access to the work zones in a safe manner by utilizing the extra-long emergency pull-offs for decelerating and accelerating truck traffic. Staging of materials behind and outside the deflection zones of the temporary traffic barriers also serves as convenient areas for items such as storm water pipe and structures and bridge formwork and consumable materials. Construction access points have been already been developed, with two examples shown in Figure 16. At these locations, the work zone is safely accessed from cross streets without impacting I-64.



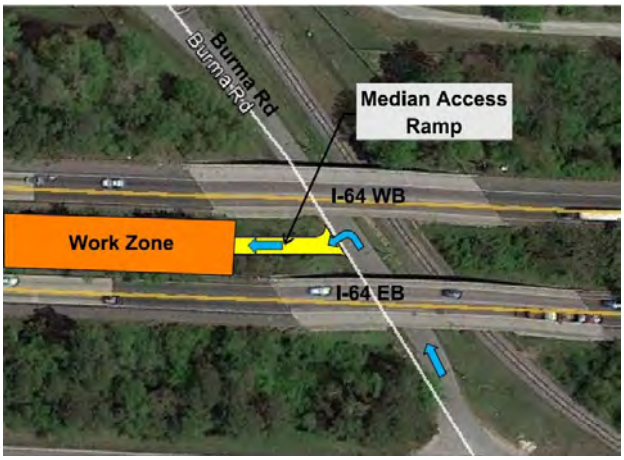


Figure 16 - Example Construction Access Points Directly Into The Median

Also critical to maintaining project efficiencies is the location of the field office compound. A distinct advantage of our Team on this Project is that we are able to locate our field offices in a joint compound located at the interface between Segments I and Segment II that further reduces impacts to the public. It also enhances the level of coordination between the two project teams.

Public Involvement/Stakeholder Coordination and Government Approvals

To avoid the risk of delays to the schedule due to stakeholder approvals, it is imperative that the Team understand all of the parties that have input, their procedures and timeframes for approval, and the affect they have on sequence of work. We identified stakeholders in our Organization Chart included in Section 4.2, as well as in the table in Section 4.5.2, and will refine this list as the Project moves forward. At this preliminary stage, we have included those stakeholders that could impact the completion milestones on the schedule included in Section 4.7.

Immediately after Award, the Team will meet with each stakeholder individually to discuss the Project, understand their issues and concerns, and explain the schedule and sequence of work. Input is incorporated in the schedule based on these discussions, and the schedule will in turn be communicated to them.

We will plan and hold several “Pardon Our Dust” meetings with the public at critical stages of work to communicate Project details, our sequence of construction, and the overall schedule. We also use this forum to solicit feedback and establish lines of communication with those affected. Because traffic patterns change as the work progresses, it is imperative that we coordinate directly with police, fire and rescue, local schools, and public transportation by establishing points of contact, distributing flyer’s, and presenting project details directly to them. Traffic changes are communicated on site through the effective use of signs and PCMS signs. The Team presents updates to local Homeowners Associations, County governments, and other groups. We will also communicate with the public by submitting updates and graphics describing traffic patterns to the local media in order to reach large audiences.

Mitigating Potential Delays

As described above, our Team has already advanced a number of concepts, plans and procedures for ensuring the Project is completed ahead of schedule without delay. As we develop our schedules, we are constantly focused on issues and concerns that have the potential to create delays and then direct our efforts on mitigating them. At various stages of the Project, we rely on proven methods for creating, monitoring, and maintaining the schedule including:

- ***Technical Proposal Stage -*** As the groundwork for the Team's schedule is developed in this stage, it is critical for all disciplines to have input. Our Team has met on a weekly basis since release of the RFP to discuss issues, create our concept, solicit feedback, and to make schedule adjustments accordingly. The schedule presented in Section 4.7 is the result of this close collaboration and has buy-in from all Team members.
- ***Design Stage -*** As we proceed through the design process, the integration of the various disciplines rises to a higher level. We continue to hold team meetings at a minimum on a weekly basis to provide an over-the-shoulder forum for review, discussion and feedback. During this time period, our formal project schedule is developed and reviewed with VDOT and other stakeholders. Should issues arise or conditions change during design that impact the sequence or completion milestones, the Team reviews schedule options for correction so that these milestones are maintained. Once finalized, it is communicated to each discipline, our construction forces, subcontractors and consultants, and other affected parties and is the basis for the Team's planning efforts moving forward. Throughout this stage, the approved schedule is monitored, updated and communicated to VDOT by the D-B PM to ensure that it remains compliant.
- ***Construction Stage -*** As the Project transitions to construction, the Construction Manager and D-B PM closely monitor and update the schedule on a regular basis. The CM ensures the schedule is communicated to the entire Team, including utility companies, QA/QC, government agencies, and others. In addition, shorter, more detailed schedules are created by the construction teams to better aid planning their work. These 2-week and 6-week "look-ahead" schedules allow teams to plan activities on a daily basis and communicate specific tasks and milestones in a direct, concise way. Our Team also utilizes a proprietary "Daily Shift Cost Report" (DSCR) system that tracks the costs for certain critical activities each day and compares them to the budgeted cost. This is an excellent indicator that scheduled production rates are not being achieved and provides the construction team with "real-time" data. Throughout the construction schedule, these schedules and data are monitored and compared to the approved baseline schedule so that delays can be anticipated. Then, the Team evaluates options for avoiding delay or recovering the schedule including re-sequencing the work, adding resources, or re-design of certain features.

4.5.2 TRANSPORTATION MANAGEMENT PLAN

Our Team is dedicated to delivering this Project with a construction program that sets a new benchmark for the minimization of impacts for all stakeholders during construction. All aspects of our Transportation Management Plan (TMP) and TTC plans will be developed with a focus on maximizing safety for the traveling public and construction personnel while minimizing travel delays throughout all stages of construction. To accomplish these safety and mobility goals, we have committed to mitigation and communication strategies that considerably exceed the requirements of the RFP. Some of these strategies are listed below, and are detailed on the following pages:

- Early opening of important portions of the new third thru lane on I-64;
- Analyzing existing safety concerns and mitigating them prior to major construction activities;
- Utilizing enhanced safety devices that exceed minimum requirements;
- A sequence of construction that minimizes lane closures;
- Limiting lane closure hours to smaller windows than the RFP allows to minimize public impacts;
- Utilizing construction access points directly from cross streets to the I-64 median to minimize trucks entering and exiting the work area directly from I-64;

- ***Increasing emergency pull-off lengths from the 200' RFP minimum to a more desirable 1320' listed in the Work Area Protection Manual;***
- Commitment to provide enhanced public communication outreach such as additional PCMS signs for motorist guidance and "Pardon our Dust" meetings; and
- A roadway design that avoids placing workers within the temporary barrier deflection zone.

TMP Philosophy

Our TMP and construction program is aimed at reducing the Project's anticipated impacts to the traveling public and exceeding the safety requirements of the RFP. Above all, our Team values the safety of all parties in every facet of design and construction. To aid the Team in achieving these goals, our Team brings the following important advantages for this Project:

- Shirley/Dewberry are the Lead Contractor and Lead Engineer for the adjacent I-64 Segment I project;
- Dewberry was the engineer for the next closest Design-Build project on I-64, the I-64 Pavement Rehabilitation project in Norfolk; and
- The Team has completed four similar interstate construction projects in Virginia within the past 10 years.

Our TMP and TTC plans will place a particularly heavy emphasis on eliminating the need for temporary lane closures to the extent possible, as we recognize the very important distinction that single lane closures on interstates with only two lanes in each direction have very high impacts on traffic, as traffic would be restricted to a single lane during these operations. To meet these high safety and mobility standards, the TTC and TMP plan development will be led by our Traffic Engineer, Jerry Mrykalo, who is a Professional Traffic Operations Engineer and certified as a VDOT Work Zone Traffic Control instructor. Additionally, our design engineers have completed our in-house Work Zone Traffic Control Training Program and are VDOT certified in the development of TTC and TMP plans, ***exceeding the requirements of the RFP.***

Sequencing of Work

As introduced in Section 4.5.1, the Project will be segmented into five areas (Areas 1 thru 5), each of which has unique construction and temporary traffic control features. Utilizing the Construction Stages and Sub-Stages as explained in Section 4.5.1 it allows our Team to efficiently construct the Project while also allowing for extra-long emergency pull-offs that honor the 1 mile maximum spacing in each sub-stage. We have carefully studied numerous options for the construction staging, which has resulted in the development of a plan that maximizes the lengths of pull-off shoulder areas while also allowing for the continuous protection of critical path elements such as the bridges and box culverts. This detailed and up-front planning provides our Team confidence that **we will open important portions of the new 3rd lane early while also providing regular "breaks" in work areas where 1320' long pull-off shoulder areas will be available to the public.**

For each of the five Work Areas, we have developed area-specific temporary traffic control strategies as highlighted on Exhibits 4.5.1 and 4.5.2 on pages 47 and 48. These exhibits depict the innovative phasing that we will use to safely maintain all lanes during construction based on the unique challenges presented in each area. Construction will be accomplished using concrete barrier for both worker and driver safety given the high traffic speeds and volumes, and smooth temporary lane shifts meeting the full geometric criteria will be utilized to maintain high levels of traffic mobility.

PROJECT MANAGER Shirley Contracting Company, LLC
SURVEYED BY, DATE
DESIGN BY Dewberry
SUBSURFACE UTILITY BY, DATE

SHIRLEY CONTRACTING COMPANY, LLC
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REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	64	0064-965-264, P-101, R-201, C-501	.

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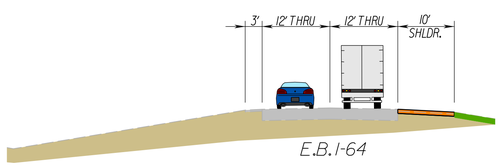
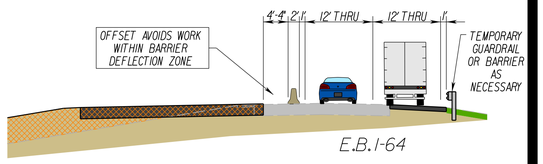
PENNIMAN RD BRIDGES

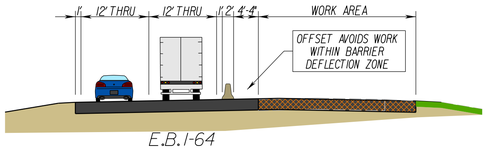
STAGE 1- Strengthen Outside Shoulders



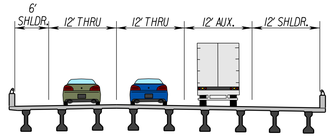
STAGE 2- Median Widening and Reconstruction



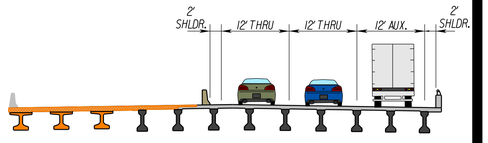
STAGE 3- Reconstruction of Existing Pavement



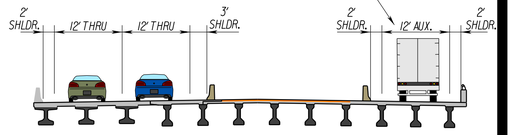
STAGE 1- No Work



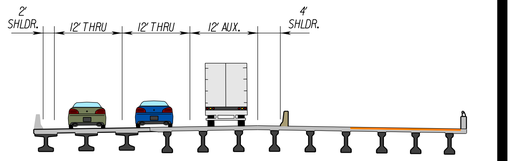
STAGE 2- Bridge Widening



STAGE 3A- Bridge Deck Rehabilitation



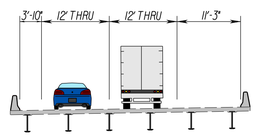
STAGE 3B- Bridge Deck Rehabilitation



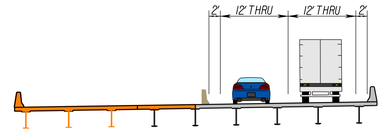
LEGEND
- Area 1
- Area 2
- Area 3
- Area 4
- Area 5

ROUTE 143 RAMP BRIDGE

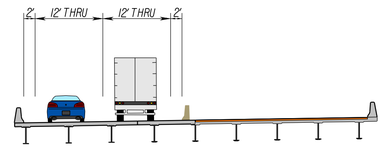
STAGE 1- No Work



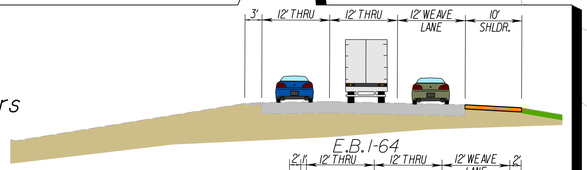
STAGE 2- Bridge Widening



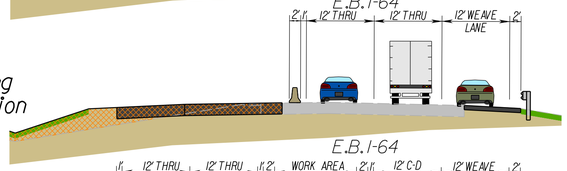
STAGE 3- Bridge Deck Rehabilitation



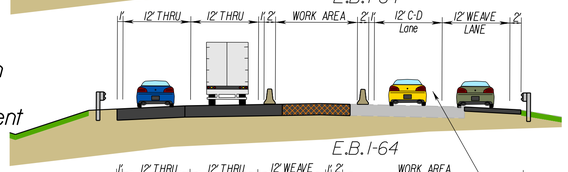
STAGE 1- Strengthen Outside Shoulders



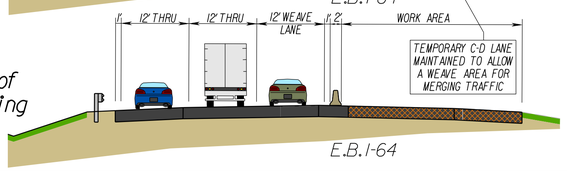
STAGE 2- Median Widening and Reconstruction



STAGE 3A- Reconstruction of Remaining Existing Pavement



STAGE 3B- Reconstruction of Remaining Existing Pavement



	PROJECT	SHEET NO.
	0064-965-264	.

PROJECT MANAGER Shirley Contracting Company, LLC
SURVEYED BY, DATE
DESIGN BY Dewberry
SUBSURFACE UTILITY BY, DATE

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	64	0064-965-264, P-101, R-201, C-501	.

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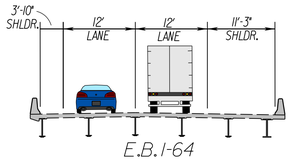
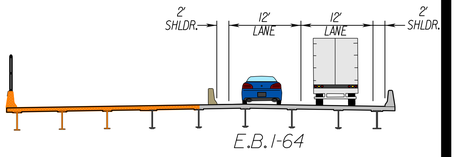
BURMA RD BRIDGE

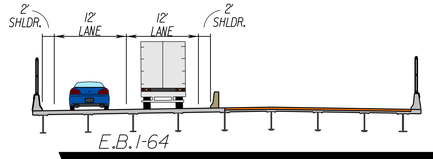
STAGE 1- No Work

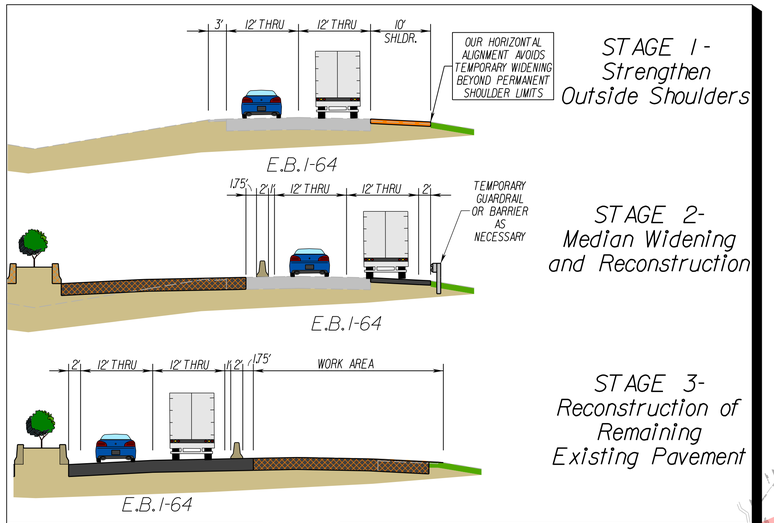


STAGE 2- Bridge Widening



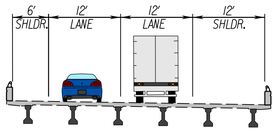
STAGE 3- Bridge Deck Rehabilitation



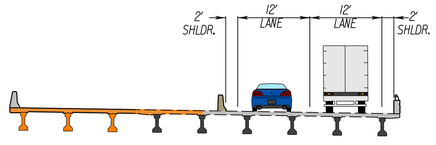


ROUTE 238 BRIDGES

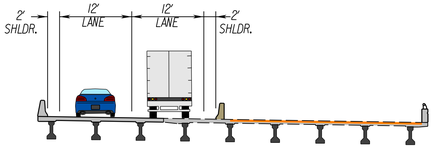
STAGE 1- No Work



STAGE 2- Bridge Widening



STAGE 3- Bridge Deck Rehabilitation



ROUTE 143 BRIDGES

STAGE 1- No Work

STAGE 2- Bridge Widening

STAGE 3- Bridge Deck Rehabilitation

LEGEND

- Area 1
- Area 2
- Area 3
- Area 4
- Area 5

	PROJECT	SHEET NO.
	0064-965-264	.

Traffic Control Details

As shown on Exhibits 4.5.1 and 4.5.2, our Team has developed a temporary traffic control strategy for this Project that minimizes stakeholder impacts. Immediately after beginning the design of the TMP upon project award, we will complete full detailed design on the site-specific Temporary Traffic Control (TTC) plans. The TTC plans will detail every specific element required during construction of the Project. These plans will be developed for each stage of construction to identify barrier and channelization locations, temporary sign locations, PCMS devices, construction access points, temporary pavement marking requirements and limits, temporary drainage requirements, areas of temporary and permanent construction, and all other requirements per VDOT's I&IM-241.5, Virginia Work Area Protection Manual, and the Manual on Uniform Traffic Control Devices (MUTCD).

Our Team also recognizes common shortfalls with TTC in work zones, and we are committed to avoiding these conditions with carefully design site specific temporary traffic control plans. For example, we ensure that barrier ends and impact attenuators are flared as far away from traffic as possible, as driver collisions with impact attenuators can result in high-severity crashes. Also, we know that temporary traffic barrier placement must be reviewed to ensure adequate drainage and snow removal capabilities are maintained. Technical highlights of our proposed plan is as follows:

I-64

- No long term lane closures planned and no temporary detours planned;
- Time of day restrictions will follow Part 2 Section 2.10.2 of the RFP, with additional restrictions self- imposed to further minimize public impact (see Lane Closure Impact Minimization Section on page 54). Temporary lane closures are anticipated for night time paving, shoulder improvements, placement of traffic barriers, delivery of materials, and bridge work;
- Temporary 20 minute maximum full stoppages on I-64 during overnight hours are only expected for overhead sign work;
- No flagging operations are anticipated;
- Minimum 12' wide lanes will be maintained (11' wide where a 9' shoulder is provided); and
- All temporary traffic shifts will be designed to meet the full posted speeds on I-64, exceeding the requirements of the Virginia Work Area Protection.

Interchange Ramps

- No long term lane closures planned;
- No long-term temporary detours planned (single-night temporary detours may be necessary for paving tie-ins, where overnight detours will be fully analyzed for traffic operations, fully signed with static and PCMS signs, and coordinated with applicable localities);
- Time of day restrictions will follow Part 2 Section 2.10.2 of the RFP, with additional restrictions self imposed to further minimize public impact (see Lane Closure Impact Minimization Section)
- Temporary 20 minute maximum full stoppages on I-64 during overnight hours are only expected for overhead sign work;
- No flagging operations are anticipated; and
- Minimum 12' wide lanes will be maintained

Penniman Road, Burma Road, Yorktown Road, and Jefferson Avenue

No long term lane closures planned on Penniman Road or Burma Road ***exceeding the requirements of the RFP.*** Yorktown Road and Jefferson Avenue are anticipated to be reduced to one lane in each direction to facilitate bridge construction, and will be coordinated with the City of Newport News;

- No long-term temporary detours planned;
- Time of day restrictions will follow Part 2 Section 2.10.2 of the RFP and locality requirements;
- Temporary 20 minute maximum full stoppages on I-64 during overnight hours are only expected for overhead bridge work;
- No flagging operations are anticipated; and
- Minimum 11' wide lanes will be maintained.

Our Team has taken the proactive step of already completing an analysis utilizing VDOT's TE-350.1 process to determine the appropriate posted speed limit during construction. Based on this analysis, **we recommend maintaining the existing posted speed limit of 65 mph (70 mph on the far western end)** for the following reasons:

- All temporary geometry and lane shifts will meet the standards for the full posted speed limit, exceeding the requirements of the RFP;
- Full 12' lane widths will be maintained on I-64; and
- In addition to minimizing motorist delay, research has proven that lowering speed limits where geometric conditions do not require the reduction actually lessen safety, since large deviations between driver's speeds commonly result in increased accidents.

This recommendation will be fully discussed with VDOT's Traffic Engineering staff, and we understand that the final determination will be made in coordination with the Regional Traffic Engineer post Award.

Unique Project Challenges & Solutions

Specific attention has been given to the unique challenges of the Project, with a focus on mitigation and communication strategies that maximize safety, minimize public impacts, and minimize schedule risk. By carefully studying these elements, our Team has devised the following unique solutions:

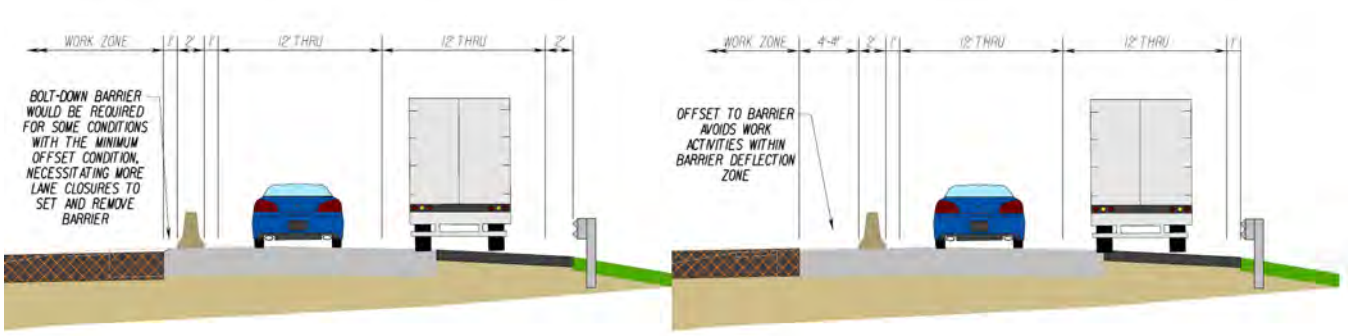
Stage 1 Existing Shoulder Strength

As shown on Exhibits 4.5.1 and 4.5.2 on pages 47 and 48, traffic will be shifted onto the existing outside shoulder during Stage 2 to facilitate median widening and pavement reconstruction. In order to accommodate the traffic loading, we anticipate this shoulder will require strengthening during Stage 1. Although the RFP specifies a minimum 6" temporary pavement section, we analyzed the required section based on existing available CBR values and anticipated traffic loading, and found that the 6" section will be insufficient. **Our Team will utilize a deeper section (if required) to avoid the risk of pavement deterioration.**

Worker Exposure

As discussed in Section 4.3, worker safety and ease of constructability was a large factor in our Team's decision to utilize a narrowed permanent median width. By constructing the permanent widening further into the median, this allows the work areas to be further separated from the existing travel lanes. Most importantly, this unique solution avoids placing workers within the deflection zone of the temporary barrier, which is a significant safety benefit that **exceeds the RFP requirements.** An illustration of this barrier offset is shown on Figure 17, which accommodates the full barrier deflection between the work area and the back of the barrier. This also avoids anchoring of the temporary barrier at locations such as the outside of tight curves, which has several of its own benefits including time savings, elimination of approximately 25 temporary lane closures for anchor placement and removal, and elimination of the worker exposure otherwise required for pinning.

Figure 17 - Barrier Offset



Median Construction Access

As discussed in the previous section regarding posted speed limit reductions, differences in speeds between vehicles is a leading cause of crashes. With this Project, we recognize the potential for these speed differentials when construction vehicles enter and exit the median work area. To mitigate this risk, our Team plans to utilize temporary access points from low speed cross streets (such as Penniman Road and Burma Road) to reduce the amount of construction traffic entering the work zone directly from I-64. **This direct access provides a significant safety benefit while also providing a mobility benefit for public traffic.** An example access point is illustrated in Figure 18 and will be coordinated with the localities. We also recognize the importance of avoiding truck traffic through residential areas, and will therefore have a specifically designed haul route plan for each access point (example below on right) that avoids these residential areas.

Figure 18 - Typical Construction Access and Detour Route

In the areas where direct access to the median from I-64 is necessary, we will provide full acceleration/deceleration lengths for trucks meeting AASHTO requirements to maximize safety and minimize impacts to public traffic. Also enhanced warning signs will be installed in advance of these locations, which will also be coordinated with local emergency responders to ensure swift response to any incidents.

Hurricane Evacuation Contraflow

Although provisions for evacuation contraflow are not required by the RFP, our Team commits to the following elements for the safety and efficiency of evacuating traffic:

- Suspension of all lane and shoulder closures during evacuation and post-storm-return;
- The placement of object markers (see image to right) on the back of temporary barrier to

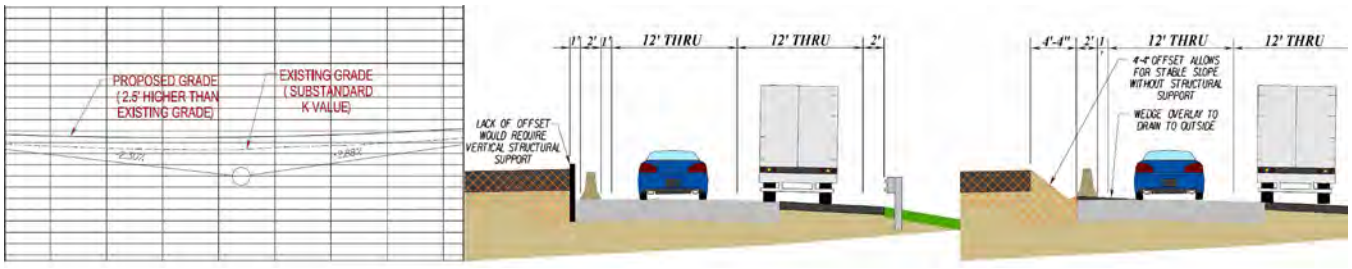
delineate the otherwise unmarked hazard immediately adjacent to the travel lane to avoid potential high-severity crashes; and

- Utilization of the Team's PCMS signs for applicable evacuation related messages in coordinated with the Virginia Department of Emergency Management and VDOT.

Construction of Vertical Adjustments

A major challenge associated with this Project is the reconstruction of the existing sag vertical curves in order to meet the current design standards, which results in the requirement to raise the vertical grade by up to 2 ½' in some areas. This presents a constructability challenge, as a limited offset between the work area and the temporary barrier could create a vertical drop off immediately behind the temporary barrier. To overcome this challenge, our Team's solution of the narrowed permanent median width allows a wide buffer between the work area and the temporary barrier, allowing for a gradual slope instead of a vertical drop. This avoids a potential hazard for drivers and workers, eliminates the constructability challenge of building the vertical adjustment immediately behind the barrier, and avoids the need for temporary shoring. See Figure 19.

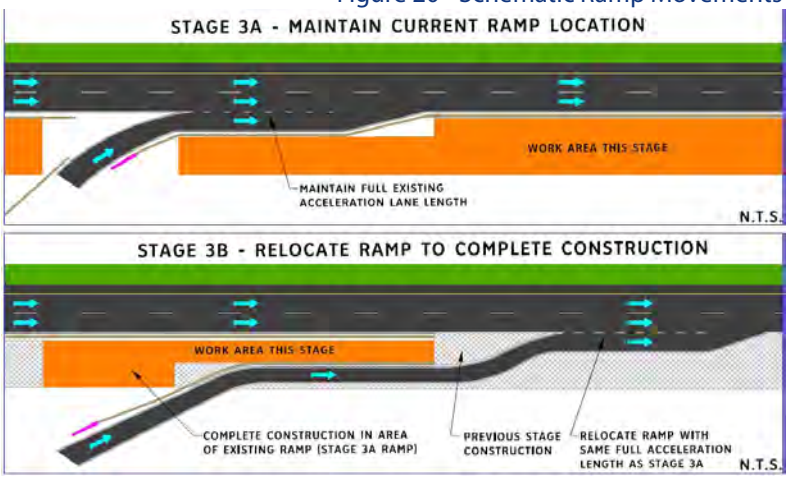
Figure 19 - Typical Section at Reconstruction of Existing Sag Vertical Curve



Maintenance of Ramp Movements

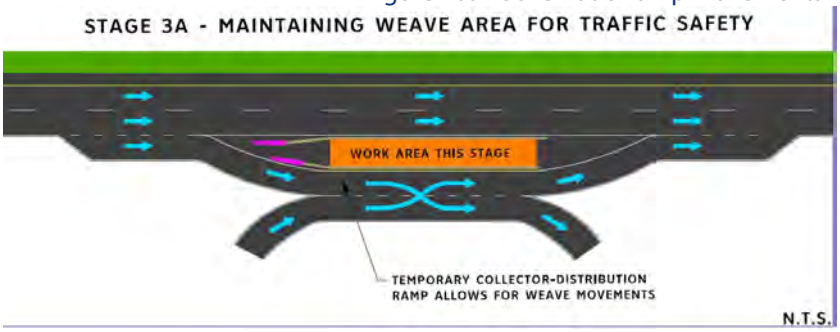
Another challenge in complete reconstruction projects, is the continuous maintenance of ramp movements. For "outer" ramps (non-loop ramps), our Team will sub-stage construction in these areas to provide continuous full length acceleration and deceleration lanes. This concept is pictured in Figure 20 for Stage 3 construction, which provides a great safety and operational benefit by avoiding shortened or eliminated acceleration lanes, where ramp traffic would need to stop or enter the thru lanes at low speeds.

Figure 20 - Schematic Ramp Movements



For the loop ramps at Route 199, a multi-stage approach is required to maintain the weave movements between the ramps at all times during construction. In this area, our Team's innovate solution is the creation of a temporary Collector-Distributor (C-

Figure 20a - Schematic Ramp Movements



D) ramp that allows the maintenance of the weave movements throughout construction by safely separating it from the thru lane during Stage 3 work. This configuration maintains full weave areas, and provides long deceleration and acceleration lanes into the temporary C-D roadway. This configuration is also easy for drivers to understand as the current separate Exit 242A & Exit 242B exit points will be maintained, with temporary guide signing installed to clearly communicate the slight shift in exit points. The conceptual configuration is shown in Figure 20a, which provides full mobility, easy navigation for drivers, and allows all re-construction activities to safely take place behind temporary barrier protection.

Maintenance of Overhead Signs and ITS Equipment

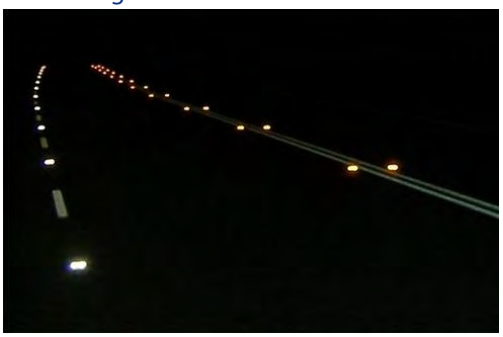
As we recognize the importance of maintaining full overhead guide signing and ITS devices for motorist information and traffic operations, we have developed a plan that puts on emphasis on the continuous maintenance of this critical infrastructure. For overhead signs, new replacement structures will be constructed prior to the removal of the existing structures. For ITS devices ***our optimized typical section eliminates the impacts to the majority of the existing conduits, cabinets, and poles, providing a tremendous benefit for the maintenance of ITS operations throughout construction.***

Investigation and Mitigation of Existing Safety Issues

We are committed to exceeding the RFP requirements and maximizing safety. Our Team has performed an investigation of existing crash statistics and safety concerns within the Project limits and has already developed approaches to mitigate these risks. ***Exceeding the RFP requirements,*** our Team will employ site-specific impact management strategies in order to maximize safety. Many of these safety improvements will be installed prior to major construction activities to mitigate existing safety concerns, as we intend to enhance public safety even while the permanent improvements are still in the design phase. Figure 21 shows the results of our investigation, as well as our proposed mitigation. In addition to installing enhancements on the existing roadway prior to construction, the following safety improvements will be utilized throughout the construction stages, such as:

Figure 21 - Mitigation Strategies at Existing Safety Concern Areas

Figure 22 - Raised Pavement Markers



- Full continuous temporary raised pavement markers for increased lane alignment visibility, especially at night and during wet pavement conditions (only required at lane shifts per the Work Area Protection Manual) (Figure 22);
- Utilization of thermoplastic pavement markings instead of paint markings on existing asphalt, which significantly improve marking visibility and eliminates the need for temporary lane closures that would be required to refresh paint markings;
- Use of wider than required lane lines for increased delineation of lane shifts on all roadways, and the use of temporary transverse rumble strips to alert motorists of possible lane closures on cross streets;
- Use of lane shifts a full 2X longer the required minimum shift length to avoid "abrupt" shifts for the high speed, high volume traffic on I-64. Use of this "forgiving" geometry is expected to reduce potential side-swipe and run-off-road crashes;
- The use of ¼ mile long emergency pull-offs meeting the desirable length listed in the Work Area Protection Manual (instead of the 200' minimum allowable length) that provide motorists and emergency responders with more refuge area, and allow for acceleration and deceleration for vehicles pulling into and out of the pull-offs;
- The placement of temporary barrier or guardrail along the edge of the I-64 outside shoulders where there are gaps in guardrail today, to provide protection for vehicles of roadside hazards as traffic is pushed towards these outside shoulders in Stage 2 of construction. This is a major safety enhancement, as a high proportion of interstate fatalities are a result of run-off-road fixed object strikes; and
- Monitoring of traffic and safety conditions during construction. Our Team commits to monitoring traffic and safety conditions in the work zone throughout construction, and reviewing conditions for safety upon implementation of new traffic control patterns. These reviews will be completed by traffic engineers to ensure that the controls have been implemented correctly, and to provide suggestions and recommendations for enhancements.

Lane Closure Optimization

When full construction starts, lane closure impact minimization will be critical when working along I-64. Our temporary traffic control strategy puts an emphasis on eliminating the need for temporary lane closures to the greatest extent possible.

Also, as our Team is constructing the adjacent I-64 Capacity Improvements Segment I Project, all operations will be fully and seamlessly coordinated to ensure that there will be no conflicting traffic control and that operations are minimized. For example, if both projects require a lane closure for work at the Project interface, work will be accomplished during a single closure as opposed to two separate closures, having a recognizable benefit to the traveling public.

Figure 23 - Lane Closure Request Form

To coordinate and communicate temporary traffic operations and lane closures, our Team utilizes a specifically developed scheduling "blocking plans" and "lane closure request forms" (Figure 23) as an enhancement exceeding the RFP

SHIRLEY CONTRACTING COMPANY, LLC
Dewberry

I-64 Capacity Seg. I - Lane/Shoulder Closure Request Form

VDOT Project No. (FO)0064-965-264 Contract ID No. C00104905DB75

List and Attach Applicable TTC Figure(s): **REQUEST No: 1** Completed By VDOT:

TTC-3.1 with Truck Mounted Attenuator (TMA). Will occupy either left or right shoulder (not both concurrently)

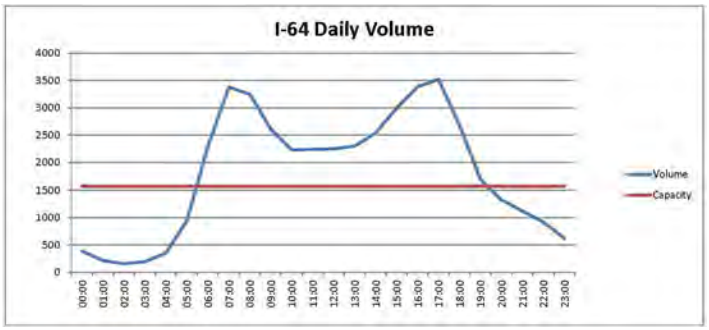
Highway/Ramp:	I64 - Yorktown Rd (Rt. 238). to Bland Blvd.	Date of Request:	3.25.2015
Direction:	East & West	Select Lane Closure Type:	
Date (s) Scheduled:	Monday March 30 thru Friday April 3		

Start Time:		End Time:	
M-Th:	9:30am		3:00pm
Fri:	9:30am		12:00pm
Sat:			
Sun:			

requirements. This detailed scheduling plan provides the Project Team the ability to fully understand the proposed work, and easily ensure that the correct traffic control setups are utilized to maximize safety. This also enables transparent communication between the Construction Team, VDOT, and public communications staff. Additionally, our Construction Team is trained and proficient in VDOT's LCAMS system for temporary lane closure management, which allows our Team the advantage of being able to check our proposed lane closures versus planned construction and maintenance activities by others to ensure conflicts do not exist, providing a measurable benefit to the Project.

To achieve the goals of maximizing safety and minimizing travel delays, we will collect updated 24-hour volume information along I-64 as an initial design activity. We recognize that the lane closure restriction times listed Section 2.10.2 of the RFP are to be followed, but we also recognize that the impacts of closing a single lane on I-64 are significantly greater than closing a single lane on a facility with multiple through lanes in each direction and we recognize that constantly changing traffic volumes may now be different than previously collected volumes.

Figure 24 - Traffic Analysis



To show our commitment, we already performed this traffic analysis utilizing the most recent available traffic data, which was counted in the spring of 2015 just to the east of the Segment II project. Figure 24 shows results on this preliminary 24-hour analysis. From this, our Team has determined which hours temporary lane closures may cause traffic backups and delays. This undesirable condition occurs when I-64 traffic volumes (shown with blue line) exceed the capacity of the remaining open travel lane (shown with red horizontal line).

This analysis will be updated by our Team during final design once our new 2015 data within the Project limits is available, and will be used to validate the lane closure schedule in Section 2.10.2 to ensure unintended delays will not occur due to possible recent changes in traffic patterns. Seasonal variations will also be considered, such as the impacts of beach traffic. Furthermore, ***our Team commits to re-counting traffic mid-way through construction to validate lane closures hours to ensure mobility impacts are minimized, providing a benefit that exceeds the RFP requirements.*** We can also utilize this data in development of the TMP to allow for construction activities that require lane closures to occur during the hours of lowest volume. For example, this hour-by-hour analysis will allow activities of a short duration, such as overhead sign erection, to occur during the hours of lowest volume within the longer allowable overnight lane closure window, ***providing a safety and travel time benefit that exceeds the RFP requirements.***

Stakeholder Communication and Mitigation Strategies

Our Team recognizes that proactive communication with all project stakeholders is essential to a successful TMP. As with any large scale transportation improvement project, some inconvenience is unavoidable, but our Team's goal is to minimize these impacts. ***We have proactively identified project stakeholders, and we have devised specific innovative communication and mitigation strategies that exceed the Project requirements.*** These include our commitment use additional PCMS signs for motorist guidance, committing to hold "Pardon our Dust" meetings, limiting lane closures and truck traffic entering / exiting the median, and enhanced safety devices. We understand that the Public Relations / Public Involvement scope will be determined via Work Order after award, ***but the enhancement measures listed above are***

included in our base bid at no additional cost to VDOT. These stakeholders, their potential impacts, and our planned communication and mitigation strategies are detailed in the table below.

Stakeholders	Impacts	Communication/Mitigation Strategies
Traveling Public	Minimal travel time delays for temporary operations	▪ Optimization of lane closure hours will limit closures to off-peak allowable hours of lowest volume ▪ All work operations behind barrier and will maximize lane widths ▪ Portable Changeable Message Signs and Twitter will be utilized for public notices ▪ Portable wireless CCTV traffic cameras to be utilized
Local Residents	Possible construction noise and construction activities close to their property	▪ Installation of noise barrier to provide relief of construction and traffic noise ▪ Coordination of construction activities with residential groups via notification and "Pardon Our Dust" meetings ▪ Limiting hauling activities to non-residential routes wherever possible
Schools James City County Public Schools York County Schools Newport News Public Schools Mt. Gilead Christian Academy College of William & Mary	Potential delays to school buses / transportation services	▪ Coordination of construction activities directly with school staff ▪ No lane closures during school bus operating hours when possible ▪ Advance notification of traffic pattern changes
Police, Fire & Rescue James City County Police & Fire York County Sheriff & Fire Newport News Police & Fire Kingsmill Police Virginia State Police Sentara Hospital	Potential response time impact	▪ Advance notification of temporary lane restrictions and changes to traffic patterns: ▪ Special emergency responder meetings to be held for engagement in our robust Incident Management Plan ▪ Representatives will be notified of approved lane closure requests, and provide a 24/7 contact ▪ Installation of additional mile markers and crossover markers to assist emergency responders in work zone
Adjacent Projects **I-64 Capacity Imp. Segment I** **Denbigh Blvd Bridge Replacement** **Penniman Road Improvements** **Pocahontas Trail Reconstruction**	Potential construction coordination impacts between projects	▪ Temporary lane closures will be coordinated internally ▪ Long-term traffic control set-ups will be coordinated internally to ensure seamless traffic flow between projects ▪ Resources such as PCMS signs can be coordinated and shared for major events ▪ Limiting hauling activities to non-attraction routes where possible
Area Attractions **Busch Gardens** **Water Country USA** **Local Golf Clubs** **Historical Attractions**	Potential impact to access routes	▪ Representatives will be notified of approved lane closures ▪ Limiting hauling activities to non-attraction routes wherever possible
Williamsburg Area Transport	Potential impacts to bus transit routes	▪ Notifications of work will be sent to transit operators in advance of traffic switches or detour implementation
Government/Military **Camp Peary Gov't. Facility** **Naval Supply Center – Cheatham Annex** **Yorktown Naval Weapons Station**	Potential impact to access routes	▪ Representatives will be notified of approved lane closures in advance
Industrial Facilities **Anheuser-Busch** **Walmart Distribution Center** **Carter Machinery** **Virginia Electric Power Substation**	Potential impacts to distribution and delivery truck routes	▪ Temporary traffic control along I-64 and ramps will be designed to accommodate heavy truck traffic ▪ The Construction Team will notify these stakeholders of major construction activities that may affect business operations (such as temporary stoppages for overhead sign work)

Our Promise

We are passionate about providing and maintaining a safe work zone, and we also always look for ways to improve traffic patterns not only after construction, but during construction. These approaches are applied here with our plan to use a multitude of improvements to communicate and mitigate impacts to the traveling public before, during, and after the Project's construction phase. In addition, as mentioned in Section 4.5.1 ***our Team commits to opening all lanes approximately 8 months ahead of the RFP requirements,*** providing a tremendous operational and safety benefit for the public as it will tie to the third eastbound lane in I-64 Segment I.

On several of our recent projects, we implemented interim improvements aimed solely at improving safety and traffic flow during construction. On this Project, we have already started on the "right foot" by introducing significant enhancements to the Project that exceed the requirements of the RFP. We look forward to designing and constructing this Project for VDOT, the local stakeholders, and interested parties, and to another successful design-build project with VDOT.

4.6 - Disadvantaged Business Enterprises

4.6 Disadvantaged Business Enterprises

Commitment to Achieving the DBE Goal

Shirley Contracting Company, LLC (Shirley) is committed to achieving the 12% DBE participation goal for the entire value of the Contract.

4.7 - Proposal Schedule

4.7 Proposal Schedule

4.7.1 Proposal Schedule

The Shirley Design-Build Team's Preliminary Proposal Schedule is provided at the end of Volume II - Design Concept.

4.7.2 Proposal Schedule Narrative

We have reviewed in detail the Project and schedule requirements of the RFP and has developed a Proposal Schedule outlining our plan to successfully manage all phases of this design-build contract. This schedule has been optimized to deliver the Project in the shortest amount of time possible while meeting the requirements of the RFP, minimizing impacts to road users and local stakeholders, protecting the environment and ensuring motorist's and worker's safety. Our Team plans to execute and deliver this Project by the May 24, 2019 Early Completion deadline and earn the full "No Excuse" Incentive offered in the RFP. As an added benefit, we intend to open all travel lanes to traffic by November 3, 2018. The installation of the final asphalt surface and pavement markings and the completion of the punch list items will be completed after the Project is opened to traffic in order to complete the Project by the May 24, 2019 Incentive Date.

This schedule is based on meeting the following Contract and Schedule Milestones:

Contract and Schedule Milestones	Date
Notice of Intent to Award	December 21, 2015
CTB Award / Notice of Award	January 20, 2016
Design-Build Contract Execution	January 27, 2016
Notice to Proceed	February 17, 2016
Commence Design Phase	February 17, 2016
VSMP Permits Approved (Hold Point)	July 14, 2016
Begin Stage 1 Construction	August 17, 2016
VDOT Issues Notice to Commence ROW Acquisition Plan	September 17, 2016
Complete Design Phase	November 14, 2016
Joint Permit Application Approved (Hold Point)	December 28, 2016
Notice to Commence Construction (Hold Point)	January 12, 2017
Begin Stage 2 Construction	January 12, 2017
Right-of-Way Acquisitions Complete	September 29, 2017
Begin Stage 3 Construction	March 10, 2018
Begin Stage 4 Construction	November 3, 2018
All Lanes Open to Traffic - Project Wide	November 3, 2018
Project Substantially Complete	April 11, 2019
Early Completion / "No Excuse" Incentive	May 24, 2019
Final Completion	July 26, 2019

Work Breakdown Structure

In order to deliver the Project ahead of schedule, our Team has developed a detailed Proposal Schedule in accordance with the RFP requirements. The Team has organized the schedule into a hierarchical Work Breakdown Structure (WBS) in order to demonstrate the relationships and activity durations amongst

the milestones, scope validation period, design, public involvement, environmental permitting, right-of-way acquisition, utility relocation, construction and project management disciplines. All elements of the design-build process are captured under these Level 1 tasks and are briefly described below:

A. ***Contract & Schedule Milestones/Scope Validation Period (Mile):*** Area reserved for easy review of the Project status. The Scope Validation Period has also been included in this section.
B. ***Design Phase (DES):*** Includes preliminary engineering services, geotechnical work, plan development, design QA/QC reviews, submittal milestones, and VDOT reviews and approvals of plans. This section includes a second level WBS structure to group design activities by type of design submission such as roadway and bridge. Third party coordination with Yorktown Naval Weapons Station, Busch Gardens & median landscaping, Cultural Resources and the City of Newport News has also been included in this section of the schedule includes activities and milestones for developing the planned public involvement process including communication plans, public information meetings, and updates to the Office of Public Affairs for major traffic shifts and the VDOT website.
C. ***Public Involvement (Public):*** This section includes activities and milestones for developing the planned public involvement process including communication plans, public information meetings, and updates to the Office of Public Affairs for major traffic shifts and the VDOT website.
D. ***Environmental (ENV):*** Includes wetland and stream delineations, jurisdictional determinations, permit management and preparation, mitigation, and permit submissions and reviews from the authorities having jurisdiction. Also included are hazardous material surveys, threatened and endangered species identification and assessment, noise analysis and sound wall design.
E. ***Right-of-way Acquisition (ROW):*** The acquisition of property rights is required to obtain permanent right-of-way as well as permanent and temporary construction and utility easements. We anticipate the acquisition of the properties will occur in 2017 during the Stage 2 median improvements phase. These properties are located adjacent to the Project and in areas where work is scheduled to be built during Stage 3 in 2018. The acquisition of right-of-way is not on the Critical Path of the Project using this strategy.
F. ***Utility (Util):*** Includes activities for utility relocation such as UFI meetings, preparation of plans and estimates (P&E), approval of plans and estimates, utility relocation design by the utility owner, approval of the utility design, and utility relocation. The utility relocations are separated into second level WBS groups based on utility owner. We have also segregated the utilities into potential conflict areas and no conflict areas in order to prioritize this process.
G. ***Construction including Project Management, Quality Control and Quality Assurance (Const):*** Includes all components of roadway and bridge construction including Project Management and the Quality Assurance/Quality Control processes required throughout construction. The Construction section of the schedule is segmented by additional levels of WBS structure to divide the construction activities into stages of work, areas of work, eastbound or westbound lanes and major portions of work such as Roadway, Bridge, Box Culvert or Noise Barrier activities. This strategy and grouping of work packages has proven to allow for easy and clear tracking of activity progress to ensure on-time completion and in the case of this Project, early completion.

The table shown on the next page is a complete outline of the WBS Structure for the Project:

WBS Path	WBS Name
I-64 Seg II	**I-64 Capacity Improvements - Segment II Contract: C001006665DB82**
I-64 Seg II Mile	**Schedule Milestones/Scope Validation Period**
I-64 Seg II.Des	**Design Phase**

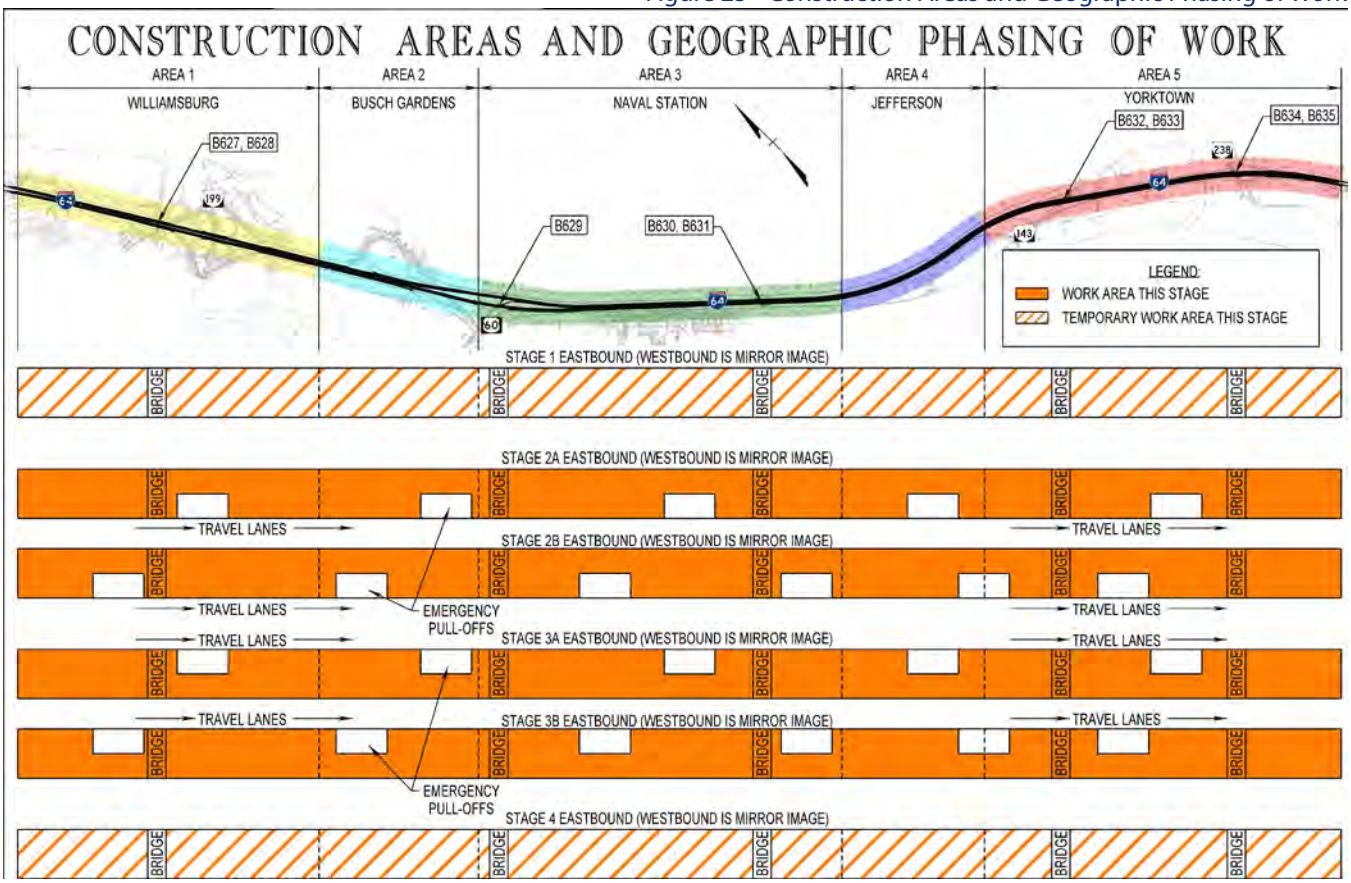
WBS Path	WBS Name
I-64 Seg II.Des.A	**Preliminary Design**
I-64 Seg II.Des.B	**Geotechnical Work**
I-64 Seg II.Des.C	**TMP & MOT Plans**
I-64 Seg II.Des.D	**Roadway Design**
I-64 Seg II.Des.E	**Bridge Design**
I-64 Seg II.Des.F	**Third Party Coordination**
I-64 Seg II.Public	**Public Involvement Phase**
I-64 Seg II.Env	**Environmental Permitting Phase**
I-64 Seg II.Env.A	Hazardous Materials
I-64 Seg II.Env.B	Virginia Storm water Management Program Permits
I-64 Seg II.Env.C	Threatened and Endangered Species
I-64 Seg II.Enc.D	Noise Analysis & Noise Barrier Design
I-64 Seg II.Env.E	Joint Wetlands Permit
I-64 Seg II.ROW	**Right-of-Way & Easement Acquisition**
I-64 Seg II.ROW.A	Acquisition Plan
I-64 Seg II.ROW.B	Public Properties
I-64 Seg II.ROW.C	Private Properties
I-64 Seg II.Util	**Utility Relocation Phase**
I-64 Seg II.Util.A	Preliminary - All Utilities
I-64 Seg II.Util.B	Potential Utility Conflicts
I-64 Seg II.Util.C	No Utility Conflicts
I-64 Seg II.Const	**Construction Phase incl Project Management**
I-64 Seg II.Const .PM	**Project Management**
I-64 Seg II.Const.PM.A	Preliminary/Startup
I-64 Seg II.Const.PM.B	Subcontractor & Material Procurement
I-64 Seg II.Const.PM.C	Working Drawings
I-64 Seg II.Const.PM.D	Fabricate Long Lead Time Items
I-64 Seg II.Const .QA/QC	**Quality Assurance and Quality Control**
I-64 Seg II. Const. QA/QC.A	Preliminary/General QA/QC
I-64 Seg II. Const. QA/QC.B	QA/QC Prep Meetings
I-64 Seg II.Const.S1	**Stage 1 Construction**
I-64 Seg II.Const.S1.EB	Stage 1 Construction EBL
I-64 Seg II.Const.S1.WB	Stage 1 Construction WBL
I-64 Seg II.Const.S2 A/B	**Stage 2 A/B Construction**
I-64 Seg II.Const.S2.A/B.EB.A1	Stage 2 A/B Construction EBL Area 1
I-64 Seg II.Const.S2. A/B. EB.A2	Stage 2 A/B Construction EBL Area 2
I-64 Seg II.Const.S2. A/B. EB.A3	Stage 2 A/B Construction EBL Area 3
I-64 Seg II.Const.S2. A/B. EB.A4	Stage 2 A/B Construction EBL Area 4
I-64 Seg II.Const.S2. A/B. EB.A5	Stage 2 A/B Construction EBL Area 5
I-64 Seg II.Const.S2. A/B. WB.A1	Stage 2 A/B Construction WBL Area 1
I-64 Seg II.Const.S2. A/B. WB.A2	Stage 2 A/B Construction WBL Area 2
I-64 Seg II.Const.S2. A/B. WB.A3	Stage 2 A/B Construction WBL Area 3
I-64 Seg II.Const.S2. A/B. WB.A4	Stage 2 A/B Construction WBL Area 4
I-64 Seg II.Const.S2. A/B. WB.A5	Stage 2 A/B Construction WBL Area 5
I-64 Seg II.Const.S3 A/B	**Stage 3 A/B Construction**

WBS Path	WBS Name
I-64 Seg II.Const.S3.A/B.EB.A1	Stage 3 A/B Construction EBL Area 1
I-64 Seg II.Const.S3. A/B.EB.A2	Stage 3 A/B Construction EBL Area 2
I-64 Seg II.Const.S3. A/B.EB.A3	Stage 3 A/B Construction EBL Area 3
I-64 Seg II.Const.S3. A/B.EB.A4	Stage 3 A/B Construction EBL Area 4
I-64 Seg II.Const.S3. A/B.EB.A5	Stage 3 A/B Construction EBL Area 5
I-64 Seg II.Const.S3. A/B.WB.A1	Stage 3 A/B Construction WBL Area 1
I-64 Seg II.Const.S3. A/B.WB.A2	Stage 3 A/B Construction WBL Area 2
I-64 Seg II.Const.S3. A/B.WB.A3	Stage 3 A/B Construction WBL Area 3
I-64 Seg II.Const.S3. A/B.WB.A4	Stage 3 A/B Construction WBL Area 4
I-64 Seg II.Const.S3. A/B.WB.A5	Stage 3 A/B Construction WBL Area 5
I-64 Seg II.Const.S4	**Stage 4 Construction**
I-64 Seg II.Const.S4.EB	Stage 4 Construction EBL
I-64 Seg II.Const.S4.WB	Stage 4 Construction WBL

Geography and Construction Staging

Our Team plans to build this Project in five geographic areas during 4 stages of construction. The limits of these areas and stages were carefully planned in order to construct the Project as safely and efficiently as possible while providing for long emergency pull-offs exceeding the requirements of the RFP (see Section 4.5.2 for details. Figure 25 illustrates and describes these areas and stages in greater detail:

Figure 25 - Construction Areas and Geographic Phasing of Work



The five geographic areas are defined by the following roadway stations:

- ***AREA 1*** - Station 1128 to 1213 EBL and 2128 to 2213 WBL including Bridges B-627, B-628, Box Culvert 603/604 and Box Culvert 605/608 (8,500 LF)
- ***AREA 2*** - Station 1213 to 1258 EBL and 2213 to 2258 WBL (4,500 LF)

- ***AREA 3 -*** Station 1258 to 1358 EBL and 2258 to 2358 WBL including Bridges B-629, B-630 and B-631 (10,000 LF)
- ***AREA 4 -*** Station 1358 to 1402 EBL and 2358 to 2402 WBL (4,400 LF)
- ***AREA 5 -*** Station 1402 to 1502 EBL and 2402 to 2502 WBL including Bridges B-632, B-633, B-634, B-635 and Box Culvert 607 (10,000 LF)

The four stages of construction are defined by the following work descriptions and areas:

- ***STAGE 1 -*** Outside Shoulder Strengthening in All Areas.
- ***STAGE 2 A/B-*** Median Improvements in Areas 1 thru 5 will consist of new paving and widening of nine new bridges.
- ***STAGE 3 A/B -*** Outside Improvements in Areas 1 thru 5 will consist of pavement reconstruction, bridge repairs, and bio-retention ponds.
- ***STAGE 4 -*** Final Asphalt Surface and Pavement Markings in All Area.

Our Proposal Schedule reflects the total time duration required to construct the work required in each Stage of the Project. Scheduling of the A and B sub stages necessary for the relocation of emergency pull-offs and the construction of deceleration and acceleration ramps (designated as Stages 2B and 3B above) are included in the time frames of this proposal schedule; and will be expanded and integrated into the Project baseline schedule after award of the contract and as the design progresses.

Alternating the work zones and idle areas in the proposed checkerboard pattern as shown in Figure 25 on the previous page allows our design-build team to strategically protect the Critical Path elements and efficiently construct the Project in the shortest time frame possible. Mobility impacts to the traveling public are minimized and construction access is maximized using this strategy.

Schedule Calendars

The following is a description of the calendars used for the scheduling of the Project.

Global Calendar: All calendars are based on 8 hour work days and include the following holidays: New Year's Day, Good Friday, Memorial Day, 4th of July, Labor Day, Thanksgiving, the day after Thanksgiving, and Christmas.
Calendar 1: "5-Day Workweek" – This calendar is based on five working days per week and is used for all design, administrative, as well as the majority of construction activities.
Calendar 2: "7-Day Calendar" – Assigned to activities that have durations based on calendar days instead of work days. For example VDOT's 21 calendar day review duration.
Calendar 3: "5-Day Winter Imp" – This calendar is based on working part-time from December 25 to March 10. It is assigned to activities that are anticipated to have reduced productivity during the winter months, such as placement of CCPRM or Bridge Deck Construction.
Calendar 4: "Winter Shutdown Calendar" - Assigned to activities that are unable to be performed during mid-December through mid-March due to cold weather. Activities such as Bridge Overlay work and Surface Asphalt are included.

Schedule Acronyms and Abbreviations

Each schedule activity has a unique description and is identified by stage, lane direction and area such as S2 A/B EB A2 (Stage 2A/B Eastbound Lane Area 2). Bridges are also identified such as B-632 (Bridge B-632). The following acronyms and abbreviations were used in preparation of the schedule activity descriptions:

Schedule Acronyms and Abbreviations	
A	AT&T
AHG	Agencies Having Jurisdiction
CA	Cable Associates
CC	Cox Communications
CCP or CCPRM	Cold Central Plant Recycling Material
CP	Colonial Pipeline
DVP	Dominion Virginia Power
DVPT	Dominion Virginia Power Transmission
F&E	Furnish and Erect
F&I	Furnish and Install
FDR	Full Depth Reclamation
FRPS	Form, Reinforce, Place, Strip
H&HA	Hydrologic and Hydraulic Analysis
HRSD	Hampton Roads Sanitation District
INST	Install
JPA	Joint Permit Application
L3	Level III Communications
MF	Metro Fiber
NNPS	Newport News Public Schools
NNW	Newport News Water
OG	Open Graded Asphalt
P/S	Prepare and Submit
P&E	Plan and Estimate
P&S/A	Prepare and Submit for Approval
P&S/C	Prepare & Submit for Comments
PERF	Perform
PICP	Public Information & Communication Plan
R/A	Review and Approve
R/C	Review and Comment
RC/RAP	Recycled Concrete/Recycled Asphalt Paving
RPM	Raised Pavement Marker
S	Sprint
S2B EB A4	Stage 2B Eastbound Lane Area 4
S/A	Submit for Approval
S/C	Submit For Comments
SPCCP	Spill Prevention, Control and Countermeasure Plan
SW	Sound Wall
SWPPP	Storm Water Pollution Prevention Plan
T&E	Threatened and Endangered Species
TMP	Transportation Management Plan
TS&L	Type, Size and Location
UFI	Utility Field Investigation
U/G	Underground
USN	United States Navy

Schedule Acronyms and Abbreviations	
VNG	Virginia Natural Gas
VSMP	Virginia Stormwater Management Program
VV	Verizon Virginia
W	Windstream
YC	York County
19MM	19MM Intermediate Asphalt Paving

Schedule Timing and Critical Path

The narrative below describes our Team's planned schedule and sequence of operations grouped by the Level I WBS Project disciplines. These include design, public involvement, environmental permitting, right-of-way acquisition, utility relocation, construction and project management. The sequencing of all disciplines was developed by considering the construction phasing of operations and determining the longest path to project completion with all factors considered including manpower, subcontractors, materials, design, environmental constraints and most importantly public safety and safety of the workforce. The Project phasing was developed based on the sequence and constraints shown in the RFP roadway and bridge concept plans and was further refined and developed by the team based on the geographic areas and additional phasing necessary to meet the MOT requirements and critical elements of work. We have divided the Project into five logical and manageable work areas that can be tracked and managed by dedicated supervision during construction as mentioned above while still providing extra long emergency pull-offs.

Design of the Project

This section of the schedule includes those activities necessary for preliminary design, geotechnical work, TMP/early MOT plans, roadway design, bridge design and third party coordination including engineering plan preparation and approvals. It also includes time for the necessary Design Quality Assurance/Quality Control reviews at multiple stages of the design process. As specified in the RFP we have included a 21-calendar day activity for VDOT review after each submission. The design phase also includes non-critical activities for the completion of surveys, test pits, H&HA studies, and geotechnical investigations, including a 90-calendar day activity for VDOT's review of the geotechnical report prior to submission of the final roadway and bridge plans.

Our Team begins the design phase of the Project immediately upon execution of the design-build Contract. The first formal plan submission occurs within three months of the January 6, 2016 Notice to Proceed (NTP) date and includes the first submission of roadway and bridge plans. The Preliminary Schedule reflects final approval of all roadway and bridge plans by October 11, 2016.

Critical Path activities in the design phase of the Preliminary Schedule include the 15 day property owner notice, establishment of survey controls, base mapping and surveys necessary to start the design process. Preparation, reviews, and approvals of the first two submissions (60%) of roadway plans are also critical in this phase as they will be the triggers to begin the Environmental Permitting as well as the right-of-way acquisitions process on the Project.

Public Involvement

The public involvement schedule includes submitting our emergency contact list upon NTP, developing our Public Information and Communication Plan (PICP) and holding Public Information Meetings in incremental stages during construction. This includes providing regular updates to the Office of Public

Affairs throughout the entire design-build process. The schedule includes the major milestone activities for the Public Information Meetings and major traffic changes. However, there are many other public involvement activities that our Public Relations Team with the leadership of Lynn Polizos will perform throughout the Project. These include holding meetings with local businesses and attending meetings with homeowners associations, local government representatives, and community groups. We also provide information for regular updates on weekly lane closure plans on a project website and also to VDOT for use on its website.

Environmental Permitting

Environmental Permitting process will begin at NTP with gaining access to affected property owners along the Project's corridor to begin the required Phase I environmental surveys. Our Team immediately performs wetland delineations, obtains jurisdictional determinations and prepares the Joint Wetlands and Water Permit Application. Following completion and acceptance of the 60% roadway and bridge plans we submit the necessary Permit Applications to the authorities having jurisdiction (AHJ). We anticipate that the Individual Permit for USACE as well as the Virginia Water Protection Permit #3 from DEQ will require a 126 calendar day approval time frame. Our Team also completes the requisite VDOT storm water forms (LD-445 series), and provides Storm water Pollution Prevention Plans (SWPPP) and related information for inclusion on the VDOT SWPPP General Information sheets. The LD 445/VSMP permit will be acquired by June 6, 2016 with the completion of all permitting by December 7, 2016. These permits allow construction grading and disturbance activities to begin by December 8, 2016.

Right-of-Way Acquisition

The acquisition of property rights is required to obtain permanent right-of-way as well as permanent and temporary construction and utility easements. The right-of-way required could impact the construction of the proposed Storm water Management and Bio-Retention Basins if not managed correctly. Our Team is very familiar with the right-of-way process as shown on the Proposal Schedule. We have used the historical average timeframes that we anticipate for acquisition of property rights either by agreed negotiation or by certificate of take. We do not anticipate that the property rights will become critical on this Project since no ROW acquisitions are required until Stage 3 of the Project. We will dedicate the necessary resources to ensure that schedule dates are adhered to and this process does not impact the Project completion.

Utility Relocations

Table 4.4.2 in Section 4.4 of our Technical Proposal lists the anticipated utility relocations and potential conflicts for the Project. To simplify and track the utility relocations, we created a WBS that groups the utility relocation activities by utility owner and Project location. This further allows us to coordinate the work with utility relocations using the construction sequencing. Within each utility owner group, we have included activities for holding the Utility Field Investigation (UFI) meeting, preparation of the plans and estimates by the utility owner, approval of the plans and estimates, design of the utility relocation, and relocation of the utility by area. The utility relocation schedule starts with formal UFI meetings held in the Spring of 2016 following completion of all utility test pits and progression of design documents to roughly 60%. This enables our Team to confirm and adjust our list of utility conflicts based on the field test pit data obtained prior to holding the formal UFI meetings. We continue this early coordination of utilities throughout the design phase of the Project to ensure that right-of-way and roadway plans are coordinated with the utility relocation plans. Currently, we are projecting that Cox Communications, Dominion Virginia Power, Metro Fiber and Virginia Natural Gas will require field relocation during construction. These dates are identified in our Proposal Schedule and linked to the appropriate construction activities. Utility relocations are not anticipated to be critical activities on this Project.

Construction Sequence

Project Management

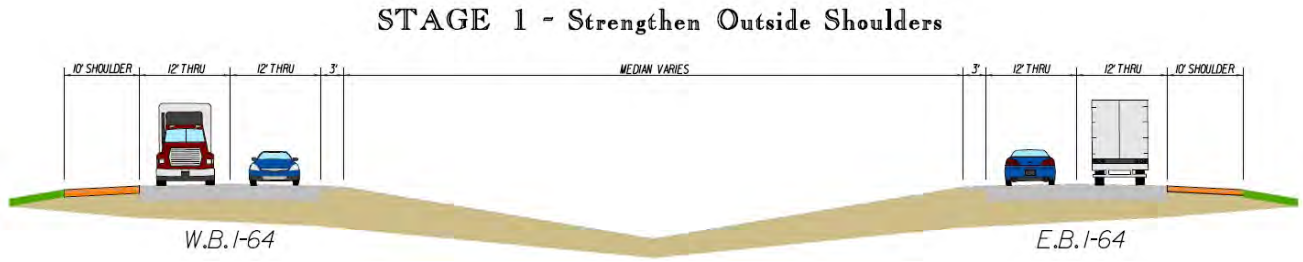
In this section of the schedule, we identified early construction activities such as schedule preparation, mobilization, submittals, subcontractor and major material procurement, production of shop drawings and fabrication of critical long lead time items such as Structural Steel, Precast Concrete Beams, Sound Walls and Overhead Signs.

Quality Assurance and Quality Control

In a separate WBS group we identified the QA/QC Activities for the Project. These include the submission and approval of the QA/QC plan and the Preparatory Meetings (Hold Points) that are required prior to commencing with construction activities. The overall Level of Effort for the QA/QC process is represented by a bar spanning all construction activities until final punch-out of the Project.

Construction Stage 1 - Shoulder Strengthening (Fall 2016)

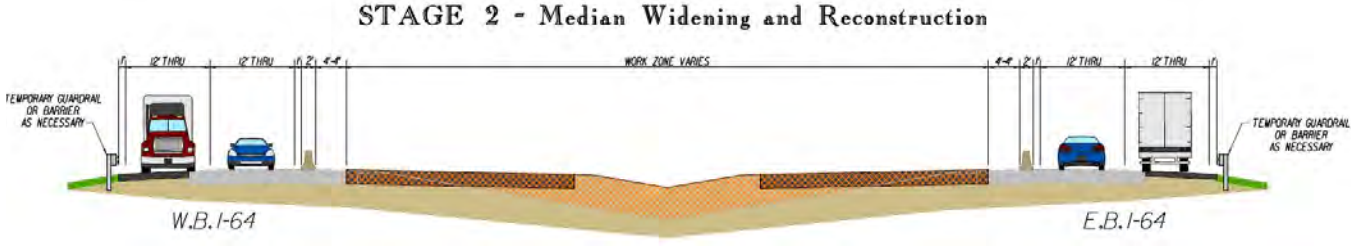
To allow room for the construction of the median portion of the Project, the existing I-64 eastbound and westbound travel lanes must be shifted to the outside shoulders temporarily. This is accomplished by strengthening the existing outside shoulder pavement prior to the shift. Since all of Stage 1 work for the Project is contained within existing VDOT right-of-way and requires no drainage adjustments, our Construction Team will begin the shoulder strengthening along the I-64 corridor in the Summer of 2016 upon approval of the TMP/Early MOT Plan Set and all necessary permits. We have done this on many of our design-build projects with VDOT having great success maximizing the opportunities for early completion. This allows the lanes shifts to be complete when permitting and final plan approval is obtained in early 2017.

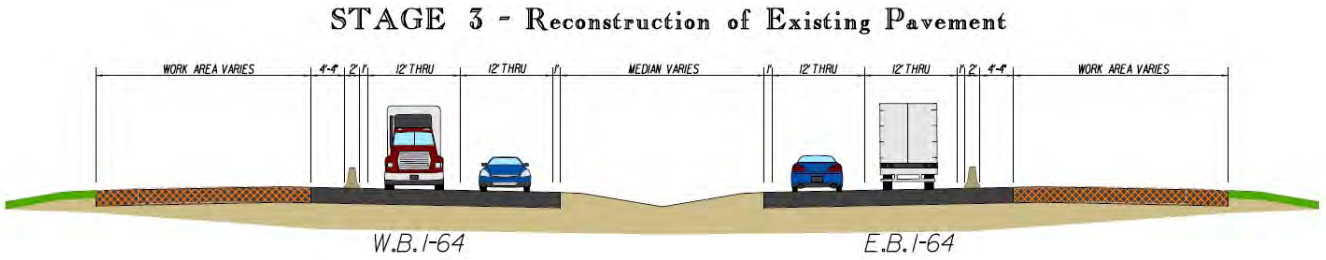


All work will be completed during night time operations utilizing temporary single lane closures adjacent to the work. At no time will this stage be opened to traffic without the paving being completed within 2" of the existing pavement surface. Temporary pavement markings will be placed on the new alignment to maintain 12' travel lanes and traffic will be shifted just prior to the placement of the temporary traffic barrier service.

Stage 2 A/B - Median Improvements in Areas 1 thru 5 (Spring 2017)

Once our Team shifts traffic at the completion of Stage 1, construction of the majority of the Project elements will begin. Specifically, Stage 2 consists of all of the new I-64 median new pavement widening, drainage improvements, two box culverts and nine new bridge widenings.





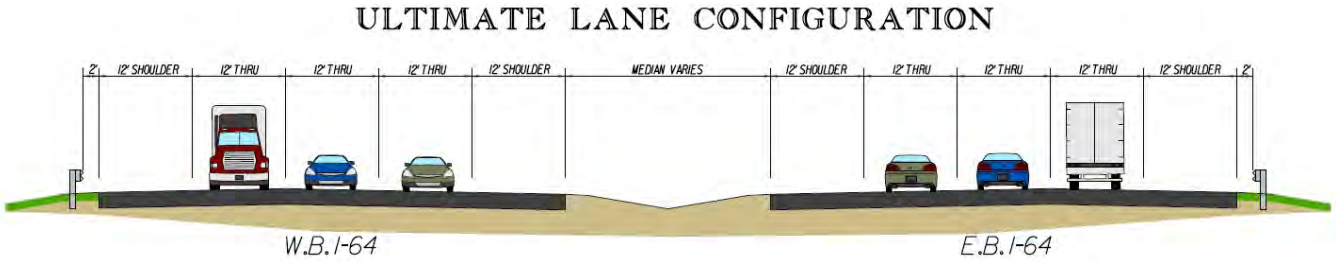
Stage 3 A/B - Outside Improvements in Areas 1 thru 5 (Spring 2018)

Stage 3 consists of reconstruction of the existing pavement areas, acceleration and deceleration ramp improvements, bridge repairs and latex overlays for the nine existing bridges, one Sound Wall, and constructing the storm water management/bioretention ponds on the outside portions of the Contract.

The bridge work in the outside construction areas is significantly different than the median construction portions of the Project. Bridge bearing replacement, bridge repairs, deck joint retrofit, latex overlays and structural steel recoating will be required rather than complete new bridge widenings. Stage 3 also includes the construction of the ITS work and installation of the overhead and cantilevered sign structures.

Stage 4 - Final Asphalt Surface and Pavement Markings - All Areas (Spring 2019)

Stage 4 will begin as traffic is shifted to the final lane configurations. At this point all lanes will be open to traffic on November 2018. The final asphalt surface, pavement markings and rumble strips will be installed during this Stage under traffic after traffic is switched. Substantial completion will be achieved once these items are completed. Final completion will be achieved once a punch list can be determined and completed.



Critical Path

The following is a summary of the critical path activities of the Proposal Schedule:

- Notice to Proceed
- Provide 15 day Notice to Property Owners
- Preliminary Surveying
- Roadway Design
- Submit for Approval Joint Permit Application
- Agency Review and Approve Joint Permit Application
- 14 Day Notification to AHJ to Begin Construction
- Stage 2 A/B Area 5 EB including Bridge B-632 Jefferson Avenue and Stage 2 A/B Area 5 WB including Bridge B-633 Jefferson Avenue
- Stage 3 A/B Area 5 EB Construction
- Stage 4 WBL Asphalt Surface and Pavement Markings
- Complete VDOT Punch List
- Early Completion Bonus
- 63 Day Decreasing Incentive Period
- Final Completion

A filtered list of all the critical activities has been attached for your reference and is located in the back of the full length Proposal Schedule.

Project Controls

Through our Team's experience delivering major design-build roadway projects ahead of schedule, we have developed scheduling protocols to govern the development, implementation, progress tracking, and recovery of the CPM schedule through all of the Project stages. These methods have proven effective as evidenced by the fact that every design-build project completed by our Team has finished either on time or ahead of schedule.

Schedule Development

For any design-build project, it is imperative that the Project Team develop a detailed CPM schedule that considers the interrelationships between all of the design-build disciplines. This is especially important on a project with extensive right-of-way and utility impacts that must be integrated into the design and construction sequencing. Our Team has developed the Preliminary Proposal Schedule included in this Proposal with a Work Breakdown Structure (WBS) that clearly delineates the tasks of each discipline manager, including project management, design, permitting, right-of-way, utilities, and construction.

In order to develop the overall detailed CPM Schedule, each discipline manager is responsible for producing a schedule to govern his own work and providing insight into how his schedule activities affect and are affected by activities in other disciplines. Once each manager has prepared their individual schedule, we hold schedule development meetings run by the Design-Build Project Manager and attended by all discipline managers to review the individual schedules and integrate them into the overall CPM Schedule. These meetings ensure that:

- The work packages within each discipline are comprehensive enough to define the work with no activities omitted;
- The work packages are integrated within each discipline and between disciplines to generate a clearly defined project Critical Path, confirm the critical path makes sense, and the schedule shows that the Project will complete on-time or ahead of schedule;
- Each discipline manager understands the schedules of the other disciplines and how their work inter-relates with the other disciplines;
- Each discipline manager understands how his work affects the critical path of the Project and the priorities of the D/B Project Manager and the other discipline managers; and
- The schedule meets or exceeds the requirements of the Contract.

These meetings enable our Team to create a detailed CPM Schedule that is jointly prepared by and agreed to by all of the discipline managers, providing realistic expectations of the schedule of work to be completed by all team members and third parties.

Throughout the design phase of the Project as more detailed plans are developed and utility conflicts are verified through test pitting, these meetings continue to further develop the CPM Schedule into the more detailed Baseline CPM Schedule. This schedule can then be utilized by all Team members to plan and track the progress of their work. It is submitted to VDOT for review and approval and utilized during the planning phases for utilities, permitting, right-of-way, design, and subcontractor/supplier scope and purchasing. Specific milestone dates from the CPM schedule will be written into subcontracts and purchase orders, making them contractually responsible for meeting schedule deadlines.

Procedures for Monitoring and Reporting Schedule Progress to Ensure Timely Project Completion

The key to effectively monitoring schedule progress is maintaining efficient communication between the discipline managers, resulting in constant coordination and schedule feedback. From the NTP date through the completion of design activities, our Team at a minimum will hold weekly Design Coordination Meetings which are run by the Design-Build Project Manager and attended by all discipline managers. Design Coordination Meetings have been a crucial tool on other design-build projects by facilitating face-to-face communication between the discipline managers. For each Design Coordination Meeting, the Design-Build Project Manager reviews the CPM Schedule and identifies all activities that were scheduled for completion the previous week or are planned for the next two weeks. During the meeting, the Project Team discusses the status of progress since the last meeting with actual dates for completed activities; critical completion dates for future activities; the addition or deletion of schedule activities as the design evolves (for example the identification of a new utility impact or the ability to design around a planned utility relocation); the impact of revised schedule dates on other activities and disciplines; identification of ways to advance the schedule ahead of the planned completion or mitigate schedule delays; and general design review, constructability, and determination of means and methods.

After each weekly meeting, the Design-Build Project Manager updates the CPM schedule and forwards copies of an updated "look-ahead" schedule to each of the discipline managers identifying the critical dates agreed to during the weekly design meeting. This process continues throughout the design, permitting, and ROW phases to ensure there is no slippage to the start of the utility relocation and construction stages. During the utility relocation and construction phases of the Project, the Design-Build Project Manager, Construction Manager, Designer Manager, QA Manager, QC Manager, and VDOT continue to meet weekly for a Construction Progress Meeting to coordinate necessary QA, QC, Independent Assurance (IA) and Independent Verification (IV) inspections. At each meeting, the Construction Manager reviews the work performed during the previous week and outlines the schedule activities that will be performed during the following two weeks.

An additional technique that our Team uses to monitor construction progress is the "Daily Shift Cost Report" (DSCR). At the end of each day, the construction field personnel compare the quantity of work, and the cost to do so, completed that day with the budgeted production and cost. Not only does this analysis provide an early indicator of cost concerns, but it also instantly highlights potential issues with the schedule by focusing on production rates. Religiously completing and reviewing the DSCR's allows the construction team to make immediate "real-time" adjustments to work crews, equipment, trucking, subcontractor resources, and material deliveries to adjust production rates in order to maintain the Project schedule. We also review and adjust the durations of future schedule activities based on the DSCR production rates to help identify and mitigate schedule concerns for the later stages of the Project.

In addition to weekly schedule meetings with VDOT, we also prepare and submit monthly schedule updates for review and approval by VDOT, including a narrative of the schedule modifications, updated activities, project issues affecting the schedule, and a description of the Critical Path with updated schedule milestones. These daily, weekly, and monthly reviews of production rates, activity durations, and overall schedule status enables us to identify and mitigate potential schedule delays to ensure early completion.

Procedures for Rescheduling Activities and Schedule Recovery

If during the course of the Project, we encounter delays to the Projects Critical Path, we will complete a Time Impact Analysis (TIA), re-sequence the schedule, and prepare a schedule recovery plan to reclaim lost time. This plan may include increasing work shifts, adding crews and resources to construct critical path activities concurrently, and changing MOT schemes or modifying the design to remove activities

from the Critical Path. If it is early in the Project at the time the delay is encountered, schedule recovery may require adjustments by any or all of discipline managers including, design, Permitting, right-of-way, utility relocation, and construction. However, if all other design-build disciplines have completed their tasks, re-sequencing the construction schedule by the Construction Manager will be the primary focus in order to mitigate the delay.

A relevant example of mitigating delays and initiating schedule recovery will be required on this Project in the event endangered and threatened species are encountered such as the Long Eared Bat or the Indiana Bat. Our Team is committed to resequencing the clearing and grubbing so that the work and the Project can be completed on time without delay if this occurs.

Mitigation of Major Delay Risks

Timely Review and Approval of Submittals

Upon Notice of Award, the our Team will prepare a submittal schedule identifying all submittals that are required for the Project. This schedule identifies the individual responsible for preparing the submittal, the anticipated submittal date, the parties responsible for reviewing and approving, the anticipated review durations, and a list of the individuals that must receive a copy of the approved submittal. At a minimum, the following submittals will be included:

- Design Submissions
- Permits
- QA/QC Plan
- CPM Schedule and Updates
- MOT and TMP Plans
- Materials Documentation, including Source of Supply and Shop Drawings

Submittals deemed critical to the success of the Project, including design and permitting submissions and major materials submissions (such as structural steel shop drawings), will be included in the Project CPM Schedule where the progress can be monitored concurrently with the affected construction activity. Each submittal includes a transmittal cover sheet identifying the submittal's priority level. For submittals between the contractor and design firm, normal priority submittals will be returned within four weeks; high priority submittals within two weeks and urgent submittals within three days. This also allows the Team to prioritize multiple submittals that are turned in concurrently. For submittals to government agencies and utilities, we include adequate review timeframes in the CPM Schedule for approval of environmental permits and utility submissions as applicable.

We also maintain a submittal log showing the status of all submittals. We will update the log with the submission and return of each submittal and will show the submission date, anticipated response date, priority, and status. The submittal log is reviewed at the weekly Design Coordination, Owner Progress, and Construction Progress meetings. It can easily be sorted to distribute lists of active and overdue submittals. We discuss issues affecting the timely completion of submittal reviews with the responsible party and a plan for resolving them are agreed to.

This process, along with diligent assessment of the CPM schedule, ensures that timely review of submittals will be constantly monitored and managed to ensure that no construction activities are delayed by the submittal process.

Utility Relocations

Some of the biggest risks to a design-build schedule involve public/private utility companies who do not have a vested interest in the Project and are not necessarily compelled to complete their work within the scheduled time constraints. To combat this risk, we have started our planning and coordination process for these utilities by meeting with each affected utility and discussing the Project, the utility impacts, potential relocation options, and discussing ways to accelerate the utility relocations after award of the Project.

We have facilitated these discussions through the preexisting relationships that we developed through other design-build projects. Our Utility Coordinator, Todd Kief has coordinated the relocations of over $50 million of utility relocations on our design-build projects over the last 13 years. This experience has enabled Todd to develop relationships with over 25 different utility owners including all of the utilities that will be impacted on the Project.

This early coordination enables us to identify opportunities to advance the utility relocations and minimize the risk for utility delays after NTP. The early personal contact with each utility enables us to manage their issues and concerns and allows us to build float into the utility relocation activities on the Project.

Summary

Our Team's comprehensive proposal preparation, proven experience in all phases of design-build, and extensive project controls and schedule management and recovery techniques will serve to ensure that the Project will complete ahead of schedule. Over the years, we have built a solid professional reputation on meeting our commitments, completing projects ahead of schedule and under budget, performing quality work in a safe work environment, and establishing a problem-solving atmosphere and partnership with the Owner. This is a result of our extensive experience, quality people, and corporate commitment. The I-64 Capacity Improvements - Segment II Project is a challenging and exciting project for our Team and is one that we will bring this same level of commitment to for the benefit of VDOT and all other Stakeholders.

Appendix

Technical Proposal Checklist

ATTACHMENT 4.0.1.1

I-64 CAPACITY IMPROVEMENTS – SEGMENT II

VDOT PROJECT NO.: 0064-965-264

TECHNICAL PROPOSAL CHECKLIST AND CONTENTS

Offerors shall furnish a copy of this Technical Proposal Checklist, with the page references added, with the Technical Proposal.

Technical Proposal Component	Form (if any)	RFP Part 1 Cross Reference	Included within page limit?	Technical Proposal Page Reference
Technical Proposal Checklist and Contents	Attachment 4.0.1.1	Section 4.0.1.1	no	N/A
Acknowledgement of RFP, Revisions, and/or Addenda	Attachment 3.6 (Form C-78-RFP)	Sections 3.6, 4.0.1.1	no	N/A
Letter of Submittal	NA	Sections 4.1		
Letter of Submittal on Offeror's letterhead	NA	Section 4.1.1	yes	1
Offeror's official representative information	NA	Section 4.1.1	yes	1
Authorized representative's original signature	NA	Section 4.1.1	yes	1
Declaration of intent	NA	Section 4.1.2	yes	1
120 day declaration	NA	Section 4.1.3	yes	1
Principal Officer information	NA	Section 4.1.5	yes	1
Final Completion Date	NA	Section 4.1.6	yes	1
Proposal Payment Agreement or Waiver of Proposal Payment	Attachment 9.3.1 or 9.3.2	Section 4.1.7	no	N/A
Certification Regarding Debarment Forms	Attachment 11.8.6(a) Attachment 11.8.6(b)	Section 4.1.8	no	N/A
Offeror's Qualifications	NA	Section 4.2		

ATTACHMENT 4.0.1.1

I-64 CAPACITY IMPROVEMENTS – SEGMENT II

VDOT PROJECT NO.: 0064-965-264

TECHNICAL PROPOSAL CHECKLIST AND CONTENTS

Technical Proposal Component	Form (if any)	RFP Part 1 Cross Reference	Included within page limit?	Technical Proposal Page Reference
Confirmation that the information provided in the SOQ submittal remains true and accurate or indicates that any requested changes were previously approved by VDOT.	NA	Section 4.2.1	yes	
Design Concept	NA	Section 4.3		
Conceptual Roadway Plans and description	NA	Section 4.3.1.1	yes	3-10, 59-73
Conceptual Structural Plans and description	NA	Section 4.3.1.2	yes	10-13, 74-83
Project Approach	NA	Section 4.4		
Environmental Management	NA	Section 4.4.1	yes	14-20
Utilities	NA	Section 4.4.2	yes	20-23
Geotechnical	NA	Section 4.4.3	yes	23-25
Quality Assurance/ Quality Control (QA/QC)	NA	Section 4.4.4	yes	26-33
Construction of Project	NA	Section 4.5		
Sequence of Construction	NA	Section 4.5.1	yes	34-45
Transportation Management Plan	NA	Section 4.5.2	yes	45-57
Disadvantaged Business Enterprises (DBE)	NA	Section 4.6		

ATTACHMENT 4.0.1.1

I-64 CAPACITY IMPROVEMENTS – SEGMENT II

VDOT PROJECT NO.: 0064-965-264

TECHNICAL PROPOSAL CHECKLIST AND CONTENTS

Technical Proposal Component	Form (if any)	RFP Part 1 Cross Reference	Included within page limit?	Technical Proposal Page Reference
Written statement of percent DBE participation	NA	Section 4.6	yes	58
DBE subcontracting narrative	NA	Section 4.6	yes	58
Proposal Schedule	NA	Section 4.7		
Proposal Schedule (to be included in Volume II)	NA	Section 4.7	no	N/A
Proposal Schedule Narrative (to be included in Appendix of Volume I)	NA	Section 4.7	no	N/A
Proposal Schedule in electronic format (CD-ROM)	NA	Section 4.7	no	N/A

Form C-78

ATTACHMENT 3.6

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION

RFP NO. C00106665DB82

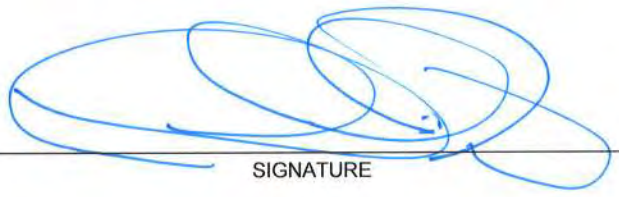
PROJECT NO.: 0064-965-264

ACKNOWLEDGEMENT OF RFP, REVISION AND/OR ADDENDA

Acknowledgement shall be made of receipt of the Request for Proposals (RFP) and/or any and all revisions and/or addenda pertaining to the above designated project which are issued by the Department prior to the Letter of Submittal submission date shown herein. Failure to include this acknowledgement in the Letter of Submittal may result in the rejection of your proposal.

By signing this Attachment 3.6, the Offeror acknowledges receipt of the RFP and/or following revisions and/or addenda to the RFP for the above designated project which were issued under cover letter(s) of the date(s) shown hereon:

1. Cover letter of July 21, 2015 – RFP (Date)
2. Cover letter of Sept. 15, 2015 – RFP Addendum No.1 (Date)
3. Cover letter of Sept. 23, 2015 – RFP Addendum No. 2 (Date)
4. Cover letter of Oct. 23, 2015 – RFP Addendum No. 3 (Date)



SIGNATURE

11/16/15

DATE

Michael E Post

PRINTED NAME

President/CEO/Manager

TITLE

Proposal Payment Agreement

ATTACHMENT 9.3.1
PROPOSAL PAYMENT AGREEMENT

THIS PROPOSAL PAYMENT AGREEMENT (this "Agreement") is made and entered into as of this 16th day of November, 2015, by and between the Virginia Department of Transportation ("VDOT"), and Shirley Contracting Company, LLC ("Offeror").

WITNESSETH:

WHEREAS, Offeror is one of the entities who submitted Statements of Qualifications ("SOQs") pursuant to VDOT's **April 21, 2015** Request for Qualifications ("RFQ") and was invited to submit proposals in response to a Request for Proposals ("RFP") for the **I-64 Capacity Improvements – Segment II, Project No. 0064-965-264** ("Project"), under a design-build contract with VDOT ("Design-Build Contract"); and

WHEREAS, as part of the procurement process for the Project, Offeror has already provided and/or furnished to VDOT, and may continue to provide and/or furnish to VDOT, certain intellectual property, materials, information and ideas, including, but not limited to, such matters that are: (a) conveyed verbally and in writing during proprietary meetings or interviews; and (b) contained in, related to or associated with Offeror's proposal, including, but not limited to, written correspondence, designs, drawings, plans, exhibits, photographs, reports, printed material, tapes, electronic disks, or other graphic and visual aids (collectively "Offeror's Intellectual Property"); and

WHEREAS, VDOT is willing to provide a payment to Offeror, subject to the express conditions stated in this Agreement, to obtain certain rights in Offeror's Intellectual Property, provided that Offeror submits a proposal that VDOT determines to be responsive to the RFP ("Offeror's Proposal"), and either (a) Offeror is not awarded the Design-Build Contract; or (b) VDOT cancels the procurement or decides not to award the Design-Build Contract to any Offeror; and

WHEREAS, Offeror wishes to receive the payment offered by VDOT, in exchange for granting VDOT the rights set forth in this Agreement.

NOW, THEREFORE, in consideration of the mutual covenants and agreements set forth in this Agreement and other good and valuable consideration, the receipt and adequacy of which are acknowledged by the parties, the parties agree as follows:

1. **VDOT's Rights in Offeror's Intellectual Property**. Offeror hereby conveys to VDOT all rights, title and interest, free and clear of all liens, claims and encumbrances, in Offeror's Intellectual Property, which includes, without restriction or limitation, the right of VDOT, and anyone contracting with VDOT, to incorporate any ideas or information from Offeror's Intellectual Property into: (a) the Design-Build Contract and the Project; (b) any other contract awarded in reference to the Project; or (c) any subsequent procurement by VDOT. In receiving all rights, title and interest in Offeror's Intellectual Property, VDOT is deemed to own all intellectual property rights, copyrights, patents, trade secrets, trademarks, and service marks in Offeror's Intellectual Property, and Offeror agrees that it shall, at the request of VDOT, execute all papers and perform all other acts that may be necessary to ensure that VDOT's rights, title and interest in Offeror's Intellectual Property are protected. The rights conferred herein to VDOT include, without limitation, VDOT's ability to use Offeror's Intellectual Property without the obligation to notify or seek permission from Offeror.

2. **Exclusions from Offeror's Intellectual Property**. Notwithstanding Section 1 above, it is understood and agreed that Offeror's Intellectual Property is not intended to include, and Offeror does not convey any rights to, the Escrow Proposal Documents submitted by Offeror in accordance with the RFP.

3. **Proposal Payment**. VDOT agrees to pay Offeror the lump sum amount of **Eighty-Five Thousand and 00/100 Dollars ($~~80~~85,000.00)** ("Proposal Payment"), which payment constitutes payment in full to Offeror for the conveyance of Offeror's Intellectual Property to VDOT in accordance with this Agreement. Payment of the Proposal Payment is conditioned upon: (a) Offeror's Proposal being, in the sole discretion of VDOT, responsive to the RFP; (b) Offeror complying with all other terms and conditions of this Agreement; and (c) either (i) Offeror is not awarded the Design-Build Contract, or (ii) VDOT cancels the procurement or decides not to award the Design-Build Contract to any Offeror.

4. **Payment Due Date**. Subject to the conditions set forth in this Agreement, VDOT will make payment of the Proposal Payment to the Offeror within forty-five (45) days after the later of: (a) notice from VDOT that it has awarded the Design-Build Contract to another Offeror; or (b) notice from VDOT that the procurement for the Project has been cancelled and that there will be no Contract Award.

5. **Effective Date of this Agreement**. The rights and obligations of VDOT and Offeror under this Agreement, including VDOT's ownership rights in Offeror's Intellectual Property, vests upon the date that Offeror's Proposal is submitted to VDOT. Notwithstanding the above, if Offeror's Proposal is determined by VDOT, in its sole discretion, to be nonresponsive to the RFP, then Offeror is deemed to have waived its right to obtain the Proposal Payment, and VDOT shall have no obligations under this Agreement.

6. Indemnity. Subject to the limitation contained below, Offeror shall, at its own expense, indemnify, protect and hold harmless VDOT and its agents, directors, officers, employees, representatives and contractors from all claims, costs, expenses, liabilities, demands, or suits at law or equity ("Claims") of, by or in favor of or awarded to any third party arising in whole or in part from: (a) the negligence or wilful misconduct of Offeror or any of its agents, officers, employees, representatives or subcontractors; or (b) breach of any of Offeror's obligations under this Agreement, including its representation and warranty under Section 8 hereof. This indemnity shall not apply with respect to any Claims caused by or resulting from the sole negligence or wilful misconduct of VDOT, or its agents, directors, officers, employees, representatives or contractors.

7. Assignment. Offeror shall not assign this Agreement, without VDOT's prior written consent, which consent may be given or withheld in VDOT's sole discretion. Any assignment of this Agreement without such consent shall be null and void.

8. Authority to Enter into this Agreement. By executing this Agreement, Offeror specifically represents and warrants that it has the authority to convey to VDOT all rights, title, and interest in Offeror's Intellectual Property, including, but not limited to, those any rights that might have been vested in team members, subcontractors, consultants or anyone else who may have contributed to the development of Offeror's Intellectual Property, free and clear of all liens, claims and encumbrances.

9. Miscellaneous.

a. Offeror and VDOT agree that Offeror, its team members, and their respective employees are not agents of VDOT as a result of this Agreement.

b. Any capitalized term used herein but not otherwise defined shall have the meanings set forth in the RFP.

c. This Agreement, together with the RFP, embodies the entire agreement of the parties with respect to the subject matter hereof. There are no promises, terms, conditions, or obligations other than those contained herein or in the RFP, and this Agreement shall supersede all previous communications, representations, or agreements, either verbal or written, between the parties hereto.

d. It is understood and agreed by the parties hereto that if any part, term, or provision of this Agreement is by the courts held to be illegal or in conflict with any law of the Commonwealth of Virginia, validity of the remaining portions or provisions shall not be affected, and the rights and obligations of the parties shall be construed and enforced as if the Agreement did not contain the particular part, term, or provisions to be invalid.

e. This Agreement shall be governed by and construed in accordance with the laws of the Commonwealth of Virginia.

IN WITNESS WHEREOF, this Agreement has been executed and delivered as of the day and year first above written.

VIRGINIA DEPARTMENT OF TRANSPORTATION

By: _____

Name: _____

Title: _____

Shirley Contracting Company, LLC

By: _____

Name: Michael E. Post

Title: President/CEO/Manager

Debarment Forms

ATTACHMENT 11.8.6(a)
CERTIFICATION REGARDING DEBARMENT
PRIMARY COVERED TRANSACTIONS

Project No.: 0064-965-264
Contract ID: C00106665DB82

1) The prospective primary participant certifies to the best of its knowledge and belief, that it and its principals:

a) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency.

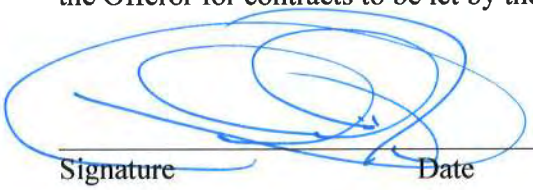
b) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; and have not been convicted of any violations of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification, or destruction of records, making false statements, or receiving stolen property;

c) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph 1) b) of this certification; and

d) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

2) Where the prospective primary participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

The undersigned makes the foregoing statements to be filed with the proposal submitted on behalf of the Offeror for contracts to be let by the Commonwealth Transportation Board.



10/2/15 President/CEO/Mgr

Signature Date Title

Michael E Post

Shirley Contracting Company, LLC

Name of Firm

ATTACHMENT 11.8.6(b)
CERTIFICATION REGARDING DEBARMENT
LOWER TIER COVERED TRANSACTIONS

Project No.: 0064-965-264
Contract ID: C00106665DB82

1) The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.

2) Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

The undersigned makes the foregoing statements to be filed with the proposal submitted on behalf of the Offeror for contracts to be let by the Commonwealth Transportation Board.

Dave Mahoney 10/1/15 — Executive Vice President

Signature Date — Title

Dewberry Consultants LLC

Name of Firm

ATTACHMENT 11.8.6(b)
CERTIFICATION REGARDING DEBARMENT
LOWER TIER COVERED TRANSACTIONS

Project No.: 0064-965-264
Contract ID: C00106665DB82

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The undersigned makes the foregoing statements to be filed with the proposal submitted on behalf of the Offeror for contracts to be let by the Commonwealth Transportation Board.

Elizabeth Quinn September 17, 2015 President

Signature Date Title

Quinn Consulting Services, Inc.

Name of Firm

ATTACHMENT 11.8.6(b)
CERTIFICATION REGARDING DEBARMENT
LOWER TIER COVERED TRANSACTIONS

Project No.: 0064-965-264
Contract ID: C00106665DB82

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Signature	9/17/15 Date	President Title

GeoConcepts Engineering, Inc.
Name of Firm

ATTACHMENT 11.8.6(b)
CERTIFICATION REGARDING DEBARMENT
LOWER TIER COVERED TRANSACTIONS

Project No.: 0064-965-264
Contract ID: C00106665DB82

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Signature	Date	Title
	9/17/15	President

Name of Firm: Accompong Engineering Group LLC

ATTACHMENT 11.8.6(b)
CERTIFICATION REGARDING DEBARMENT
LOWER TIER COVERED TRANSACTIONS

Project No.: 0064-965-264
Contract ID: C00106665DB82

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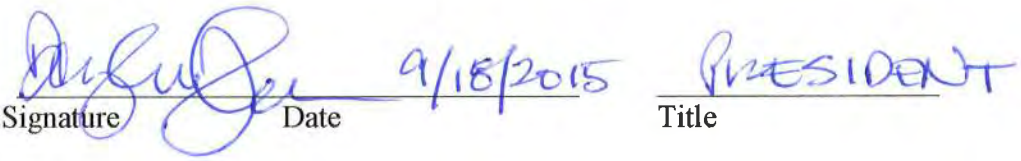

Signature Date 9/18/2015 Title PRESIDENT

BRYANT CONTRACTING, INC.
Name of Firm

ATTACHMENT 11.8.6(b)
CERTIFICATION REGARDING DEBARMENT
LOWER TIER COVERED TRANSACTIONS

Project No.: 0064-965-264
Contract ID: C00106665DB82

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J. Randy Wirt 9/21/15 VICE PRESIDENT
Signature Date Title

ECS MID-ATLANTIC, LLC
Name of Firm

ATTACHMENT 11.8.6(b)
CERTIFICATION REGARDING DEBARMENT
LOWER TIER COVERED TRANSACTIONS

Project No.: 0064-965-264
Contract ID: C00106665DB82

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Signature D. Mark Scholefield, P.E.	September 16,2015 Date	Principal Title

Geotechnical Environmental and Testing Solutions, Inc. d/b/a GET Solutions, Inc.
Name of Firm

ATTACHMENT 11.8.6(b)
CERTIFICATION REGARDING DEBARMENT
LOWER TIER COVERED TRANSACTIONS

Project No.: 0064-965-264
Contract ID: C00106665DB82

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Signature	9/17/15	President
Signature	Date	Title

Skelly and Loy, Inc.
Name of Firm

ATTACHMENT 11.8.6(b)
CERTIFICATION REGARDING DEBARMENT
LOWER TIER COVERED TRANSACTIONS

Project No.: 0064-965-264
Contract ID: C00106665DB82

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The undersigned makes the foregoing statements to be filed with the proposal submitted on behalf of the Offeror for contracts to be let by the Commonwealth Transportation Board.

Signature	9/17/15 Date	Partner Title

Pulsar Advertising, Inc.
Name of Firm

ATTACHMENT 11.8.6(b)
CERTIFICATION REGARDING DEBARMENT
LOWER TIER COVERED TRANSACTIONS

Project No.: 0064-965-264
Contract ID: C00106665DB82

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Signature	Date	Title
[signature]	9/17/15	Executive Vice President

Accumark, Inc.
Name of Firm

ATTACHMENT 11.8.6(b)
CERTIFICATION REGARDING DEBARMENT
LOWER TIER COVERED TRANSACTIONS

Project No.: 0064-965-264
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W. J. McKeague 9/17/2015
Signature Date

William J. McKeague

Vice President
Title

Quantum Spatial, Inc.
Name of Firm

ATTACHMENT 11.8.6(b)
CERTIFICATION REGARDING DEBARMENT
LOWER TIER COVERED TRANSACTIONS

Project No.: 0064-965-264
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The undersigned makes the foregoing statements to be filed with the proposal submitted on behalf of the Offeror for contracts to be let by the Commonwealth Transportation Board.

Adrienne E. Dibble 9/16/15 President

Signature Date Title

Diversified Property Services, Inc.

Name of Firm

SEP 21 2015

ATTACHMENT 11.8.6(b)
CERTIFICATION REGARDING DEBARMENT
LOWER TIER COVERED TRANSACTIONS

Project No.: 0064-965-264
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The undersigned makes the foregoing statements to be filed with the proposal submitted on behalf of the Offeror for contracts to be let by the Commonwealth Transportation Board.

R Robert Rucker 9-16-15 Settlement officer

Signature Date Title

Old Dominion Settlements, Inc., T/A Key Title

Name of Firm

ORIGINAL

Response to Request for Proposals

I-64 CAPACITY IMPROVEMENTS - SEGMENT II

Newport News, York County and James City County, Virginia

State Project Nos.: 0064-965-264, P101, R201, C501, B627, B628, B629, B630, B631, B632, B633, B634, B635, D603, D604, D605, D606, D607, D608

Federal Project Nos.: IM-965-5 (086)

Contract ID No.: C00106665DB82

VOLUME II: DESIGN CONCEPT

SUBMITTED BY:

SHIRLEY CONTRACTING COMPANY, LLC

IN ASSOCIATION WITH:

Dewberry®

LIMITED ACCESS HIGHWAY — By Resolution of Highway Commission dated October 4, 1956

PROJECT MANAGER Shirley Contracting Company, LLC.
SURVEYED BY, DATE
DESIGN BY Dewberry
SUBSURFACE UTILITY BY, DATE

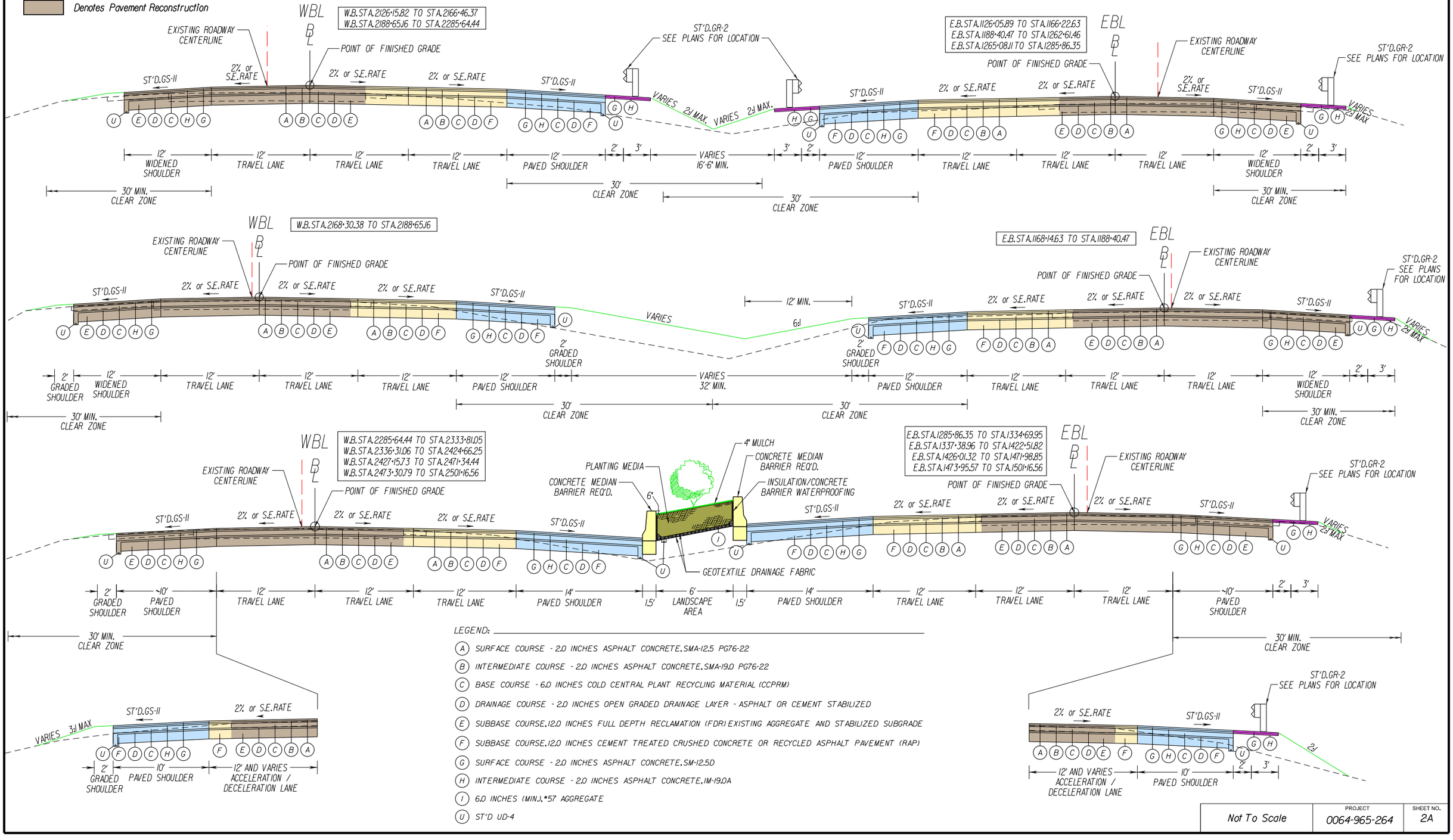
REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	64	0064-965-264, P-101, R-201, C-501	2A

SHIRLEY CONTRACTING COMPANY, LLC
Dewberry®

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

TYPICAL SECTIONS

Denotes Prop. Pavement
Denotes Prop. Paved Shoulder
Denotes Prop. Paving Beneath Guardrail (MC-4)
Denotes Pavement Reconstruction



LEGEND:

- (A) SURFACE COURSE - 2.0 INCHES ASPHALT CONCRETE, SMA-12.5 PG76-22
- (B) INTERMEDIATE COURSE - 2.0 INCHES ASPHALT CONCRETE, SMA-19.0 PG76-22
- (C) BASE COURSE - 6.0 INCHES COLD CENTRAL PLANT RECYCLING MATERIAL (CCPRM)
- (D) DRAINAGE COURSE - 2.0 INCHES OPEN GRADED DRAINAGE LAYER - ASPHALT OR CEMENT STABILIZED
- (E) SUBBASE COURSE, 12.0 INCHES FULL DEPTH RECLAMATION (FDR) EXISTING AGGREGATE AND STABILIZED SUBGRADE
- (F) SUBBASE COURSE, 12.0 INCHES CEMENT TREATED CRUSHED CONCRETE OR RECYCLED ASPHALT PAVEMENT (RAP)
- (G) SURFACE COURSE - 2.0 INCHES ASPHALT CONCRETE, SM-12.5D
- (H) INTERMEDIATE COURSE - 2.0 INCHES ASPHALT CONCRETE, IM-19.0A
- (I) 6.0 INCHES (MIN.) #57 AGGREGATE
- (U) ST'D UD-4

Not To Scale	PROJECT 0064-965-264	SHEET NO. 2A

$TIME$STAMP$

LIMITED ACCESS HIGHWAY By Resolution of Highway Commission dated October 4, 1956

PROJECT MANAGER Shirley Contracting Company, LLC
SURVEYED BY, DATE
DESIGN BY Dewberry
SUBSURFACE UTILITY BY, DATE

LEGEND

- Denotes Proposed Pavement
- Denotes Proposed Paved Shoulder
- Denotes Pavement Reconstruction
- Denotes Reduction in Right-of-way Impact
- Denotes Bridge Deck
- Denotes Raised Landscape Median
- Denotes Tree Save Area

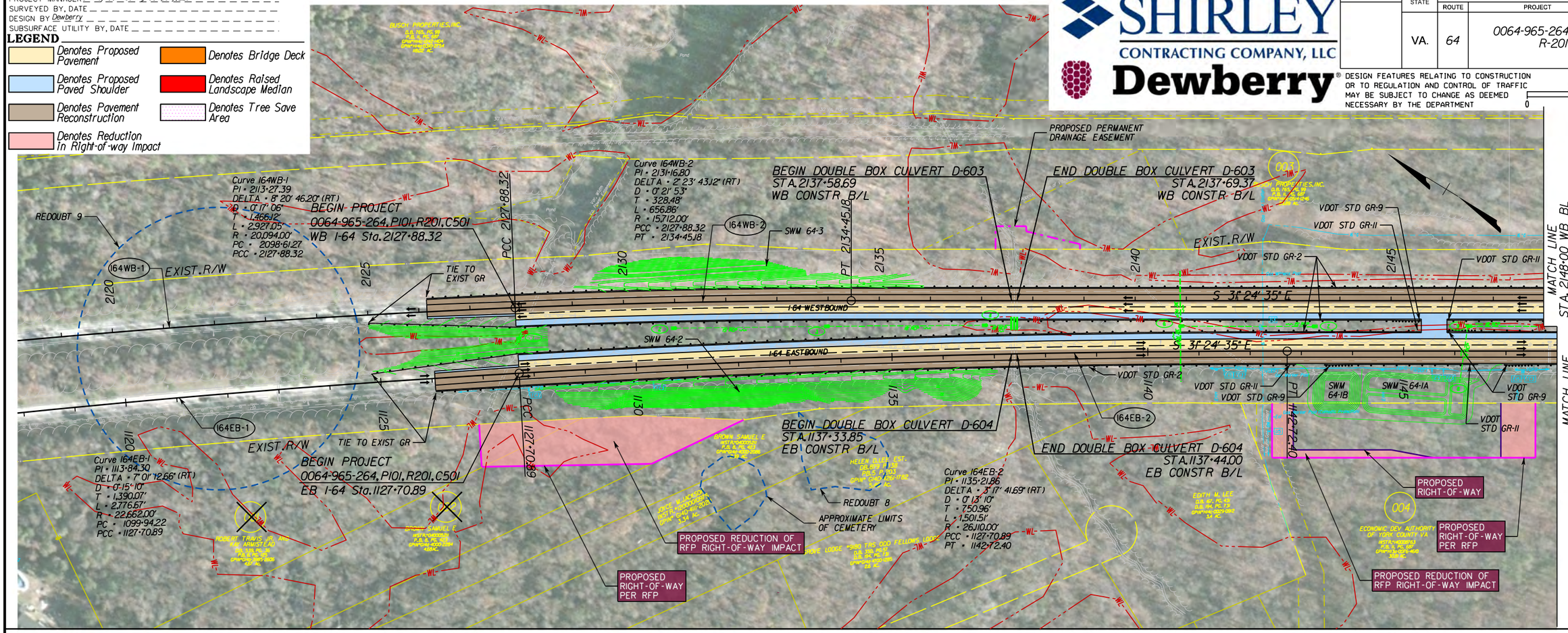
SHIRLEY CONTRACTING COMPANY, LLC

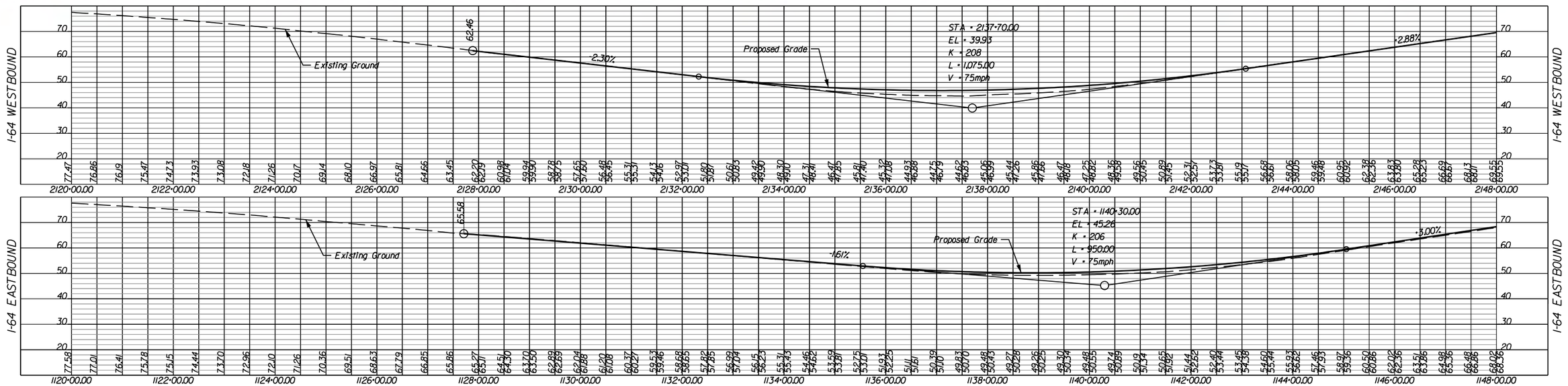
Dewberry®

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

SCALE 0 100' 200'

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	64	0064-965-264, P-101, R-201, C-501	3





PROJECT	SHEET NO.
0064-965-264	3

LIMITED ACCESS HIGHWAY By Resolution of Highway Commission dated October 4, 1956

PROJECT MANAGER Shirley Contracting Company, LLC
SURVEYED BY, DATE
DESIGN BY Dewberry
SUBSURFACE UTILITY BY, DATE

LEGEND

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SHIRLEY CONTRACTING COMPANY, LLC

Dewberry

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

SCALE 0 100' 200'

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	64	0064-965-264, P-101, R-201, C-501	4

MATCH LINE STA. 2148+00 WB BL SEE SHEET 3

MATCH LINE STA. 2176+00 WB BL SEE SHEET 5

MATCH LINE STA. 1148+00 EB BL SEE SHEET 3

MATCH LINE STA. 1176+00 EB BL SEE SHEET 5

VDOT STD GR-9

VDOT STD GR-2

VDOT STD GR-11

EXIST. R/W

I-64 WESTBOUND

I-64 EASTBOUND

S 31° 24' 35" E

S 32° 10' 25" E

S 30° 38' 45" E

PI 2162+59.08

PI 2166+15.36

PI 1162+40.40

PI 1165+08.68

BEGIN BRIDGE B-627
Sta. 2166+46.37 WB
CONSTR BL

END BRIDGE B-627
Sta. 2168+30.38 WB
CONSTR BL

BEGIN BRIDGE B-628
Sta. 1166+22.63 EB
CONSTR BL

END BRIDGE B-628
Sta. 1168+14.63 EB
CONSTR BL

PROPOSED TEMPORARY CONSTRUCTION EASEMENT

PROPOSED TEMPORARY CONSTRUCTION EASEMENT BPPS REC'D

PENNIMAN RD

TIE TO EXIST GR

SWM 64-4

REDUCED MEDIAN WIDTH TO AVOID OUTSIDE SLOPE IMPACTS & INCREASE CONSTRUCTION SAFETY

PROPOSED REDUCTION OF RFP RIGHT-OF-WAY IMPACT

PROPOSED RIGHT-OF-WAY PER RPF

REDUCED MEDIAN WIDTH TO 60ft TO AVOID OUTSIDE SLOPE IMPACTS & INCREASE CONSTRUCTION SAFETY

BUSCH PROPERTIES, INC.

BA KERNER PROP IOB STAFFORD COURT LLC

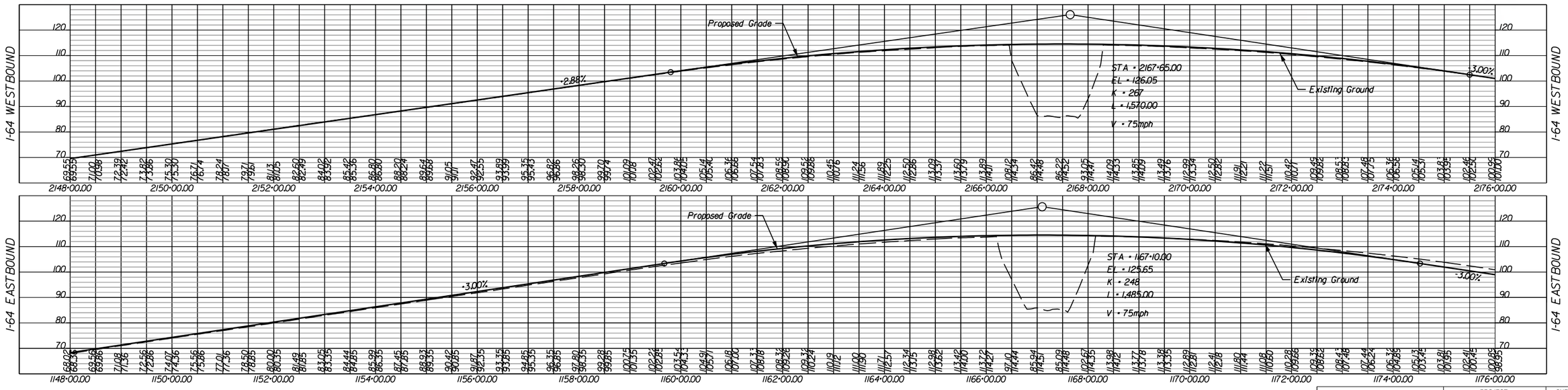
BAKERNER PROPERTIES 701 ALEXANDER LLC

ECONOMIC DEV AUTHORITY OF YORK COUNTY VA

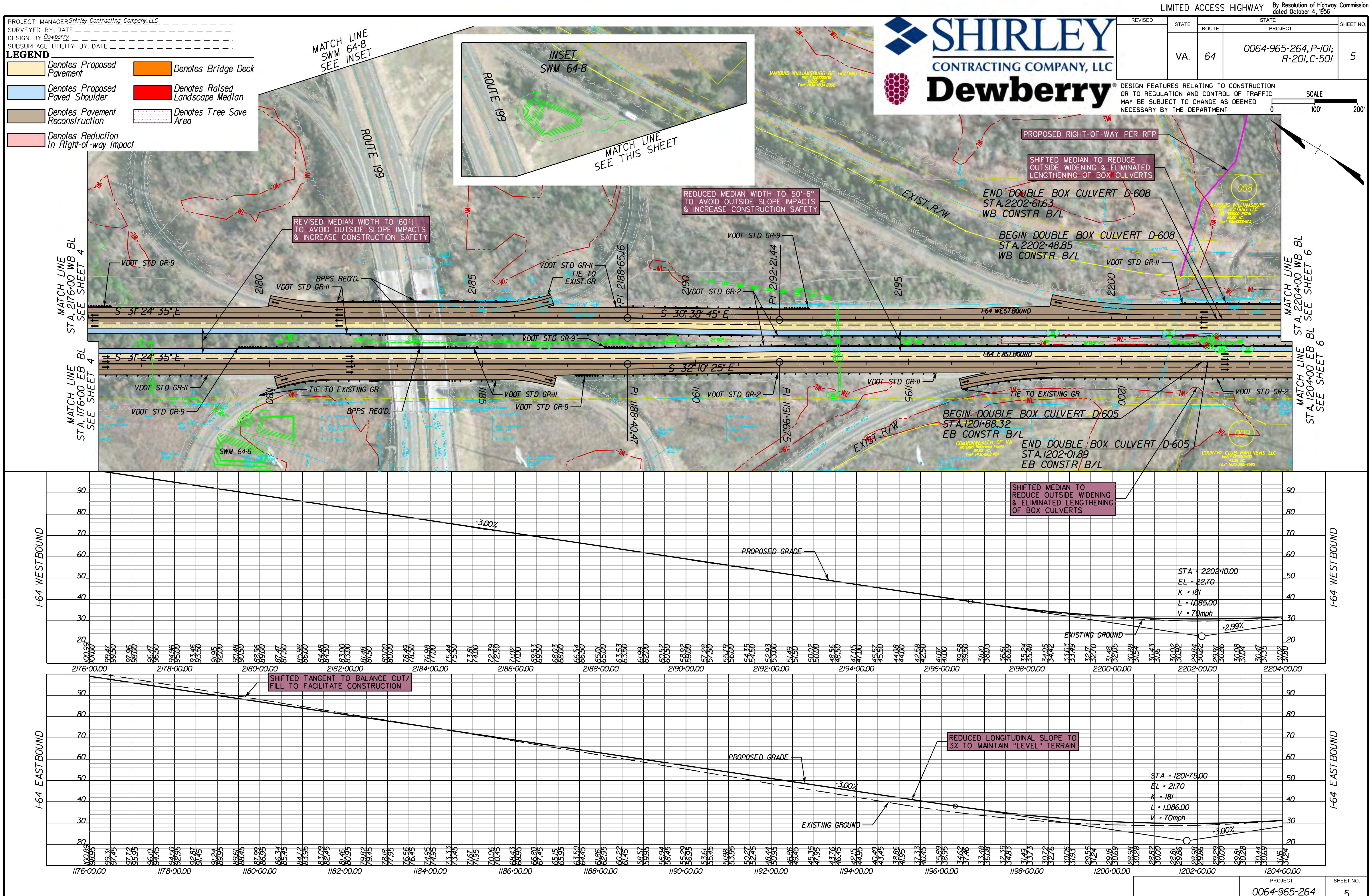
JOHN GRIER CONSTRUCTION COMPANY

PENNIMAN EAST HOA ASSOC INC

PARSONS TYMESONIC SERVICES



PROJECT	SHEET NO.
0064-965-264	4


LIMITED ACCESS HIGHWAY
By Resolution of Highway Commission dated October 4, 1956
PROJECT MANAGER Shirley Contracting Company, LLC
SURVEYED BY, DATE
DESIGN BY Dewberry
SUBSURFACE UTILITY BY, DATE
LEGEND
Denotes Proposed Pavement
Denotes Bridge Deck
Denotes Proposed Paved Shoulder
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Denotes Tree Save Area
Denotes Reduction In Right-of-way Impact
SHIRLEY CONTRACTING COMPANY, LLC
Dewberry
REVISED
STATE
ROUTE
PROJECT
SHEET NO.
VA.
64
0064-965-264, P-101; R-201, C-501
5
DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT
SCALE
0
100'
200'
INSET SWM 64-8
ROUTE 199
MATCH LINE SEE THIS SHEET
MATCH LINE SWM 64-8 SEE INSET
PROPOSED RIGHT-OF-WAY PER RFP
SHIFTED MEDIAN TO REDUCE OUTSIDE WIDENING & ELIMINATED LENGTHENING OF BOX CULVERTS
END DOUBLE BOX CULVERT D-608
STA. 2202+61.53
WB CONSTR B/L
BEGIN DOUBLE BOX CULVERT D-608
STA. 2202+48.85
WB CONSTR B/L
REDUCED MEDIAN WIDTH TO 50'-6" TO AVOID OUTSIDE SLOPE IMPACTS & INCREASE CONSTRUCTION SAFETY
REVISED MEDIAN WIDTH TO 60ft TO AVOID OUTSIDE SLOPE IMPACTS & INCREASE CONSTRUCTION SAFETY
EXIST. R/W
VDOT STD GR-9
VDOT STD GR-11
VDOT STD GR-2
BPPS REQ'D.
TIE TO EXIST. GR
TIE TO EXISTING GR
PI 2188+65.16
PI 2192+21.44
PI 1188+40.47
PI 1191+96.75
S 31° 24' 35" E
S 30° 38' 45" E
S 32° 10' 25" E
I-64 WESTBOUND
I-64 EASTBOUND
MATCH LINE STA. 2176+00 WB BL SEE SHEET 4
MATCH LINE STA. 1176+00 EB BL SEE SHEET 4
MATCH LINE STA. 2204+00 WB BL SEE SHEET 6
MATCH LINE STA. 1204+00 EB BL SEE SHEET 6
SWM 64-6
BEGIN DOUBLE BOX CULVERT D-605
STA. 1201+88.32
EB CONSTR B/L
END DOUBLE BOX CULVERT D-605
STA. 1202+01.89
EB CONSTR B/L
008
009
MARQUIS WILLIAMSBURG RE HOLDING LLC
COUNTRY CLUB PARTNERS LLC
COMMONWEALTH OF VA
SHIFTED MEDIAN TO REDUCE OUTSIDE WIDENING & ELIMINATED LENGTHENING OF BOX CULVERTS
I-64 WESTBOUND
-3.00%
PROPOSED GRADE
STA = 2202+10.00
EL = 22.70
K = 181
L = 1,085.00
V = 70mph
+2.99%
EXISTING GROUND
2176+00.00
2178+00.00
2180+00.00
2182+00.00
2184+00.00
2186+00.00
2188+00.00
2190+00.00
2192+00.00
2194+00.00
2196+00.00
2198+00.00
2200+00.00
2202+00.00
2204+00.00
I-64 EASTBOUND
SHIFTED TANGENT TO BALANCE CUT/FILL TO FACILITATE CONSTRUCTION
REDUCED LONGITUDINAL SLOPE TO 3% TO MAINTAIN "LEVEL" TERRAIN
PROPOSED GRADE
-3.00%
EXISTING GROUND
STA = 1201+75.00
EL = 21.70
K = 181
L = 1,086.00
V = 70mph
+3.00%
1176+00.00
1178+00.00
1180+00.00
1182+00.00
1184+00.00
1186+00.00
1188+00.00
1190+00.00
1192+00.00
1194+00.00
1196+00.00
1198+00.00
1200+00.00
1202+00.00
1204+00.00
PROJECT
0064-965-264
SHEET NO.
5

LIMITED ACCESS HIGHWAY By Resolution of Highway Commission dated October 4, 1956

PROJECT MANAGER Shirley Contracting Company, LLC
SURVEYED BY, DATE
DESIGN BY Dewberry
SUBSURFACE UTILITY BY, DATE

LEGEND

- Denotes Proposed Pavement
- Denotes Proposed Paved Shoulder
- Denotes Pavement Reconstruction
- Denotes Reduction in Right-of-way Impact
- Denotes Bridge Deck
- Denotes Raised Landscape Median
- Denotes Tree Save Area

SHIRLEY CONTRACTING COMPANY, LLC

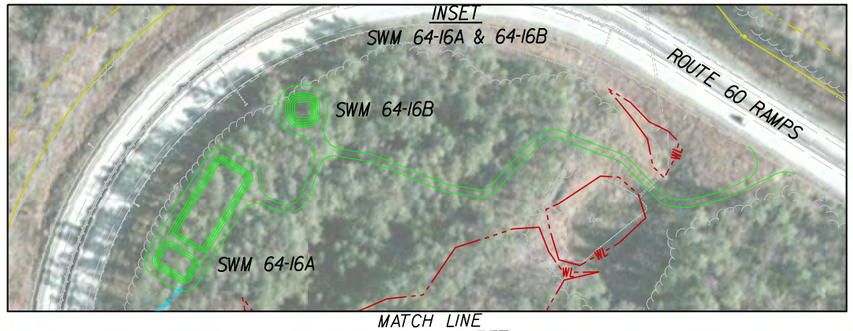
Dewberry

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

SCALE 0 100' 200'

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	64	0064-965-264, P-101, R-201, C-501	6

INSET
SWM 64-16A & 64-16B

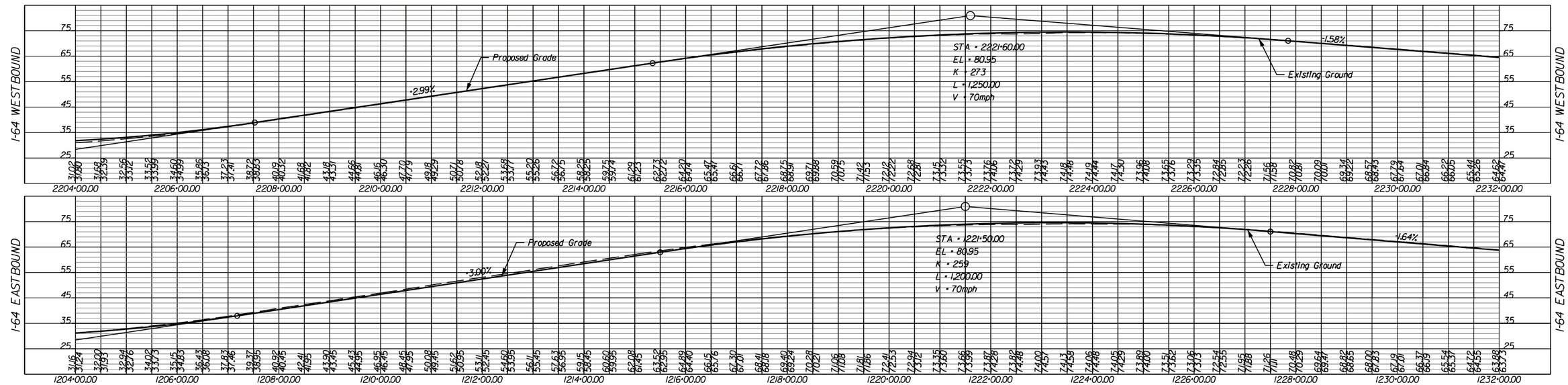


MATCH LINE
SEE THIS SHEET

MATCH LINE
SWM 64-16A & SWM 64-16B
SEE INSET

PROPOSED REDUCTION OF RFP RIGHT-OF-WAY IMPACT
PROPOSED RIGHT-OF-WAY PER RFP
PROPOSED RIGHT-OF-WAY
REDUCED MEDIAN WIDTH TO 50'-6" TO AVOID OUTSIDE SLOPE IMPACTS & INCREASE CONSTRUCTION SAFETY
PROPOSED PERMANENT DRAINAGE EASEMENT
PROP.NOISE WALL
ROUTE 60 RAMPS
EXIST.R/W
SWM 64-11
SWM 64-16
SWM 64-15A
SWM 64-15B
VDOT STD GR-9
VDOT STD GR-2
VDOT STD GR-11
I-64 WESTBOUND
I-64 EASTBOUND
S 31° 24' 35" E
008 — 009 — 010

MATCH LINE STA.1204+00 WB BL SEE SHEET 5
MATCH LINE STA.1232+00 WB BL SEE SHEET 7
MATCH LINE STA.1204+00 EB BL SEE SHEET 5
MATCH LINE STA.1232+00 EB BL SEE SHEET 7



PROJECT	SHEET NO.
0064-965-264	6

LIMITED ACCESS HIGHWAY By Resolution of Highway Commission dated October 4, 1956

PROJECT MANAGER Shirley Contracting Company, LLC
SURVEYED BY, DATE
DESIGN BY Dewberry
SUBSURFACE UTILITY BY, DATE

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Dewberry

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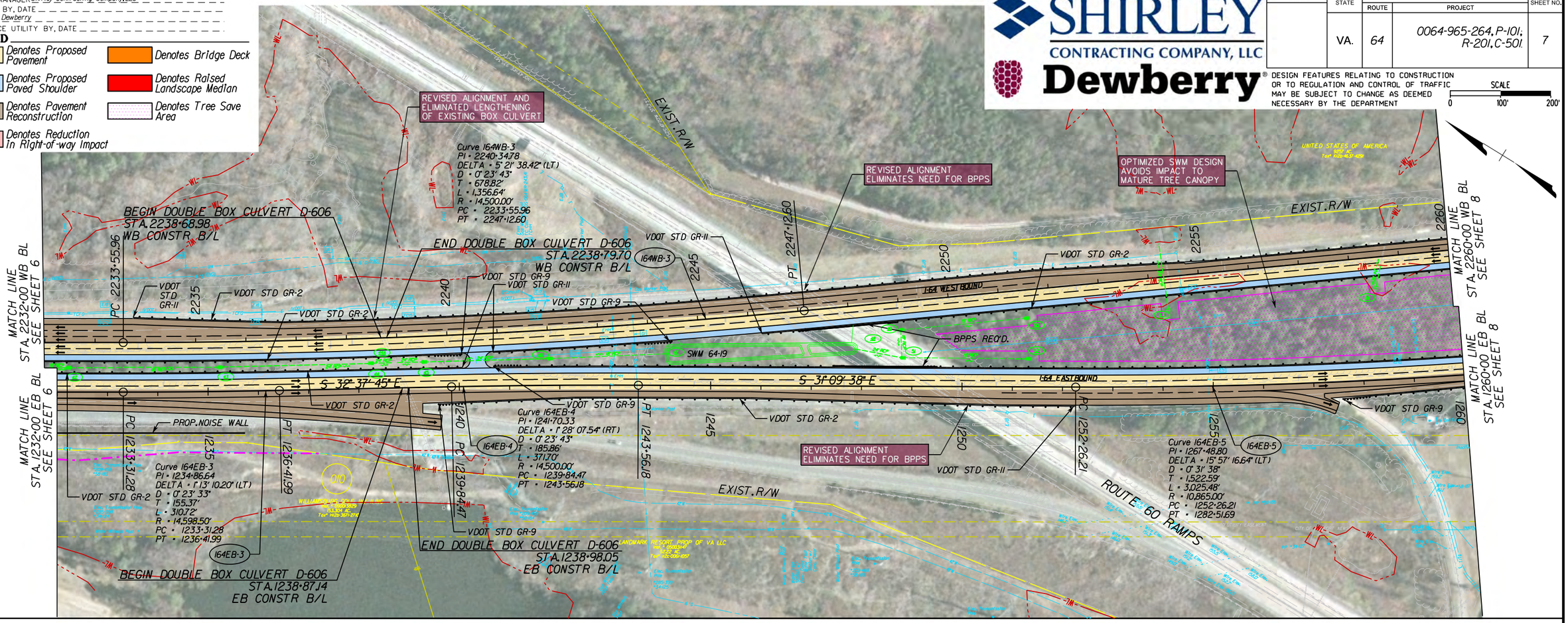
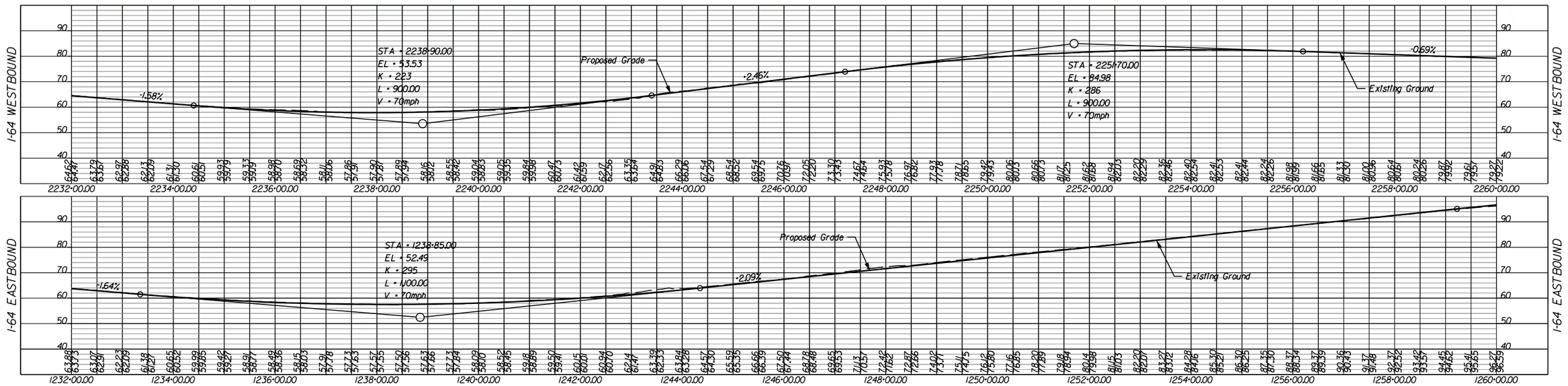
SCALE 0 100' 200'

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	64	0064-965-264, P-101, R-201, C-501	7





PROJECT	SHEET NO.
0064-965-264	7

LIMITED ACCESS HIGHWAY By Resolution of Highway Commission dated October 4, 1956

PROJECT MANAGER Shirley Contracting Company, LLC
SURVEYED BY, DATE
DESIGN BY Dewberry
SUBSURFACE UTILITY BY, DATE

LEGEND

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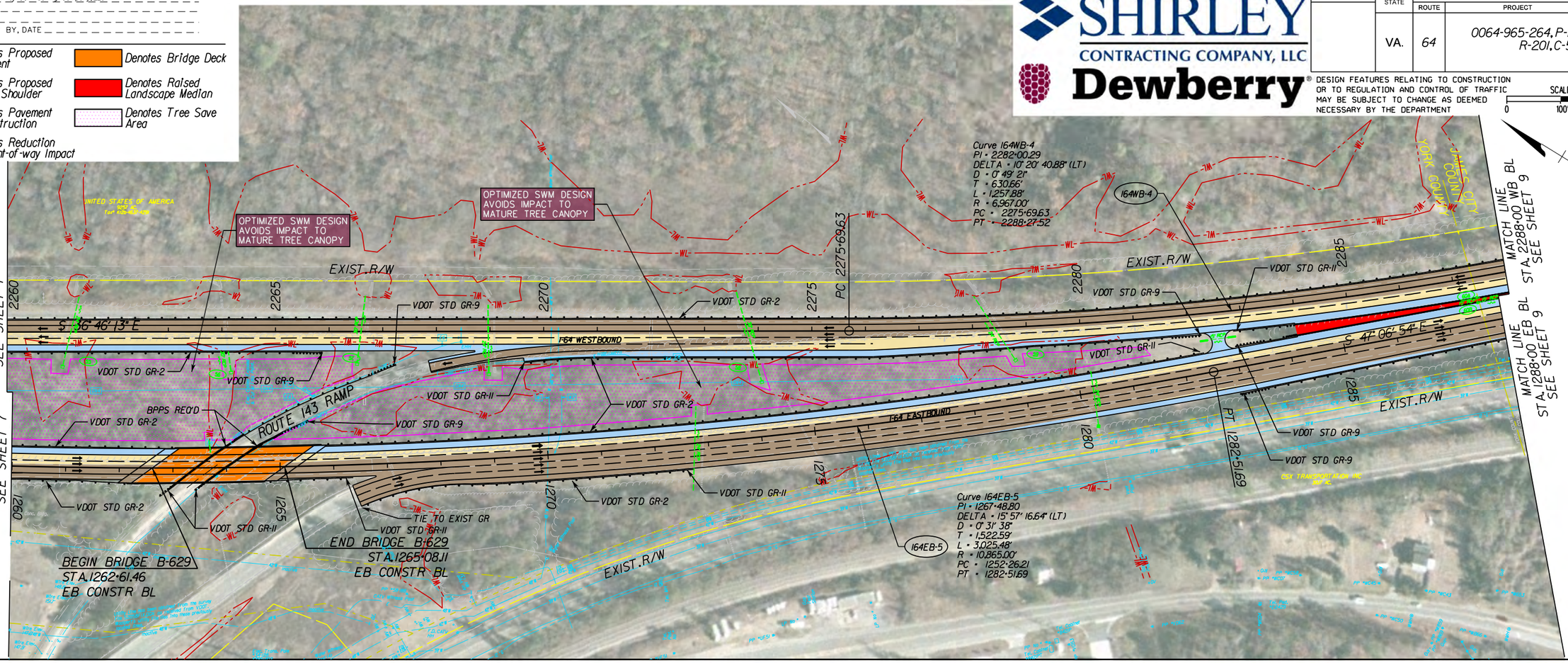
SHIRLEY CONTRACTING COMPANY, LLC

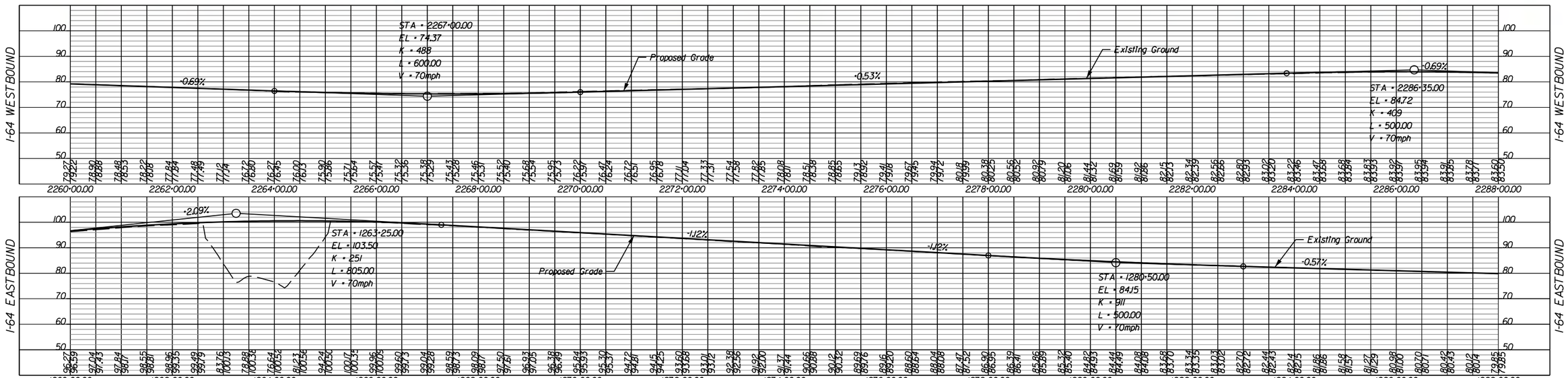
Dewberry®

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

SCALE 0 100' 200'

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	64	0064-965-264, P-101, R-201, C-501	8





	PROJECT	SHEET NO.
	0064-965-264	8

LIMITED ACCESS HIGHWAY By Resolution of Highway Commission dated October 4, 1956

PROJECT MANAGER Shirley Contracting Company, LLC
SURVEYED BY, DATE
DESIGN BY Dewberry
SUBSURFACE UTILITY BY, DATE

LEGEND

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Dewberry

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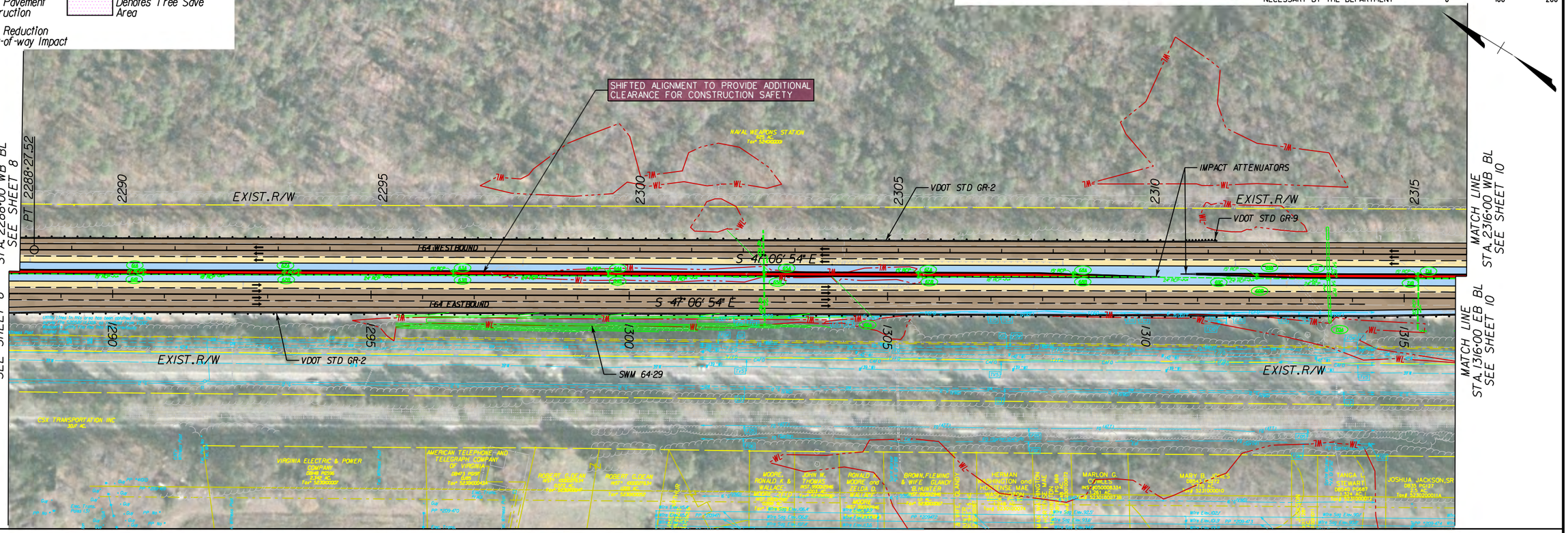
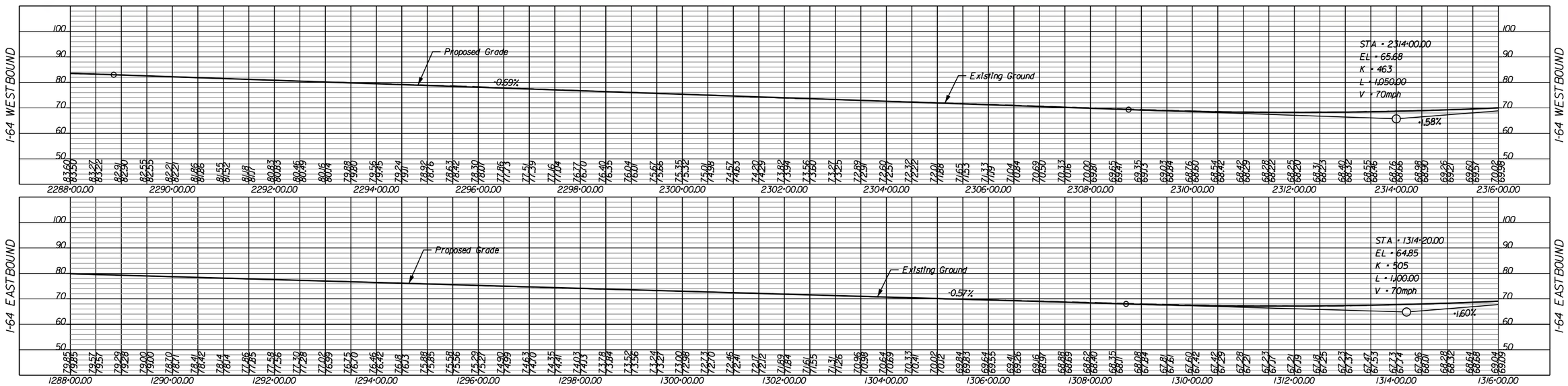
SCALE 0 100' 200'

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	64	0064-965-264, P-101, R-201, C-501	9





PROJECT	SHEET NO.
0064-965-264	9

LIMITED ACCESS HIGHWAY By Resolution of Highway Commission dated October 4, 1956

PROJECT MANAGER Shirley Contracting Company, LLC
SURVEYED BY, DATE
DESIGN BY Dewberry
SUBSURFACE UTILITY BY, DATE

LEGEND

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Dewberry

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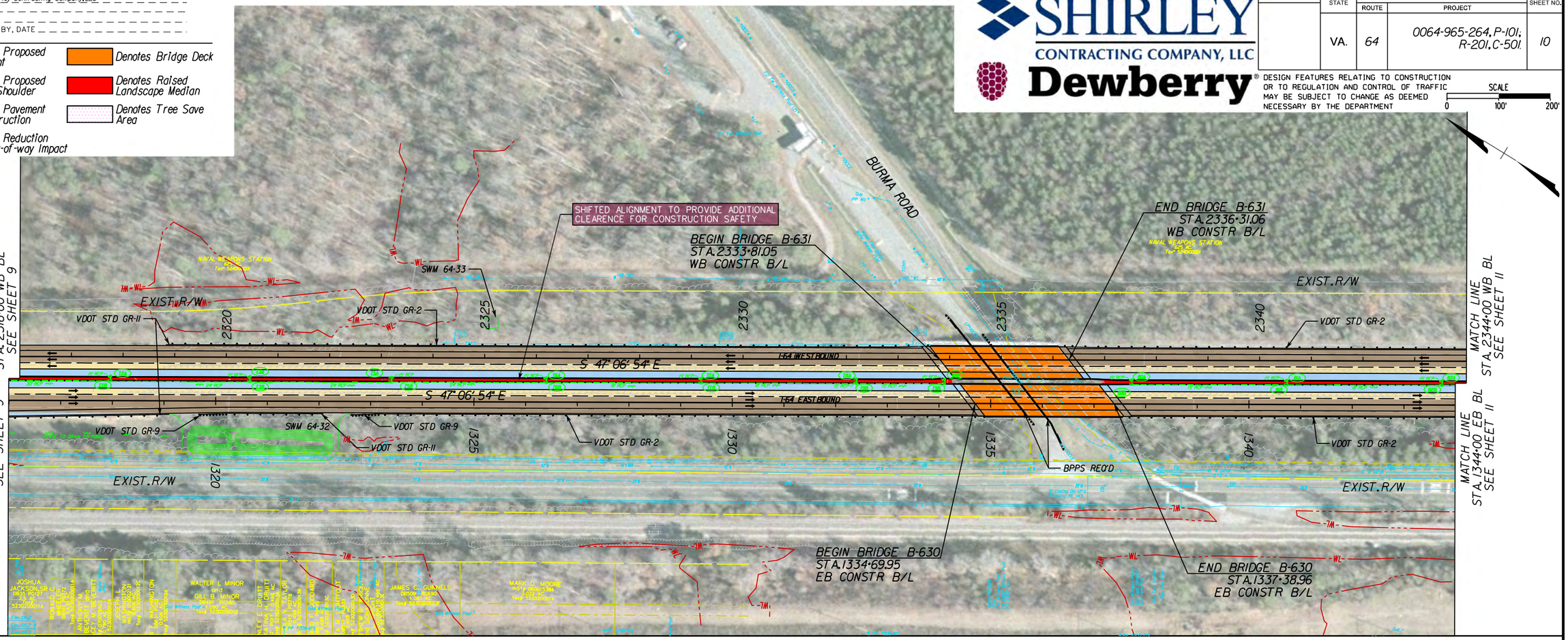
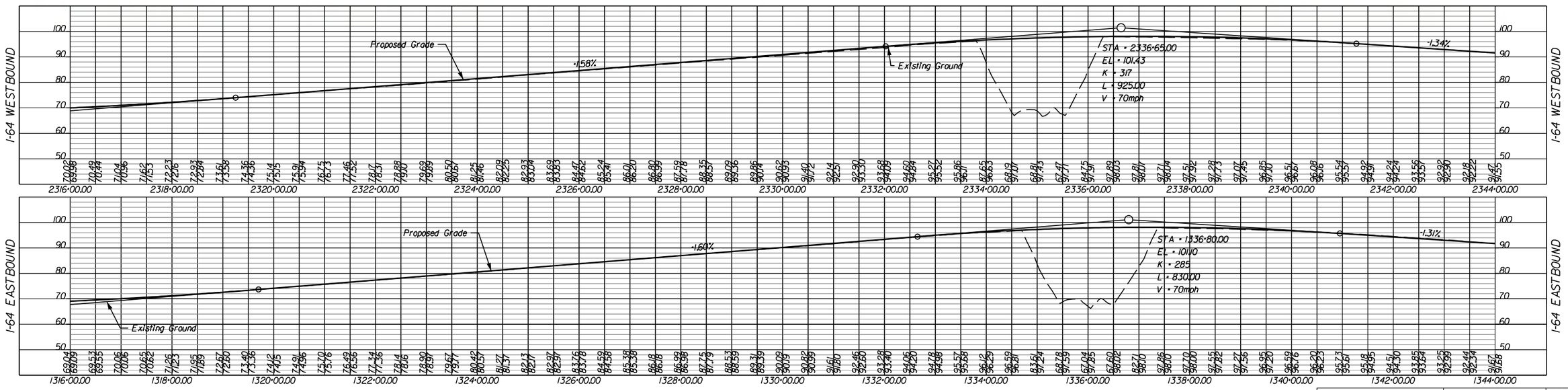
SCALE 0 100' 200'

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	64	0064-965-264, P-101, R-201, C-501	10





PROJECT	SHEET NO.
0064-965-264	10

LIMITED ACCESS HIGHWAY By Resolution of Highway Commission dated October 4, 1956

PROJECT MANAGER Shirley Contracting Company, LLC
SURVEYED BY, DATE
DESIGN BY Dewberry
SUBSURFACE UTILITY BY, DATE

LEGEND

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SHIRLEY CONTRACTING COMPANY, LLC

Dewberry®

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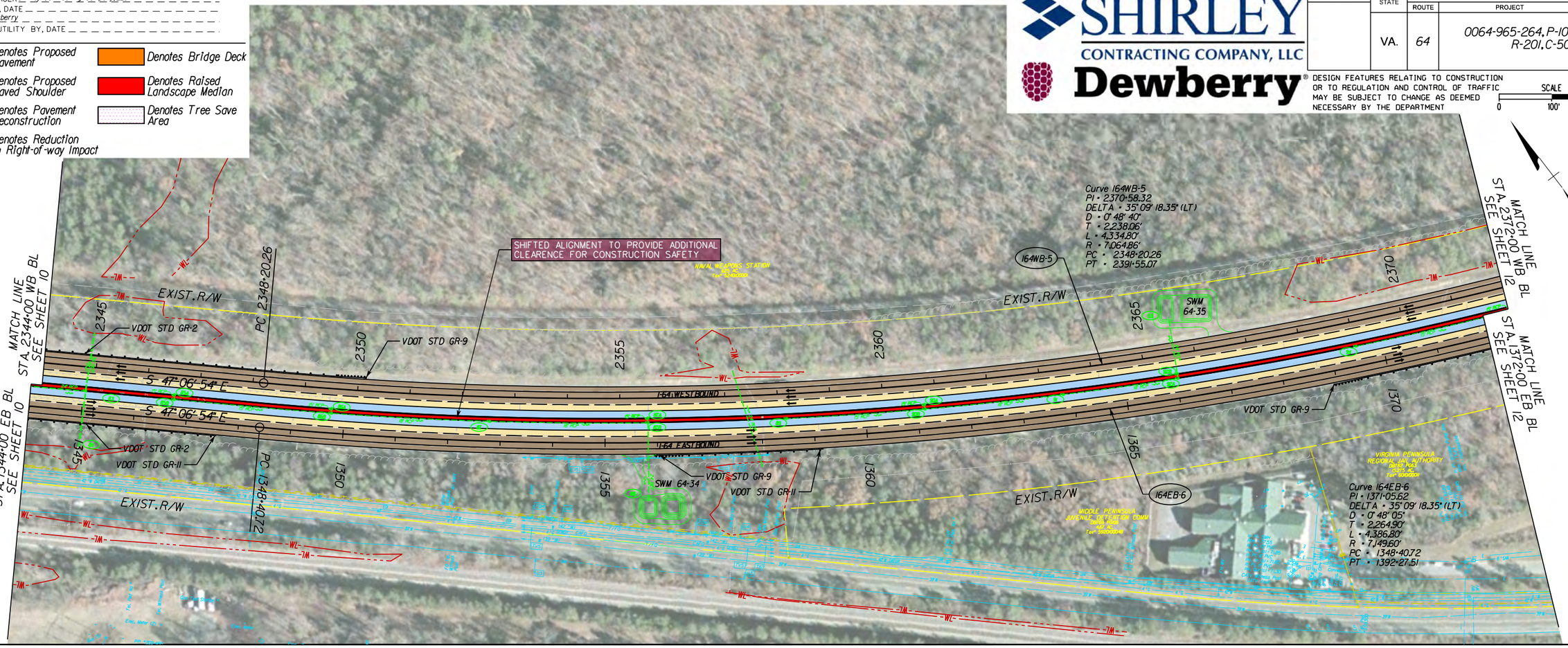
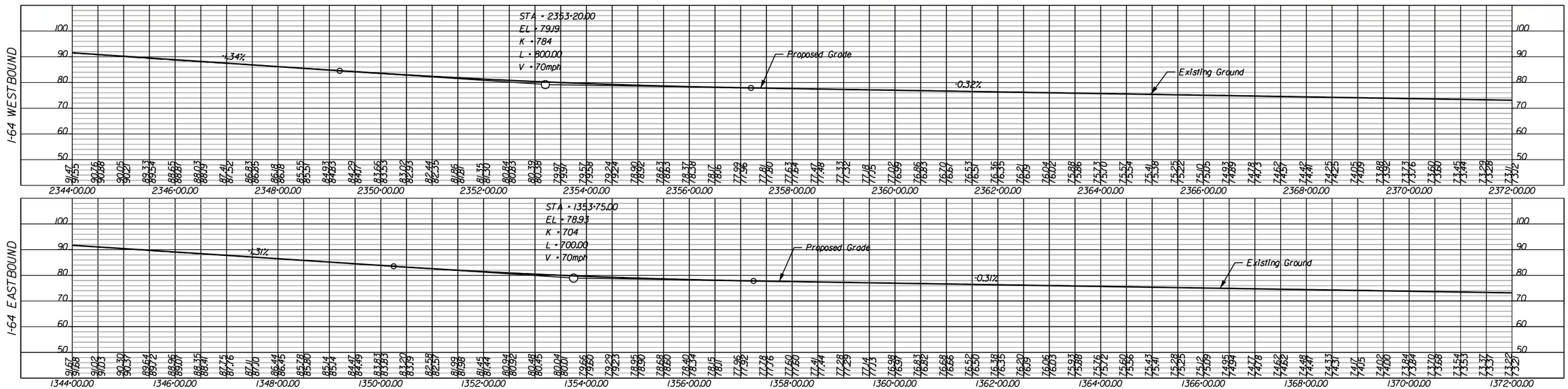
SCALE 0 100' 200'

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	64	0064-965-264, P-101, R-201, C-501	11





PROJECT	SHEET NO.
0064-965-264	11

LIMITED ACCESS HIGHWAY — By Resolution of Highway Commission dated October 4, 1956

PROJECT MANAGER Shirley Contracting Company, LLC
SURVEYED BY, DATE
DESIGN BY Dewberry
SUBSURFACE UTILITY BY, DATE

LEGEND

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Dewberry

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SCALE 0 100' 200'

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	64	0064-965-264, P-101, R-201, C-501	12

SHIFTED ALIGNMENT TO PROVIDE ADDITIONAL CLEARENCE FOR CONSTRUCTION SAFETY

MATCH LINE STA.2372+00 WB BL SEE SHEET 11

MATCH LINE STA.2400+00 WB BL SEE SHEET 13

MATCH LINE STA.1372+00 EB BL SEE SHEET 11

MATCH LINE STA.1400+00 EB BL SEE SHEET 13

Curve 164WB-5
PI = 2370+58.32
DELTA = 35°09' 18.35" (LT)
D = 0°48' 40"
T = 2,238.06'
L = 4,334.80'
R = 7,064.86'
PC = 2348+20.26
PT = 2391+55.07

Curve 164WB-6
PI = 2407+82.02
DELTA = 27°10' 27.06" (RT)
D = 0°59' 03"
T = 1,406.89'
L = 2,760.84'
R = 5,821.14'
PC = 2393+75.13
PT = 2421+35.97

Curve 164EB-6
PI = 1371+05.62
DELTA = 35°09' 18.35" (LT)
D = 0°48' 05"
T = 2,264.90'
L = 4,386.80'
R = 7,149.60'
PC = 1348+40.72
PT = 1392+27.51

Curve 164EB-7
PI = 1408+33.99
DELTA = 27°10' 27.06" (RT)
D = 0°59' 56"
T = 1,386.41'
L = 2,720.65'
R = 5,736.40'
PC = 1394+47.58
PT = 1421+68.23

I-64 WESTBOUND

I-64 EASTBOUND

EXIST. R/W

S 82°16'13" E

VDOT STD GR-11

VDOT STD GR-2

VDOT STD GR-9

SWM 64-36

164WB-5

164WB-6

164EB-6

164EB-7

PROPOSED RIGHT-OF-WAY

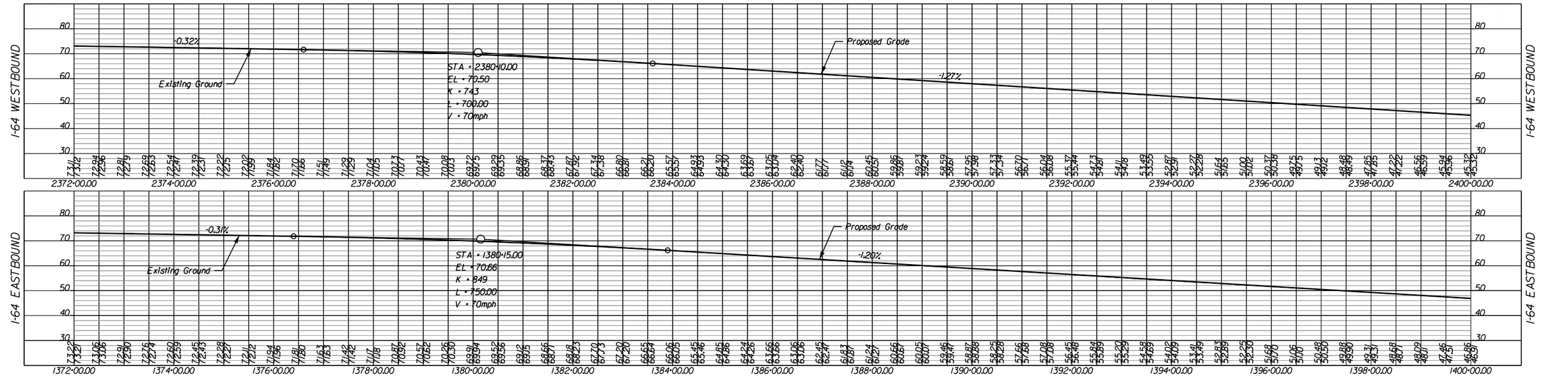
PROPOSED REDUCTION OF RFP RIGHT-OF-WAY IMPACT

PROPOSED RIGHT-OF-WAY PER RFP

VIRGINIA PENINSULA REGIONAL JAIL AUTHORITY

COMMONWEALTH OF VIRGINIA

NAVAL WEAPONS STATION YORKTOWN



PROJECT	SHEET NO.
0064-965-264	12

LIMITED ACCESS HIGHWAY By Resolution of Highway Commission dated October 4, 1956

PROJECT MANAGER Shirley Contracting Company, LLC
SURVEYED BY, DATE
DESIGN BY Dewberry
SUBSURFACE UTILITY BY, DATE

LEGEND

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SHIRLEY CONTRACTING COMPANY, LLC

Dewberry®

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SCALE 0 100' 200'

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	64	0064-965-264, P-101, R-201, C-501	13

SHIFTED ALIGNMENT TO PROVIDE ADDITIONAL CLEARANCE FOR CONSTRUCTION SAFETY

MATCH LINE STA.2400+00 WB BL SEE SHEET 12

MATCH LINE STA.2428+00 WB BL SEE SHEET 14

MATCH LINE STA.1400+00 EB BL SEE SHEET 12

MATCH LINE STA.1428+00 EB BL SEE SHEET 14

BEGIN QUAD. BOX CULVERT D-607 STA.2408+46.87 WB CONSTR B/L

END QUAD. BOX CULVERT D-607 STA.2408+72.38 WB CONSTR B/L

BEGIN QUAD. BOX CULVERT D-607 STA.1408+98.42 EB CONSTR B/L

END QUAD. BOX CULVERT D-607 STA.1409+23.93 EB CONSTR B/L

Curve 164WB-6
PI = 2407+82.02
DELTA = 27° 10' 27.06" (RT)
D = 0° 59' 03"
T = 1,406.89'
L = 2,760.84'
R = 5,821.14'
PC = 2393+75.13
PT = 2421+35.97

Curve 164EB-7
PI = 1408+33.99
DELTA = 27° 10' 27.06" (RT)
D = 0° 59' 56"
T = 1,386.41'
L = 2,720.65'
R = 5,736.40'
PC = 1394+47.58
PT = 1421+68.23

164WB-6

164EB-7

SWM 64-36A

SWM 64-36B

BEGIN BRIDGE B-633 STA.2423+66.25 WB CONSTR B/L

END BRIDGE B-633 STA.2427+15.73 WB CONSTR B/L

BEGIN BRIDGE B-632 STA.1422+51.82 EB CONSTR B/L

END BRIDGE B-632 STA.1426+01.32 EB CONSTR B/L

TIE TO EXIST GR

VDOT STD GR-2

VDOT STD GR-9

VDOT STD GR-11

BPPS REQ'D

I-64 WESTBOUND

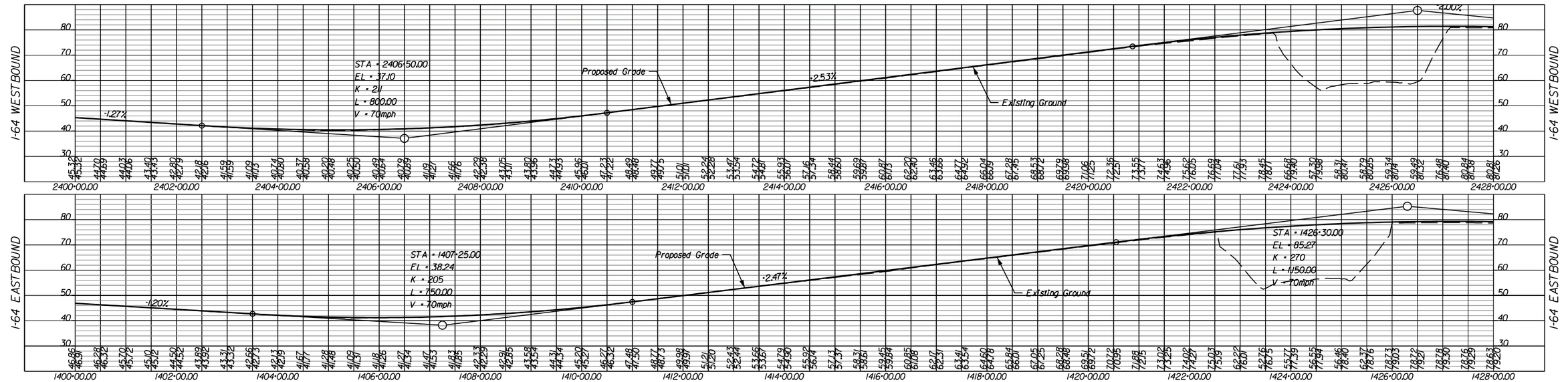
I-64 EASTBOUND

ROUTE 143

EXIST. R/W

-7M-

-WL-



PROJECT	SHEET NO.
0064-965-264	13

LIMITED ACCESS HIGHWAY By Resolution of Highway Commission dated October 4, 1956

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SUBSURFACE UTILITY BY, DATE

LEGEND

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Dewberry

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SCALE 0 100' 200'

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	64	0064-965-264, P-101, R-201, C-501	14

MATCH LINE STA. 2428+00 WB BL SEE SHEET 13

MATCH LINE STA. 2456+00 WB BL SEE SHEET 15

MATCH LINE STA. 1428+00 EB BL SEE SHEET 13

MATCH LINE STA. 1456+00 EB BL SEE SHEET 15

PROPOSED REDUCTION OF RFP RIGHT-OF-WAY IMPACT

PROPOSED RIGHT-OF-WAY PER RFP

PROPOSED RIGHT-OF-WAY

SHIFTED ALIGNMENT TO PROVIDE ADDITIONAL CLEARANCE FOR CONSTRUCTION SAFETY

SWM 64-37A

SWM 64-38

SWM 64-37

EXIST.R/W

VDOT STD GR-2

VDOT STD GR-9

VDOT STD GR-11

S 55°05'46" E

I-64 WESTBOUND

I-64 EASTBOUND

TIE TO EXIST GR

PROPOSED REDUCTION OF RFP RIGHT-OF-WAY IMPACT

PROPOSED RIGHT-OF-WAY PER RFP

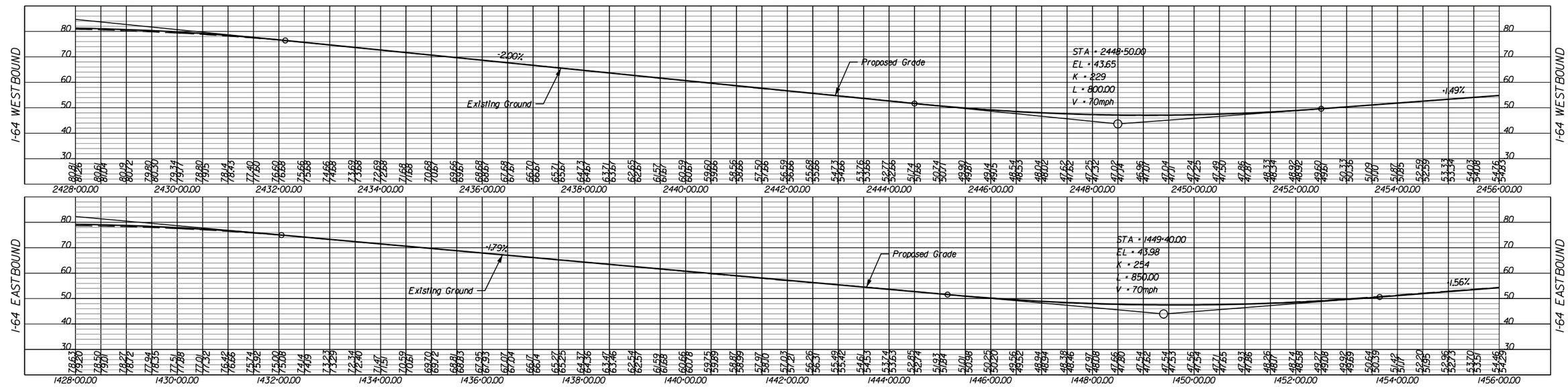
PROPOSED REDUCTION OF RFP RIGHT-OF-WAY IMPACT

ECONOMIC DEVELOPMENT AUTHORITY OF THE CITY OF NEWPORT NEWS

CITY OF NEWPORT NEWS - WATERWORKS

CELLCO PARTNERSHIP

JOHN G. CARLETON & W. RANDOLPH CARLETON



PROJECT	SHEET NO.
0064-965-264	14

LIMITED ACCESS HIGHWAY By Resolution of Highway Commission dated October 4, 1956

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SUBSURFACE UTILITY BY, DATE

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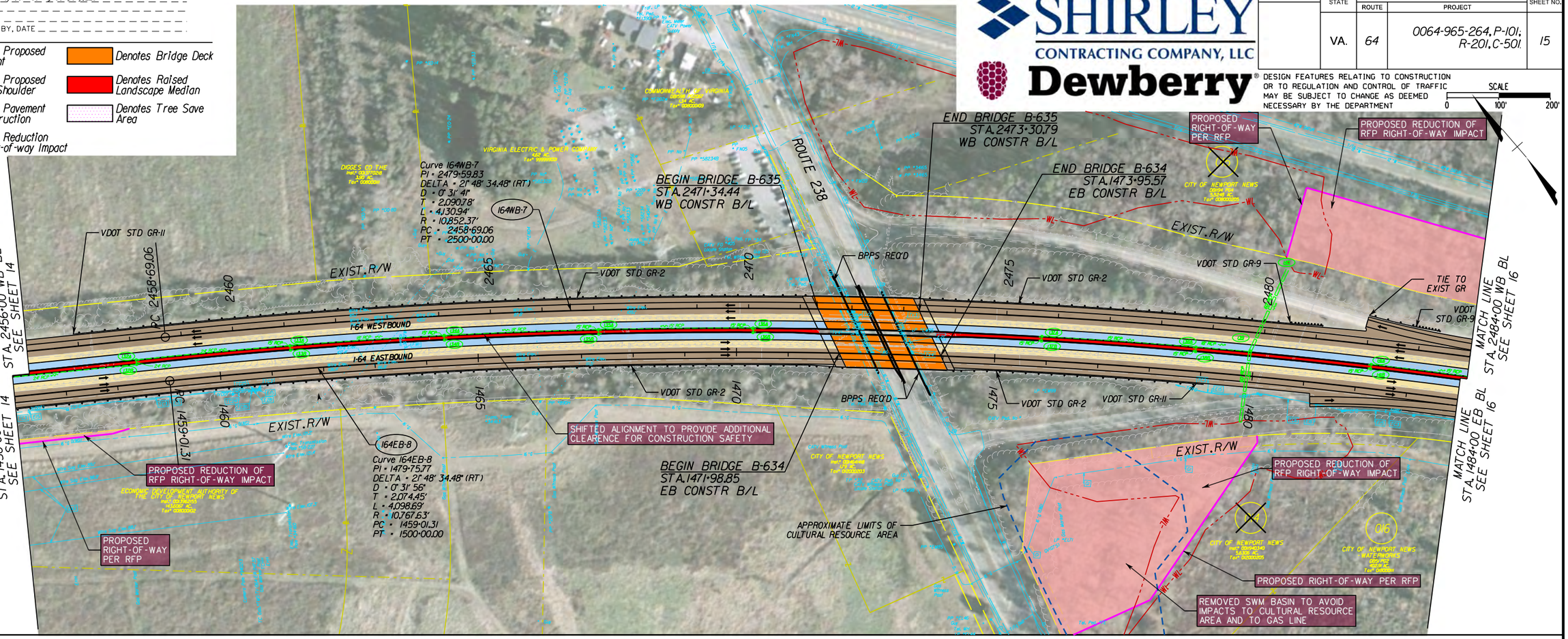
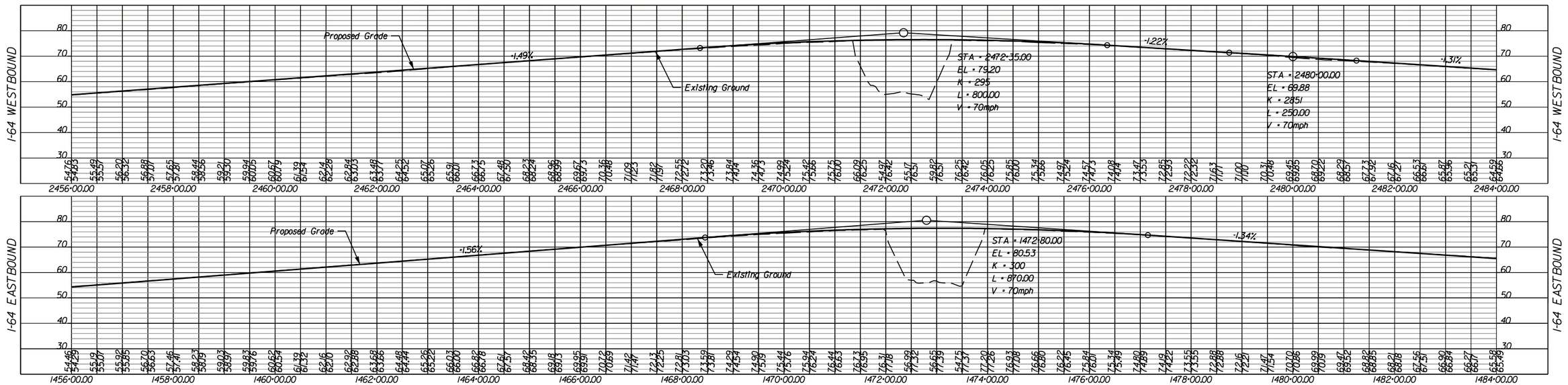
REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	64	0064-965-264, P-101, R-201, C-501	15





PROJECT	SHEET NO.
0064-965-264	15

LIMITED ACCESS HIGHWAY By Resolution of Highway Commission dated October 4, 1956

PROJECT MANAGER Shirley Contracting Company, LLC
SURVEYED BY, DATE
DESIGN BY Dewberry
SUBSURFACE UTILITY BY, DATE

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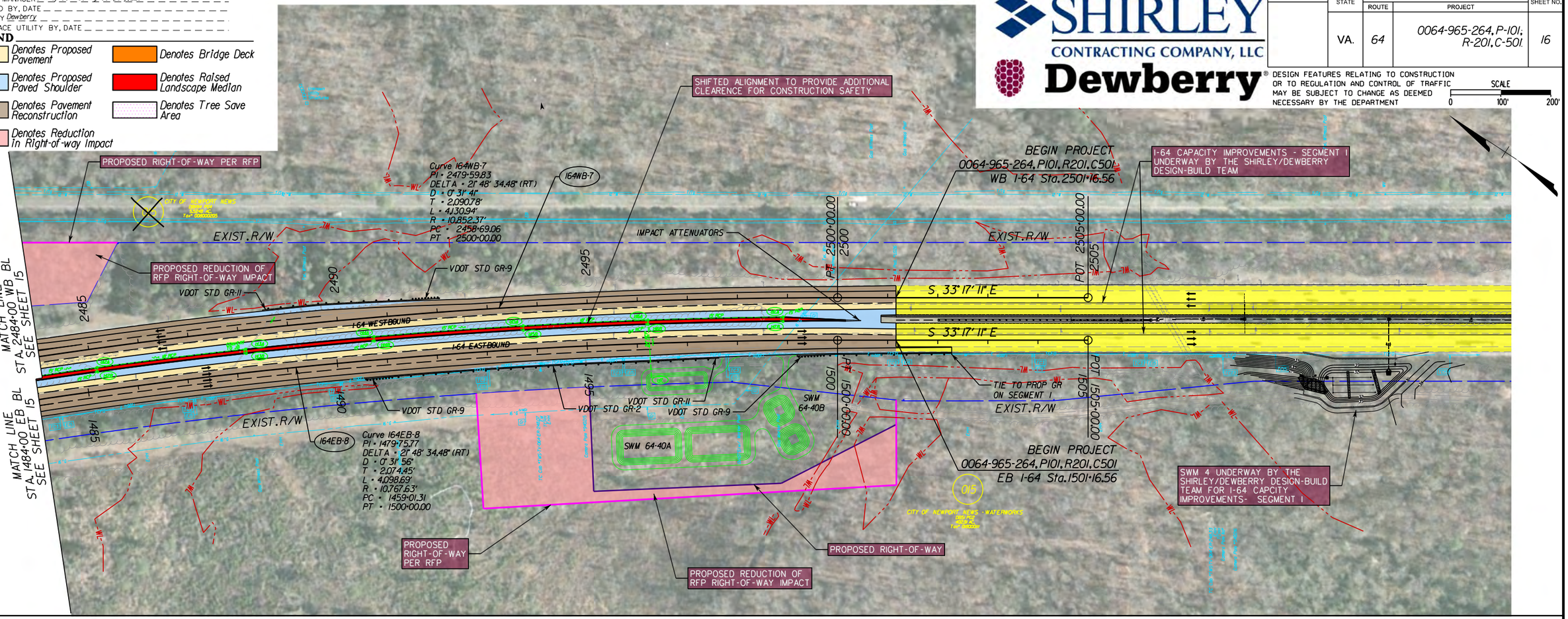
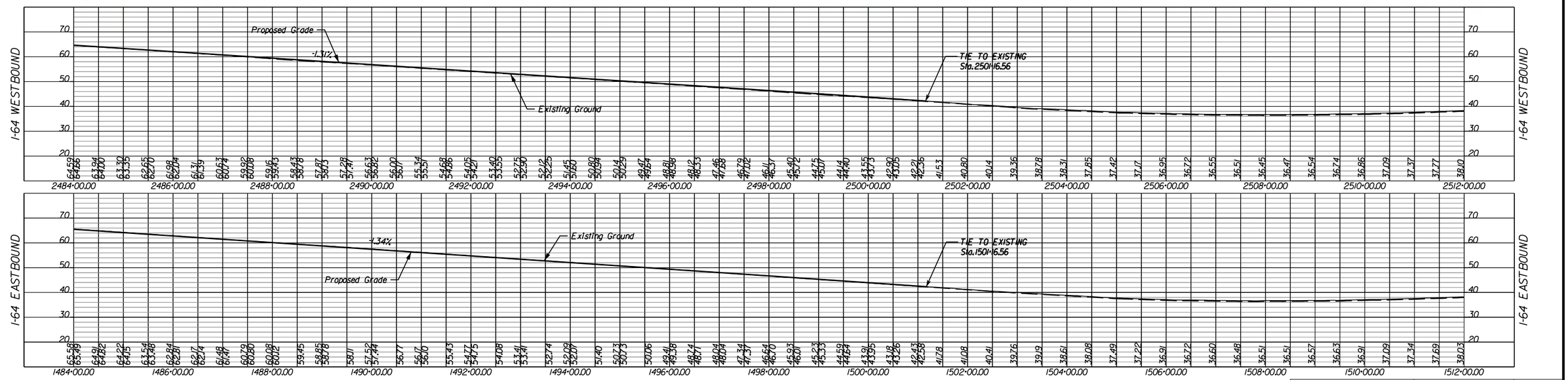
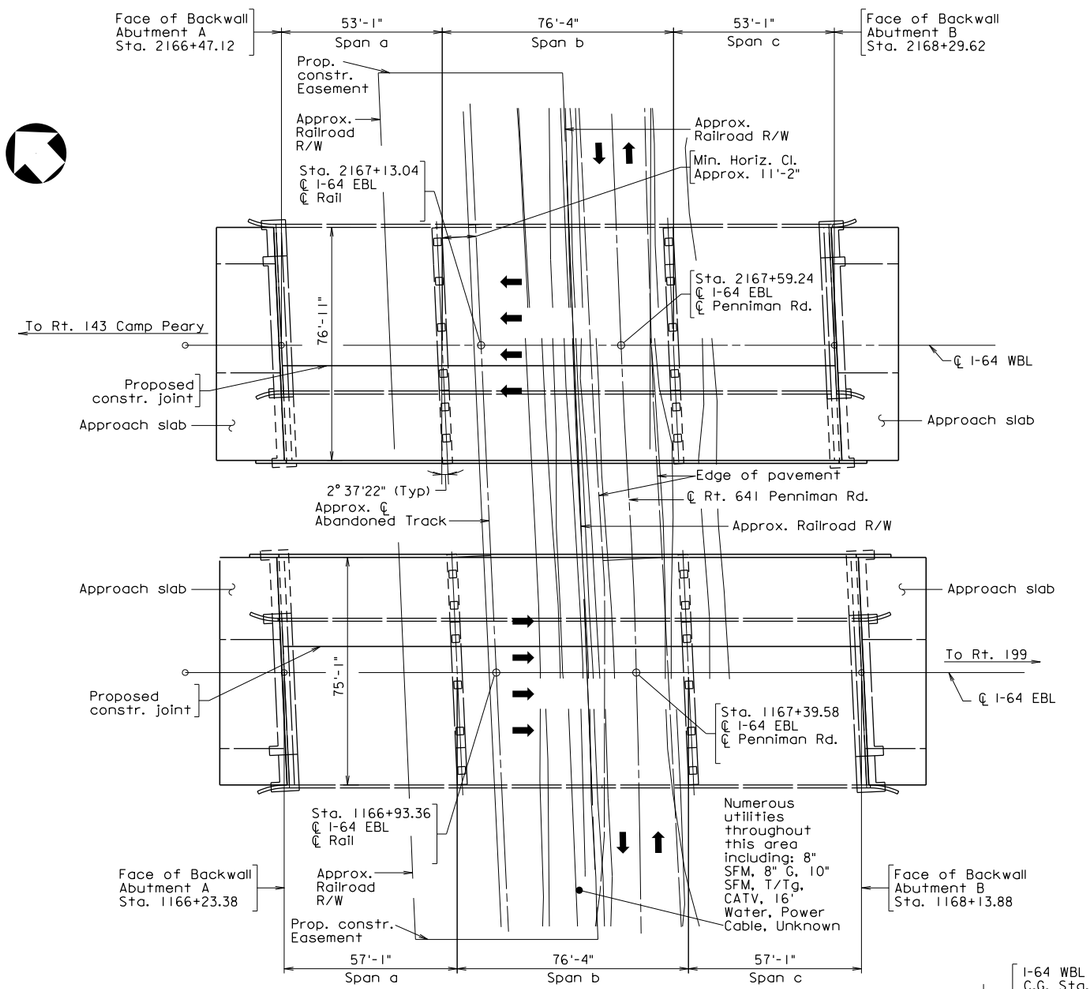
REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	64	0064-965-264, P-101, R-201, C-501	16

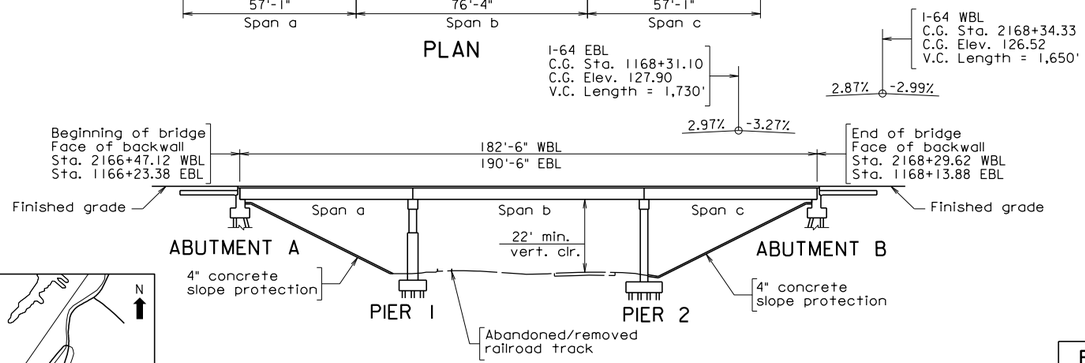




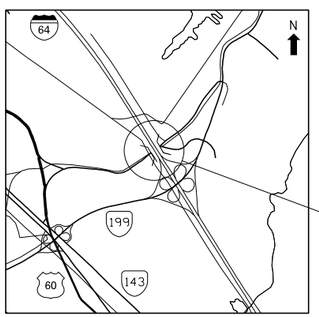
PROJECT	SHEET NO.
0064-965-264	16



PLAN



DEVELOPED SECTION ALONG WIDENING



LOCATION MAP
Not to scale

Scale: 1" = 25'

STATE	FEDERAL AID ROUTE	FEDERAL AID PROJECT	STATE ROUTE	STATE PROJECT	SHEET NO.
VA.	—	—	64	0064-965-264, B627, B628	1

NBIS Number: 000000000019828
000000000019830

UPC No. 106665

Federal Oversight Code: FO

FHWA Construction and Scour Code: X281-SN

DESIGN EXCEPTION(S):

None

GENERAL NOTES:

Width: 75'-1" face-to-face of rails (EBL).
76'-11" face-to-face of rails (WBL)

Span layout:
EBL: 57'-1" - 76'-4" - 57'-1"
WBL: 53'-1" - 76'-4" - 53'-1"

Capacity: HL-93 loading.

Specifications:

Construction: Virginia Department of Transportation Road and Bridge Specifications, 2007.

Design: AASHTO LRFD Bridge Design Specifications, 7th Edition, 2014; and VDOT Modifications.

Standards: Virginia Department of Transportation Road and Bridge Standards, 2008.

These plans are incomplete unless accompanied by the Supplemental Specifications and Special Provisions included in the contract documents.

Bridge Nos. of existing bridges are 2000 (EBL) and 2001 (WBL). Plan Nos. are 163-20 and 163-20A.

Bridge Repair\Modification Notes:

1. All superstructure and substructure repairs will be performed on the existing bridges in accordance with the RFP Requirements. This includes removing of existing deck slab overlay; existing deck slab milling, patching and overlay; repairing existing beams; repairing spalls and cracks on abutments and piers; and repairing existing slope protection.
2. Joints at piers will be retrofitted in accordance with Structure and Bridge Manual Volume V, Part 2, File No. 10.02-2.
3. All existing bearings will be replaced utilizing steel-reinforced elastomeric pads.
4. Existing deck slab and abutments will be modified to eliminate the existing deck joints at the abutments.
5. Replace the existing approach slabs with buried approach slabs extending from curb to curb.

RECOMMENDED FOR APPROVAL FOR CONSTRUCTION
VDOT PROJECT MANAGER
DISTRICT CONSTRUCTION MANAGER

PLANS BY:	Consultant
COORDINATED:	
SUPERVISED:	
DESIGNED:	CF
DRAWN:	EG
CHECKED:	

PRELIMINARY PLANS
THESE PLANS NOT TO BE USED FOR CONSTRUCTION

No.	Description	Date

REVISIONS

For Table of Revisions, see Sheet 2.

VDOT

COMMONWEALTH OF VIRGINIA

DEPARTMENT OF TRANSPORTATION

PROPOSED BRIDGE WIDENING ON
RTE. 64 OVER Rt. 641 PENNIMAN RD AND ABANDONED RAILROAD
YORK COUNTY
PROJ. 0064-965-264

Recommended for Approval: _____ _____
(Developer's Designee) Date

Approved: _____ _____
Chief Engineer Date

163-20B

Date: _____

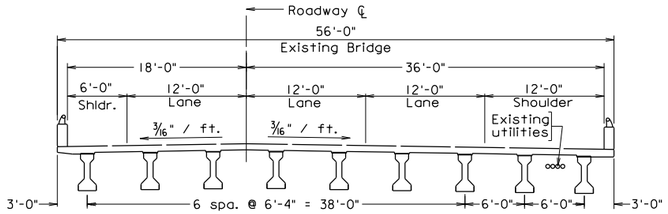
$DATE$ $TIME$ OPE_64 over Rt 641 Penniman and Abandoned RR.dgn

STATE	FEDERAL AID		STATE		SHEET NO.
	ROUTE	PROJECT	ROUTE	PROJECT	
VA.	—	————	64	0064-965-264, B627, B628	2

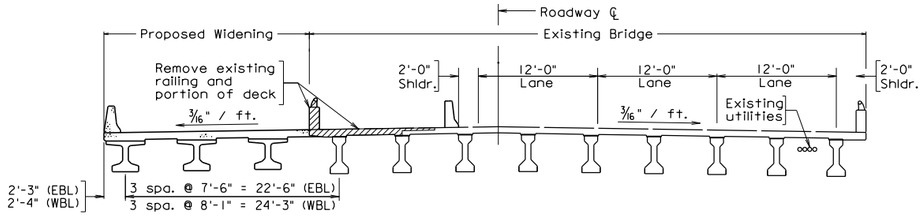
Note:

Legend:

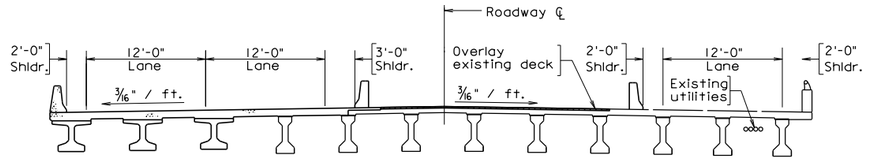
Existing structure to be removed.



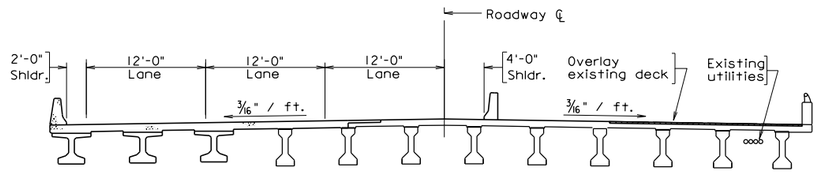
EXISTING BRIDGE - TRANSVERSE SECTION
(EBL shown, WBL opposite hand)



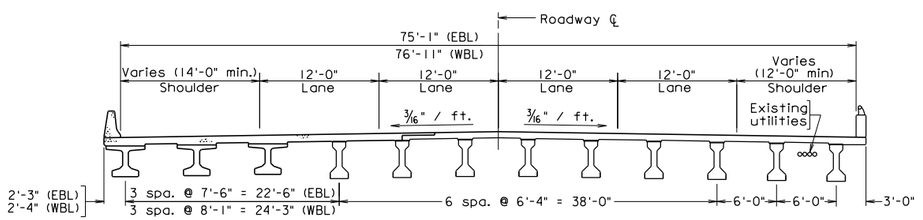
DEMOLITION AND CONSTRUCTION - TRANSVERSE SECTION
(EBL shown, WBL opposite hand, except as noted)



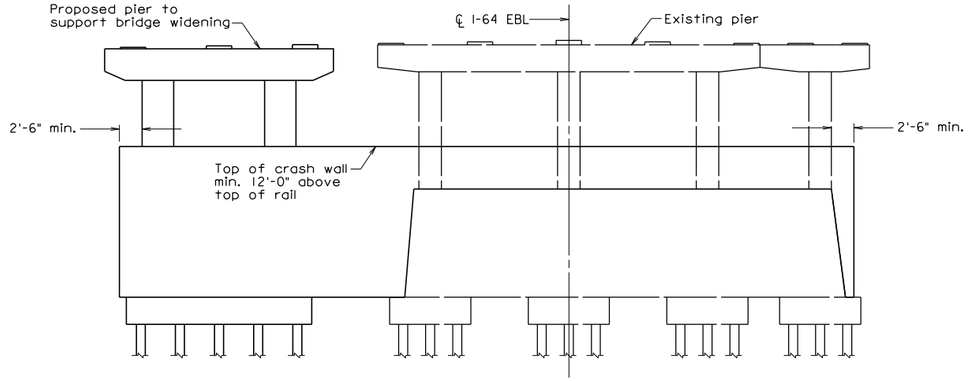
OVERLAY - TRANSVERSE SECTION STAGE 3
(EBL shown, WBL opposite hand, except as noted)



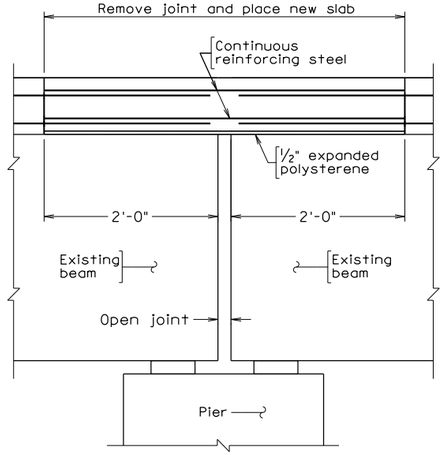
OVERLAY - TRANSVERSE SECTION STAGE 4
(EBL shown, WBL opposite hand, except as noted)



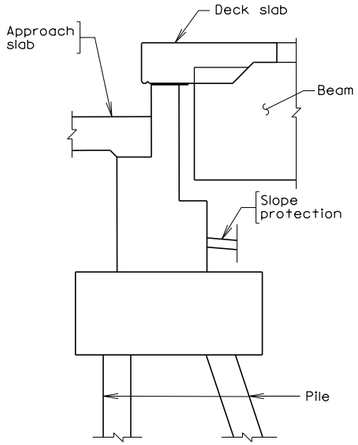
FINAL - TRANSVERSE SECTION
(EBL shown, WBL opposite hand, except as noted)



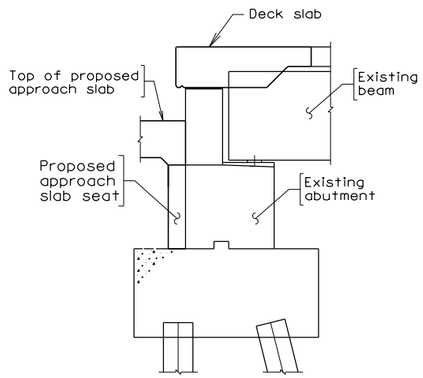
PIER 1 ELEVATION
EBL SHOWN (WBL OPPOSITE HAND)



CONTINUOUS SLAB RETROFIT DETAIL



PROPOSED
ABUTMENT SECTION



MODIFIED EXISTING
ABUTMENT SECTION

SHIRLEY CONTRACTING COMPANY, LLC

Dewberry

PRELIMINARY PLANS

THESE PLANS NOT TO BE USED FOR CONSTRUCTION

Not to scale

No.	Description	Date
	Revisions	

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION

STRUCTURE AND BRIDGE DIVISION

TRANSVERSE SECTION (I-64 OVER RTE. 641 PENNIMAN RD AND ABANDONED RAILROAD)

Designed: CJF	Date	Plan No.	Sheet No.
Drawn: EG		163-20B	2 of 2
Checked: XXX			

$DATE$ $TIME$
Typ Section_Pier_64 over Rt 641 Penniman and Abandoned RR_1.dgn

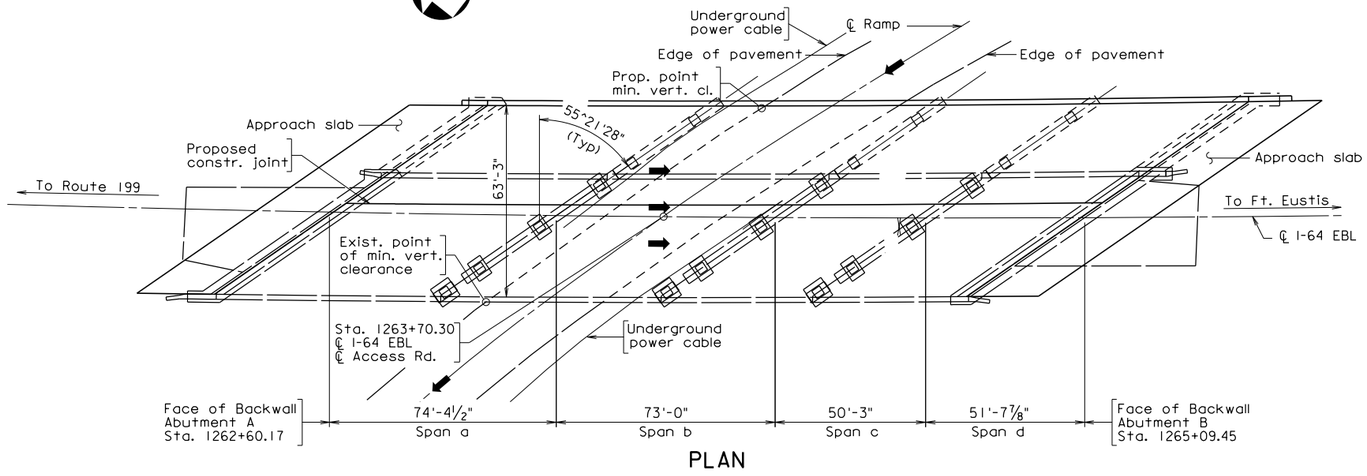
STATE	FEDERAL AID ROUTE	FEDERAL AID PROJECT	STATE ROUTE	STATE PROJECT	SHEET NO.
VA.	—	———	64	0064-965-264, B629	1

NBIS Number: 000000000019832 -

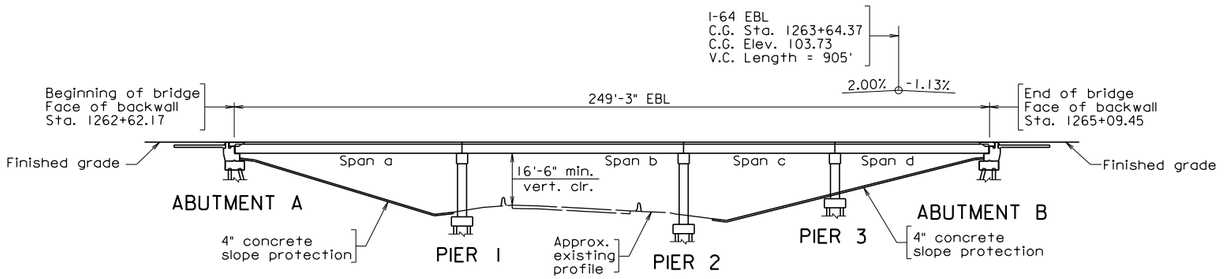
Federal Oversight Code: FO

UPC No. 106665

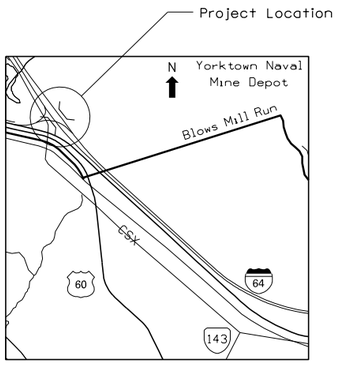
FHWA Construction and Scour Code: X231-SN



PLAN



DEVELOPED SECTION ALONG WIDENING



LOCATION MAP
Not to scale

DESIGN EXCEPTION(S):

None

GENERAL NOTES:

Width: 63'-3" face-to-face of rails.

Span layout:
EBL: 75'-4½" - 73'-0" - 50'-3" - 51'-7⅞"

Capacity: HL-93 loading.

Specifications:

Construction: Virginia Department of Transportation Road and Bridge Specifications, 2007.

Design: AASHTO LRFD Bridge Design Specifications, 7th Edition, 2014; and VDOT Modifications.

Standards: Virginia Department of Transportation Road and Bridge Standards, 2008.

These plans are incomplete unless accompanied by the Supplemental Specifications and Special Provisions included in the contract documents.

Bridge No. of existing bridge is 2002. Plan Nos. are 163-21, 163-21A, and 163-21B

The existing structure is designated a Type B structure in accordance with Sec. 411.

Bridge Repair\Modification Notes:

1. All superstructure and substructure repairs will be performed on the existing bridges in accordance with the RFP Requirements. This includes removing of existing deck slab overlay; existing deck slab milling, patching and overlay; repairing existing beams; spot painting of existing structural steel; repairing spalls and cracks on abutments and piers; and repairing existing slope protection.
2. Joints at piers will be retrofitted in accordance with Structure and Bridge Manual Volume V, Part 2, File No. 10.02-2.
3. All existing bearings will be replaced utilizing steel-reinforced elastomeric pads.
4. Existing deck slab and abutments will be modified to eliminate the existing deck joints at the abutments.
5. Replace the existing approach slabs with buried approach slabs extending from curb to curb.
6. Retrofit Category E and E' fatigue prone details of existing steel with Ultrasonic Impact Treatment

Scale: 1" = 25'

SHIRLEY CONTRACTING COMPANY, LLC

Dewberry

VDOT

COMMONWEALTH OF VIRGINIA

DEPARTMENT OF TRANSPORTATION

PROPOSED BRIDGE WIDENING ON RTE. 64 EB OVER 64 WB to Rt. 143 YORK COUNTY PROJ. 0064-965-264

PRELIMINARY PLANS

THESE PLANS NOT TO BE USED FOR CONSTRUCTION

No.	Description	Date

REVISIONS

For Table of Revisions, see Sheet 2.

RECOMMENDED FOR APPROVAL FOR CONSTRUCTION	
VDOT PROJECT MANAGER	
DISTRICT CONSTRUCTION MANAGER	

PLANS BY:	Consultant
COORDINATED:	
SUPERVISED:	
DESIGNED:	CF
DRAWN:	EG
CHECKED:	

Recommended for Approval: _____ (Developer's Designee) Date

Approved: _____ Chief Engineer Date

Date: _____

163-21C

Sheet 1 of 2

$DATE$ GPE.64 EB over 64 WB to Rt 143.dgn $TIME$

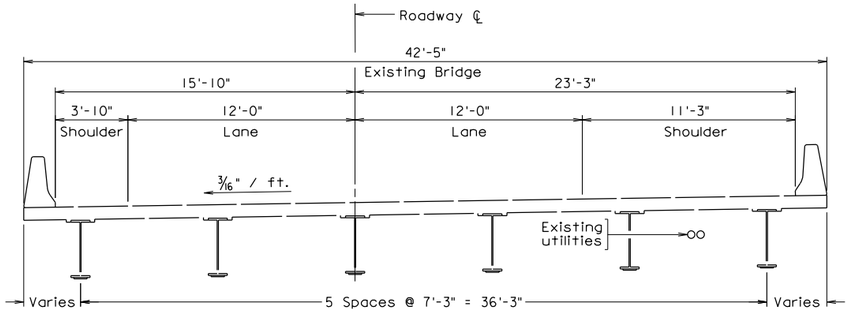
STATE	FEDERAL AID		STATE		SHEET NO.
	ROUTE	PROJECT	ROUTE	PROJECT	
VA.	—	————	64	0064-965-264, B629	2

Note:

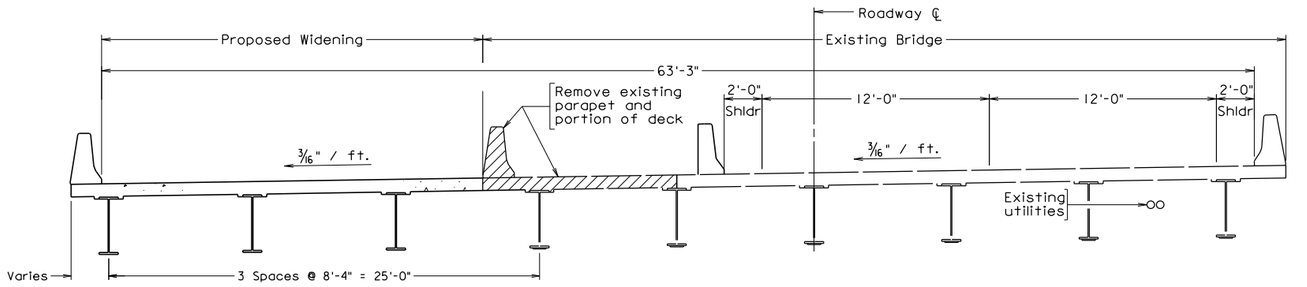
All sections shown looking station-ahead (to the east).

Legend:

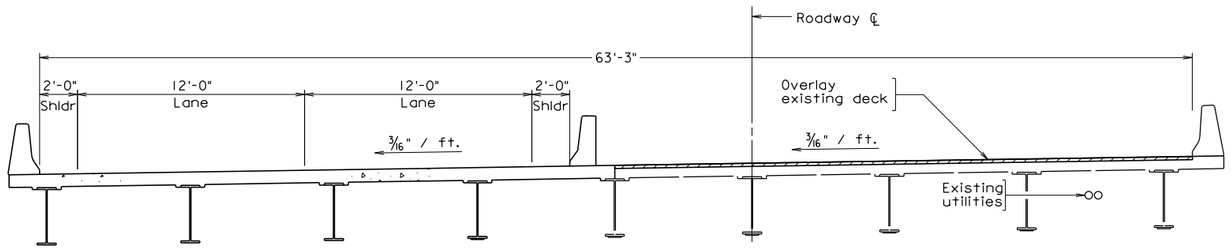
Existing structure to be removed.



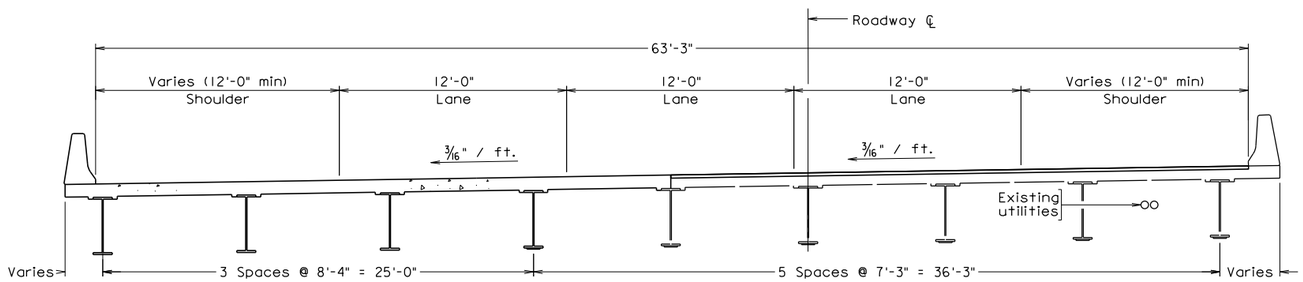
EXISTING BRIDGE - TRANSVERSE SECTION



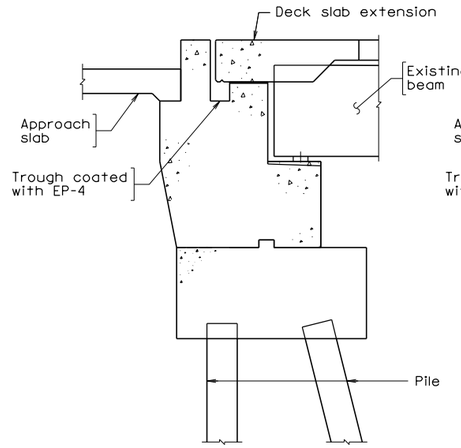
DEMOLITION AND CONSTRUCTION - TRANSVERSE SECTION



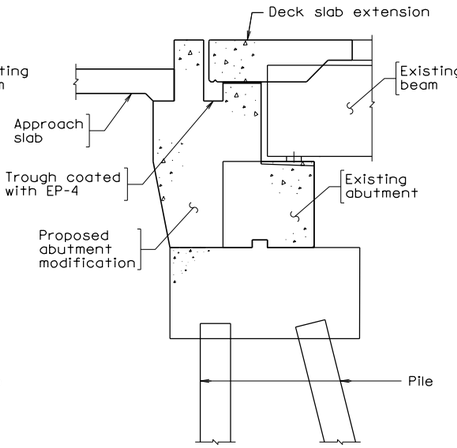
OVERLAY - TRANSVERSE SECTION



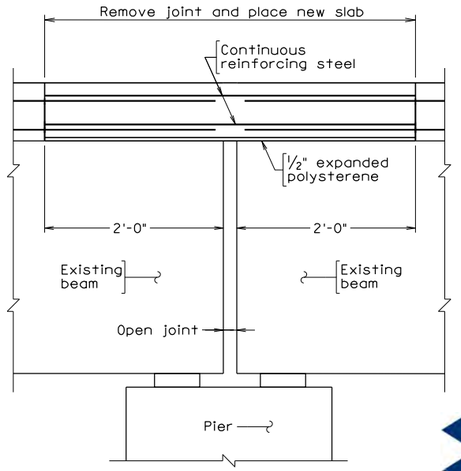
FINAL - TRANSVERSE SECTION



PROPOSED ABUTMENT SECTION



MODIFIED EXISTING ABUTMENT SECTION



CONTINUOUS SLAB RETROFIT DETAIL

SHIRLEY CONTRACTING COMPANY, LLC

Dewberry

PRELIMINARY PLANS

THESE PLANS NOT TO BE USED FOR CONSTRUCTION

Scale: 1/4" = 1'-0"

No.	Description	Date
Revisions		

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION

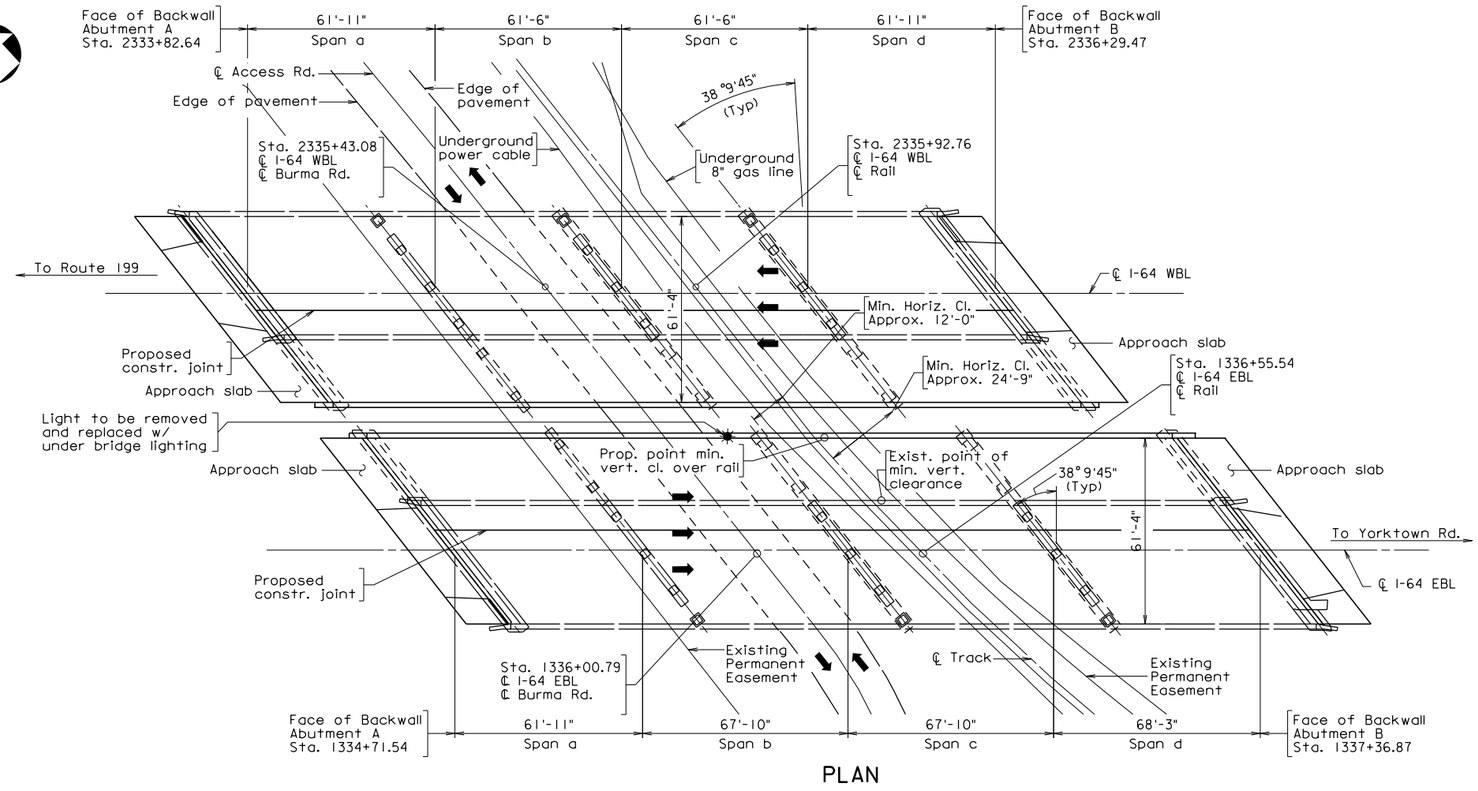
STRUCTURE AND BRIDGE DIVISION

TRANSVERSE SECTION (I-64 EB OVER I-64 WB TO RT. 143)

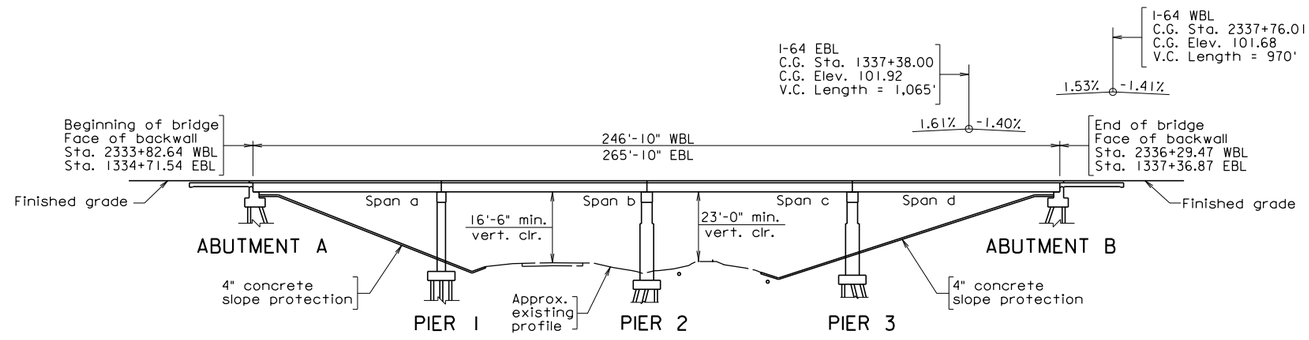
Designed: CJF	Date	Plan No.	Sheet No.
Drawn: EG		163-21C	2 of 2
Checked: XXX			

$DATE$ $TIME$
Typ Section_64 EB over 64 WB to Rt 143.dgn

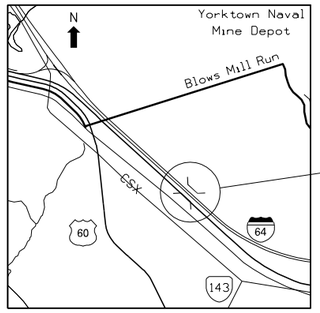
STATE	FEDERAL AID		STATE		SHEET NO.
	ROUTE	PROJECT	ROUTE	PROJECT	
VA.	—	—	64	0064-965-264, B630, B631	1
NBIS Number: 000000000010489 000000000010491			UPC No. 106665		
Federal Oversight Code: FO			FHWA Construction and Scour Code: X531-SN		



PLAN



DEVELOPED SECTION ALONG WIDENING



LOCATION MAP
Not to scale

Scale: 1" = 25'

DESIGN EXCEPTION(S):

None

GENERAL NOTES:

Width: 61'-4" face-to-face of rails.

Span layout:
EBL: 61'-11" - 67'-10" - 67'-10" - 68'-3"
WBL: 61'-11" - 61'-6"" - 61'-6" - 61'-11"

Capacity: HL-93 loading.

Specifications:

Construction: Virginia Department of Transportation Road and Bridge Specifications, 2007.

Design: AASHTO LRFD Bridge Design Specifications, 7th Edition, 2014; and VDOT Modifications.

Standards: Virginia Department of Transportation Road and Bridge Standards, 2008.

These plans are incomplete unless accompanied by the Supplemental Specifications and Special Provisions included in the contract documents.

Bridge Nos. of existing bridges are 2000 (EBL) and 2001 (WBL). Plan Nos. are 163-22 and 163-22A.

The existing structure is designated a Type B structure in accordance with Sec. 411.

Bridge Repair\Modification Notes:

1. All superstructure and substructure repairs will be performed on the existing bridges in accordance with the RFP Requirements. This includes removing of existing deck slab overlay; existing deck slab milling, patching and overlay; repairing existing beams; removing existing coating and repainting steel girders; repairing spalls and cracks on abutments and piers; and repairing existing slope protection.
2. Joints at piers will be retrofitted in accordance with Structure and Bridge Manual Volume V, Part 2, File No. 10.02-2.
3. All existing bearings will be replaced utilizing steel-reinforced elastomeric pads.
4. Existing deck slab and abutments will be modified to eliminate the existing deck joints at the abutments.
5. Replace the existing approach slabs with buried approach slabs extending from curb to curb.
6. Retrofit Category E and E' fatigue prone details of existing steel with Ultrasonic Impact Treatment.

VDOT

COMMONWEALTH OF VIRGINIA

DEPARTMENT OF TRANSPORTATION

PROPOSED BRIDGE WIDENING ON RTE. 64 OVER BURMA ROAD AND RAILROAD TO NAVAL WEAPONS STATION JAMES CITY COUNTY PROJ. 0064-965-264

$DATE$ $TIME$
GPE_64 over Ac Rd and RR to NWS.dgn

RECOMMENDED FOR APPROVAL FOR CONSTRUCTION
VDOT PROJECT MANAGER
DISTRICT CONSTRUCTION MANAGER

PLANS BY:	Consultant
COORDINATED:	
SUPERVISED:	
DESIGNED:	CF
DRAWN:	EG
CHECKED:	

SHIRLEY CONTRACTING COMPANY, LLC

Dewberry

PRELIMINARY PLANS
THESE PLANS NOT TO BE USED FOR CONSTRUCTION

No.	Description	Date

REVISIONS

For Table of Revisions, see Sheet 2.

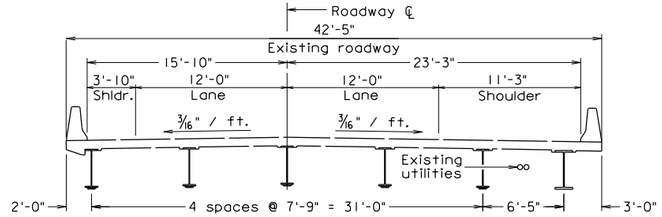
Recommended for Approval: _____ (Developer's Designee) Date

Approved: _____ Chief Engineer Date

163-22B

Date: _____

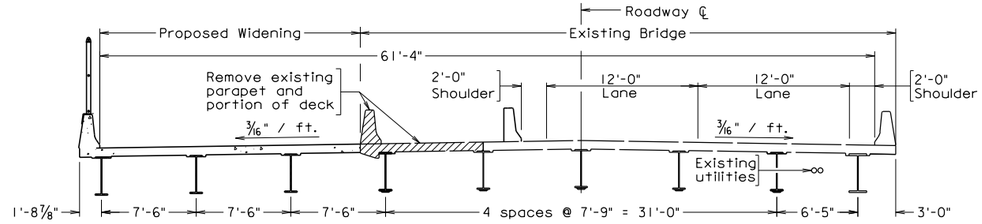
STATE	FEDERAL AID		STATE		SHEET NO.
	ROUTE	PROJECT	ROUTE	PROJECT	
VA.	—	————	64	0064-965-264, B630, B631	2



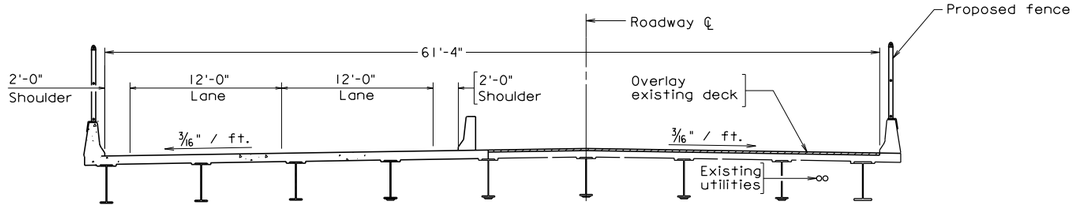
EXISTING BRIDGE - TRANSVERSE SECTION
(EBL shwon, WBL opposite hand)

Legend:

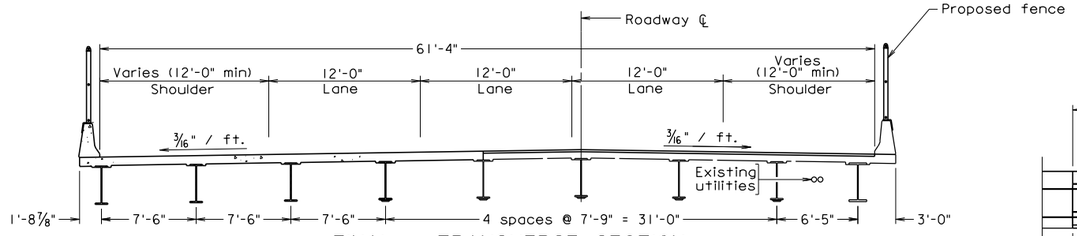
Existing structure to be removed.



DEMOLITION AND CONSTRUCTION - TRANSVERSE SECTION
(EBL shwon, WBL opposite hand)



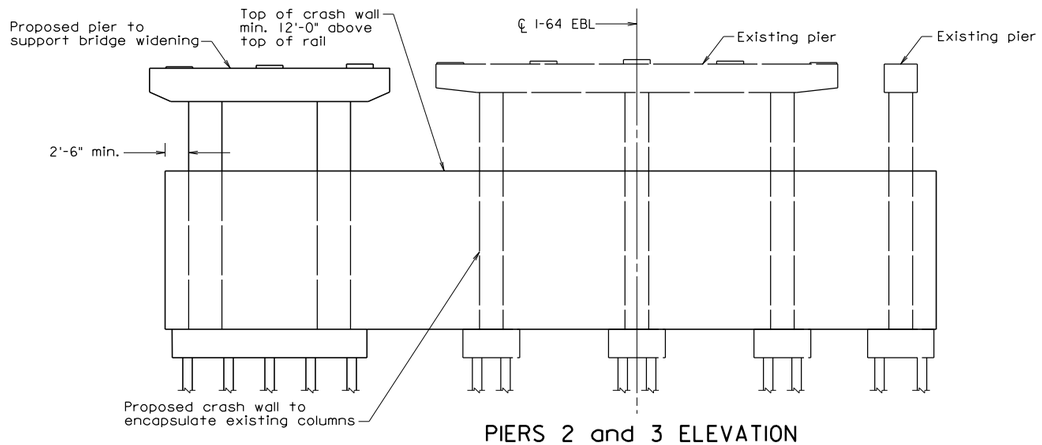
OVERLAY - TRANSVERSE SECTION
(EBL shwon, WBL opposite hand)



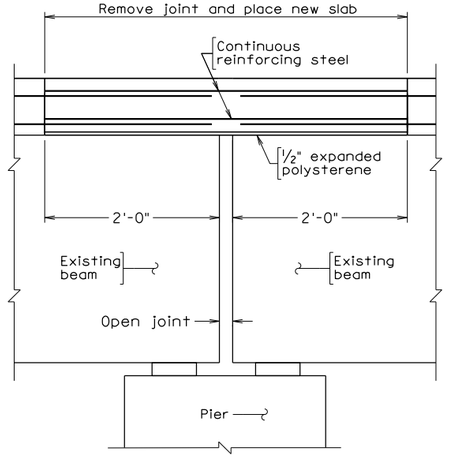
FINAL - TRANSVERSE SECTION
(EBL shwon, WBL opposite hand)

Note:

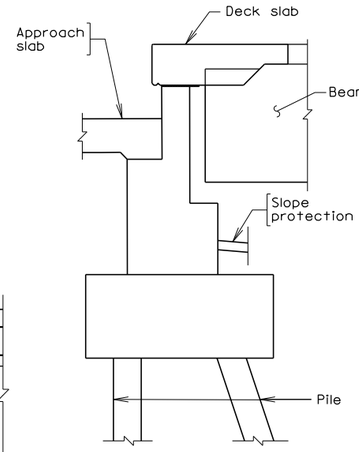
All sections shown looking station-ahead (to the east).



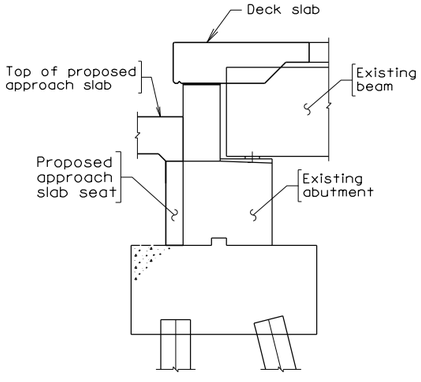
PIERS 2 and 3 ELEVATION
EBL SHOWN (WBL OPPOSITE HAND)



CONTINUOUS SLAB RETROFIT DETAIL



PROPOSED
ABUTMENT SECTION



MODIFIED EXISTING
ABUTMENT SECTION

SHIRLEY CONTRACTING COMPANY, LLC

Dewberry

PRELIMINARY PLANS

THESE PLANS NOT TO BE USED FOR CONSTRUCTION

Not to scale

No.	Description	Date
	Revisions	

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION

STRUCTURE AND BRIDGE DIVISION

TRANSVERSE SECT. AND PIER DET. (I-64 OVER BURMA RD AND RR TO NAVAL WEAPONS STATION)

Designed: CJF	Date	Plan No.	Sheet No.
Drawn: KG		163-22B	2 of 2
Checked: XXX			

$DATE$ $TIME$
Typ Section_Pier_64 over Ac Rd and RR to NWS_1.dgn

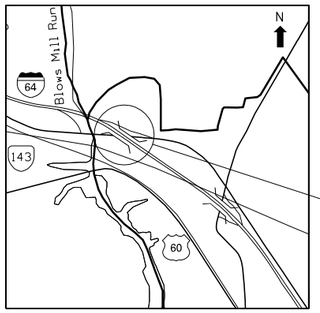
STATE	FEDERAL AID ROUTE	FEDERAL AID PROJECT	STATE ROUTE	STATE PROJECT	SHEET NO.
VA.	—	—	64	0064-965-264, B632, B633	1

NBIS Number: 000000000020698
000000000020700

UPC No. 106665

Federal Oversight Code: FO

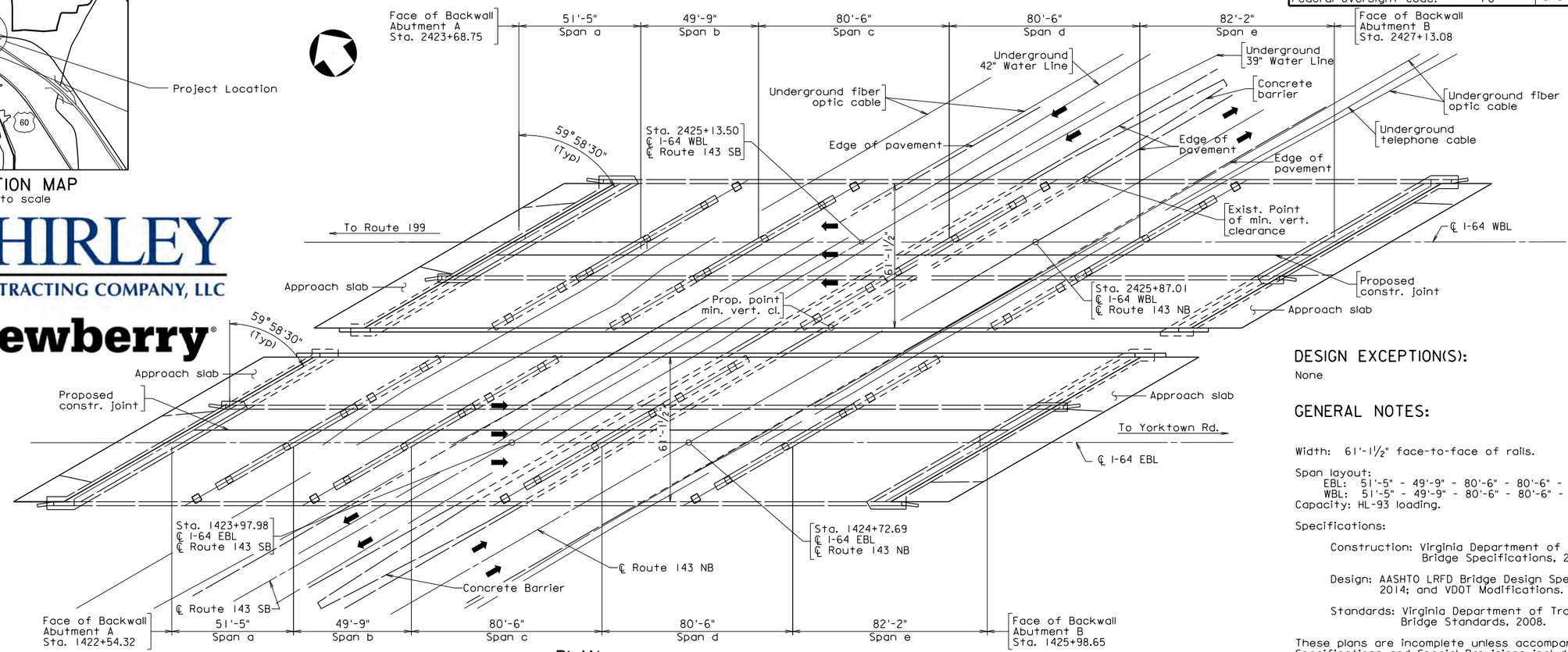
FHWA Construction and Scour Code: X231-SN



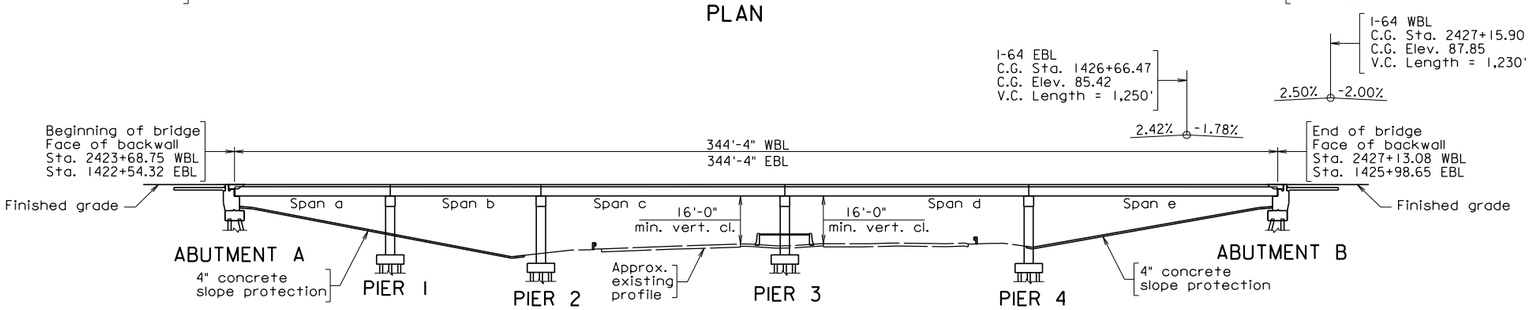
LOCATION MAP
Not to scale

SHIRLEY CONTRACTING COMPANY, LLC

Dewberry®



PLAN



DEVELOPED SECTION ALONG WIDENING

Bridge Repair\Modification Notes:

1. All superstructure and substructure repairs will be performed on the existing bridges in accordance with the RFP Requirements. This includes removing of existing deck slab overlay; existing deck slab milling, patching and overlay; repairing existing beams; removing existing coating and repainting steel girders; repairing spalls and cracks on abutments and piers; and repairing existing slope protection.
2. Joints at piers will be retrofitted in accordance with Structure and Bridge Manual Volume V, Part 2, File No. 10.02-2.
3. All existing bearings will be replaced utilizing steel-reinforced elastomeric pads.
4. Existing deck slab and abutments will be modified to eliminate the existing deck joints at the abutments.
5. Replace the existing approach slabs with buried approach slabs extending from curb to curb.
6. Retrofit Category E and E' fatigue prone details of existing steel with Ultrasonic Impact Treatment.

Scale: 1" = 25'

DESIGN EXCEPTION(S):

None

GENERAL NOTES:

Width: 61'-1½" face-to-face of rails.

Span layout:
EBL: 51'-5" - 49'-9" - 80'-6" - 80'-6" - 82'-2"
WBL: 51'-5" - 49'-9" - 80'-6" - 80'-6" - 82'-2"
Capacity: HL-93 loading.

Specifications:

Construction: Virginia Department of Transportation Road and Bridge Specifications, 2007.

Design: AASHTO LRFD Bridge Design Specifications, 7th Edition, 2014; and VDOT Modifications.

Standards: Virginia Department of Transportation Road and Bridge Standards, 2008.

These plans are incomplete unless accompanied by the Supplemental Specifications and Special Provisions included in the contract documents.

Bridge Nos. of existing bridges are 2206 (EBL) and 2207 (WBL). Plan Nos. are 163-23 and 163-23A.

The existing structure is designated a Type B structure in accordance with Sec. 411.

VDOT

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION
PROPOSED BRIDGE WIDENING ON
RTE. 64 OVER Rt. 143 / JEFFERSON AVE.
NEWPORT NEWS
PROJ. 0064-965-264

Recommended for Approval: _____ (Developer's Designee) Date

Approved: _____ Chief Engineer Date

Date: _____

163-23B

Sheet 1 of 2

PRELIMINARY PLANS
THESE PLANS NOT TO BE USED FOR CONSTRUCTION

No.	Description	Date

REVISIONS

For Table of Revisions, see Sheet 2.

RECOMMENDED FOR APPROVAL FOR CONSTRUCTION

VDOT PROJECT MANAGER

DISTRICT CONSTRUCTION MANAGER

PLANS BY:	Consultant
COORDINATED:	
SUPERVISED:	
DESIGNED:	CF
DRAWN:	EG
CHECKED:	

$DATE$ $TIME$
GPE_64 over Rt 143 Jeff.dgn

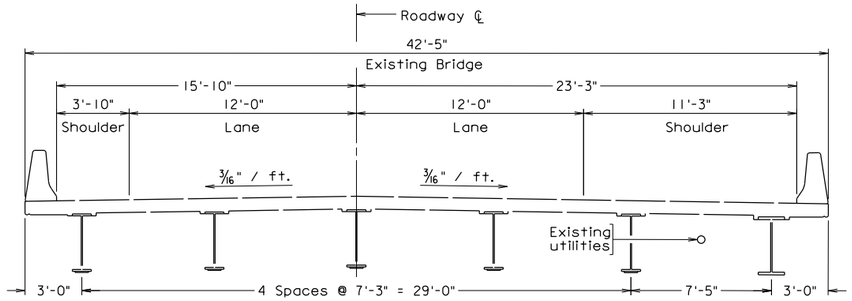
STATE	FEDERAL AID		STATE		SHEET NO.
	ROUTE	PROJECT	ROUTE	PROJECT	
VA.	—	————	64	0064-965-264, B632, B633	2

Note:

All sections shown looking station-ahead (to the east).

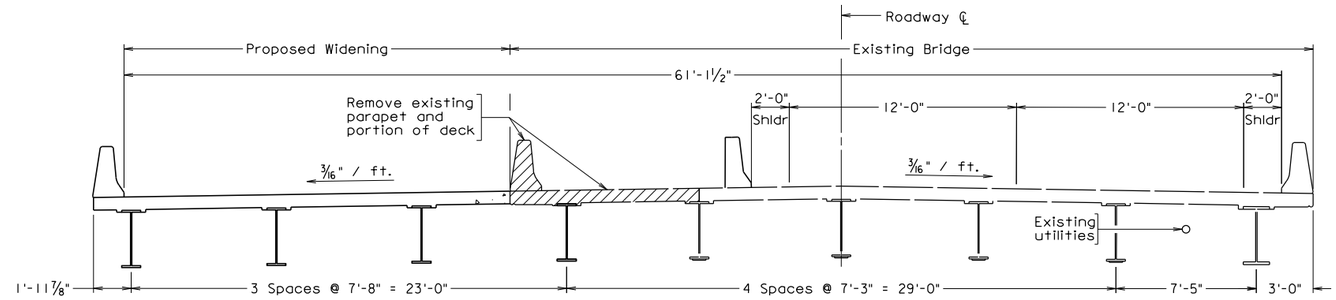
Legend:

Existing structure to be removed.



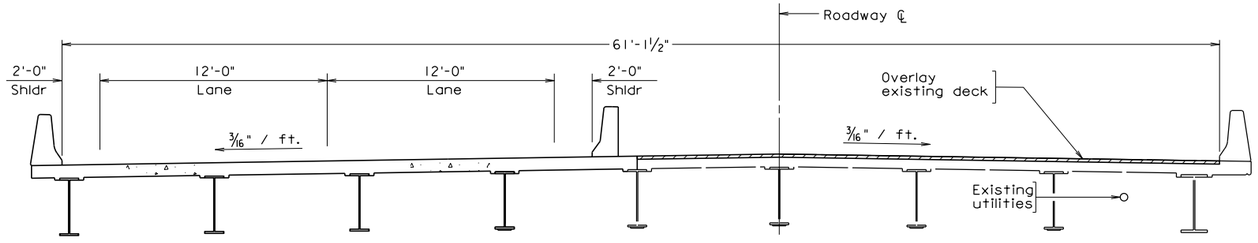
EXISTING BRIDGE - TRANSVERSE SECTION

(EBL shown, WBL opposite hand)



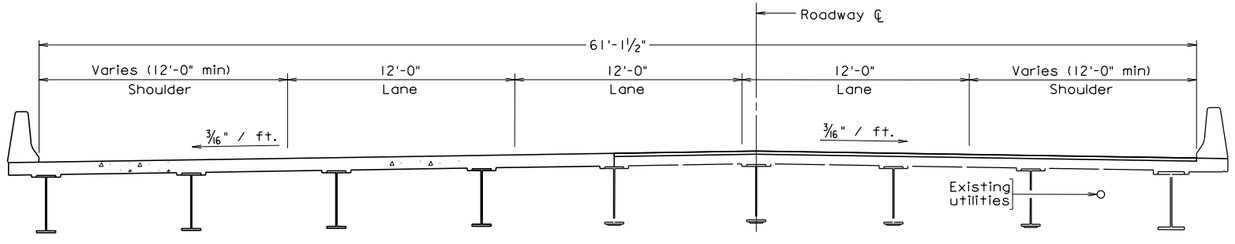
DEMOLITION AND CONSTRUCTION - TRANSVERSE SECTION

(EBL shown, WBL opposite hand)



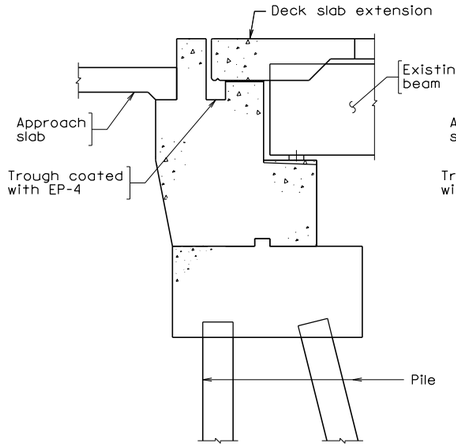
OVERLAY - TRANSVERSE SECTION

(EBL shown, WBL opposite hand)

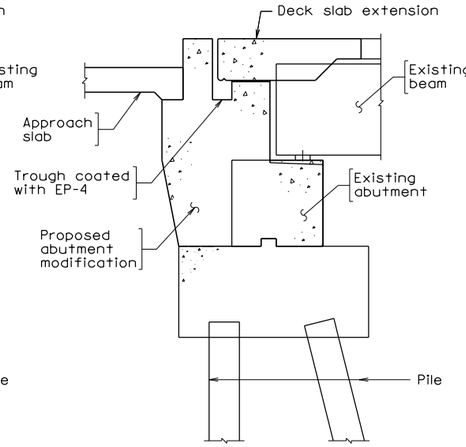


FINAL - TRANSVERSE SECTION

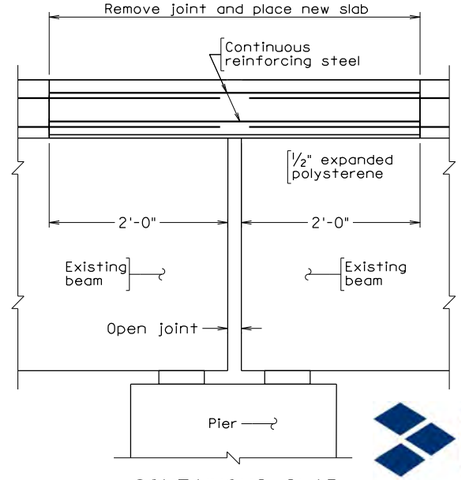
(EBL shown, WBL opposite hand)



PROPOSED ABUTMENT SECTION



MODIFIED EXISTING ABUTMENT SECTION



CONTINUOUS SLAB RETROFIT DETAIL

SHIRLEY CONTRACTING COMPANY, LLC

Dewberry

PRELIMINARY PLANS

THESE PLANS NOT TO BE USED FOR CONSTRUCTION

Scale: 1/4" = 1'-0"

No.	Description	Date
	Revisions	

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION

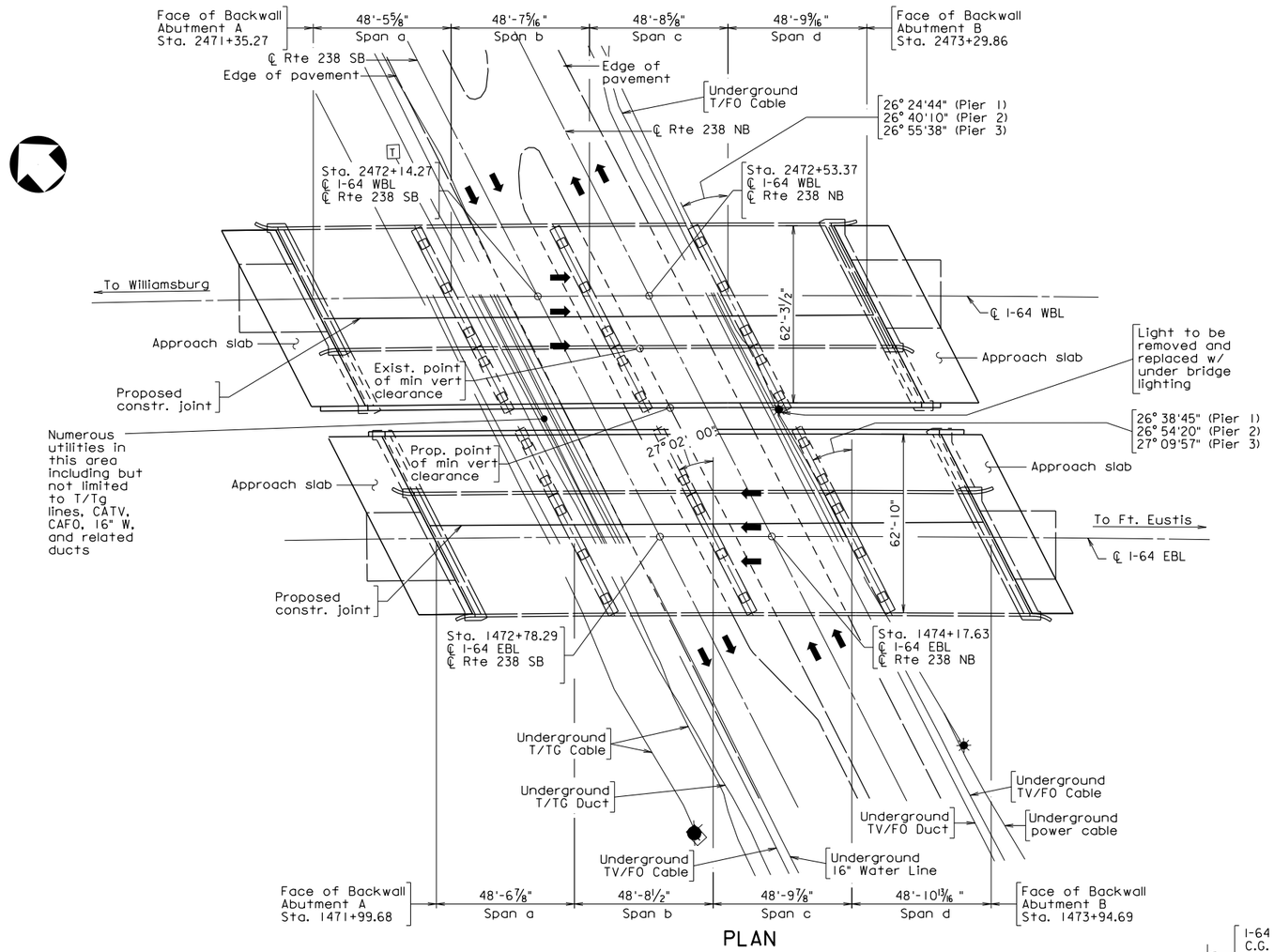
STRUCTURE AND BRIDGE DIVISION

TRANSVERSE SECTION
(I-64 OVER RTE. 143 JEFF AVE.)

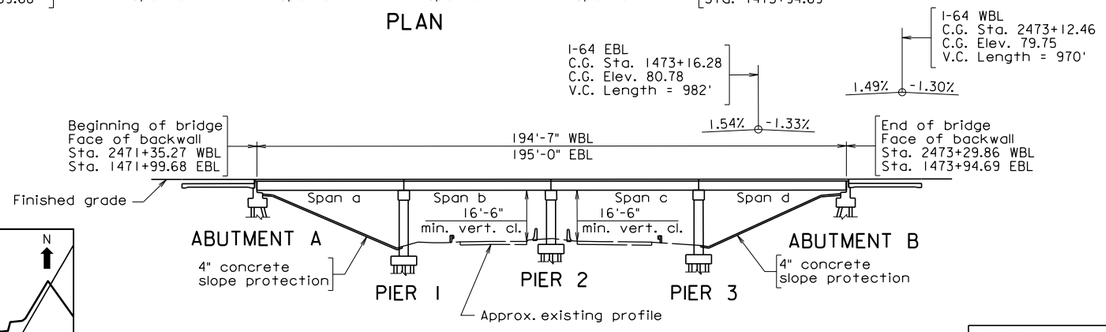
Designed: C.F.	Date	Plan No.	Sheet No.
Drawn: K.G.		163-23B	2 of 2
Checked: .XXX.			

$DATE$ $TIME$
Typ Section_over Rt 143 Jeff.dgn

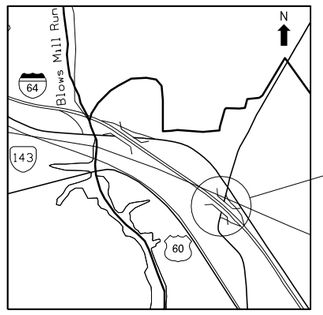
STATE	FEDERAL AID		STATE		SHEET NO.
	ROUTE	PROJECT	ROUTE	PROJECT	
VA.	—		64	0064-965-264, B634, B635	1
NBIS Number: 000000000020702 000000000020704			UPC No. 106665		
Federal Oversight Code: FO			FHWA Construction and Scour Code: X281-SN		



PLAN



DEVELOPED SECTION ALONG WIDENING



LOCATION MAP
Not to scale

Scale: 1" = 25'

DESIGN EXCEPTION(S):

None

GENERAL NOTES:

Width: 62'-10" face-to-face of rails (EBL).
62'-3½" face-to-face of rails (WBL).

Span layout:
EBL: 48'-6⅞" - 48'-8½" - 48'-9⅞" - 48'-10⅛"
WBL: 48'-5⅝" - 48'-7⅝" - 48'-8⅝" - 48'-9⅜"
Capacity: HL-93 loading.

Specifications:

Construction: Virginia Department of Transportation Road and Bridge Specifications, 2007.

Design: AASHTO LRFD Bridge Design Specifications, 7th Edition, 2014; and VDOT Modifications.

Standards: Virginia Department of Transportation Road and Bridge Standards, 2008.

These plans are incomplete unless accompanied by the Supplemental Specifications and Special Provisions included in the contract documents.

Bridge Nos. of existing bridges are 2208 (EBL) and 2209 (WBL). Plan Nos. are 163-24.

Bridge Repair\Modification Notes:

1. All superstructure and substructure repairs will be performed on the existing bridges in accordance with the RFP Requirements. This includes removing of existing deck slab overlay; existing deck slab milling, patching and overlay; repairing existing beams; repairing spalls and cracks on abutments and piers; and repairing existing slope protection.
2. Joints at piers will be retrofitted in accordance with Structure and Bridge Manual Volume V, Part 2, File No. 10.02-2.
3. All existing bearings will be replaced utilizing steel-reinforced elastomeric pads.
4. Existing deck slab and abutments will be modified to eliminate the existing deck joints at the abutments.
5. Replace the existing approach slabs with buried approach slabs extending from curb to curb.

RECOMMENDED FOR APPROVAL FOR CONSTRUCTION
VDOT PROJECT MANAGER
DISTRICT CONSTRUCTION MANAGER

PLANS BY:	Consultant
COORDINATED:	
SUPERVISED:	
DESIGNED:	CF
DRAWN:	EG
CHECKED:	

PRELIMINARY PLANS
THESE PLANS NOT TO BE USED FOR CONSTRUCTION

No.	Description	Date

REVISIONS

For Table of Revisions, see Sheet 2.

SHIRLEY CONTRACTING COMPANY, LLC

Dewberry

VDOT

COMMONWEALTH OF VIRGINIA

DEPARTMENT OF TRANSPORTATION

PROPOSED BRIDGE WIDENING ON
RTE. 64 OVER Rt. 238 / YORKTOWN RD.
NEWPORT NEWS
PROJ. 0064-965-264

Recommended for Approval: _____ _____
(Developer's Designee) Date

Approved: _____ _____
Chief Engineer Date

163-24A

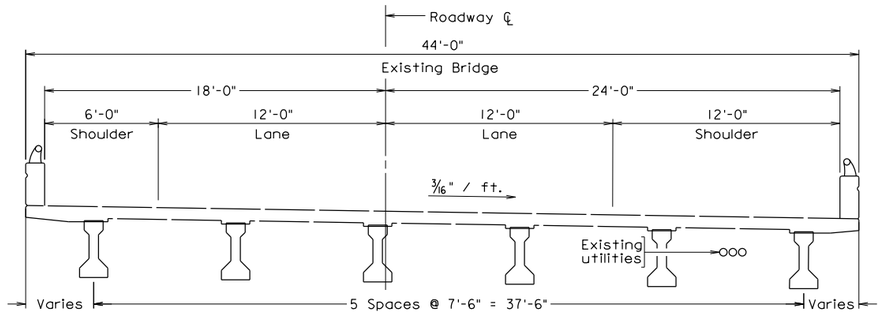
Date: _____

$DATE$ $TIME$ GPE_64 over Rt 238 Yorktown .dgn

STATE	FEDERAL AID		STATE		SHEET NO.
	ROUTE	PROJECT	ROUTE	PROJECT	
VA.	—	————	64	0064-965-264, B634, B635	2

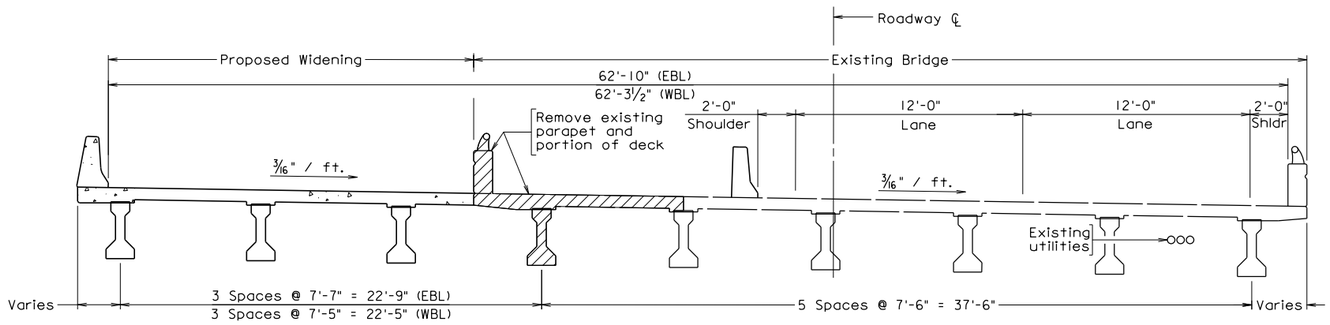
Legend:

Existing structure to be removed.



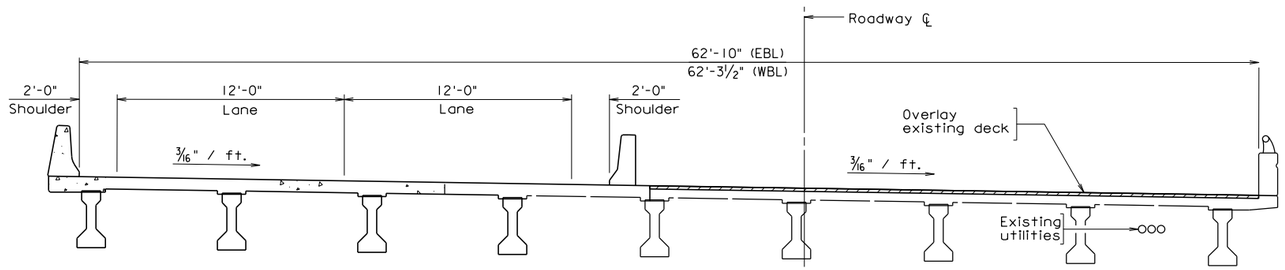
EXISTING BRIDGE - TRANSVERSE SECTION

(EBL shown, WBL opposite hand)



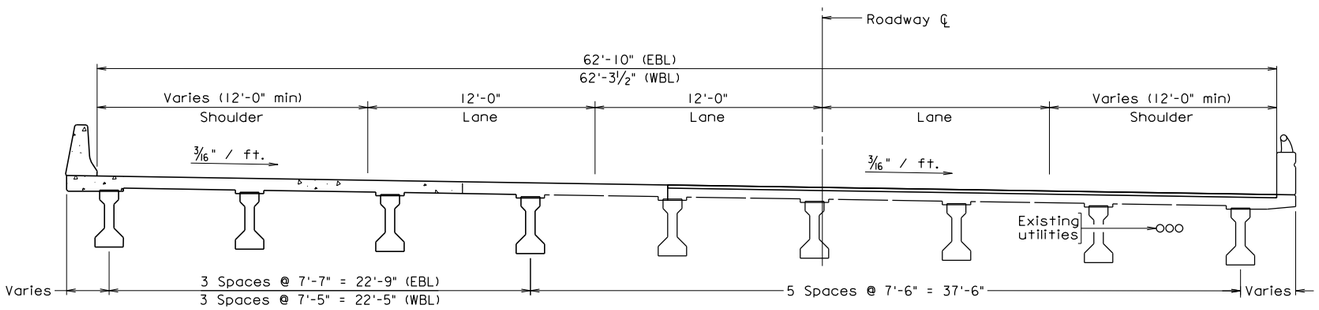
DEMOLITION AND CONSTRUCTION - TRANSVERSE SECTION

(EBL shown, WBL opposite hand, except as noted)



OVERLAY - TRANSVERSE SECTION

(EBL shown, WBL opposite hand, except as noted)

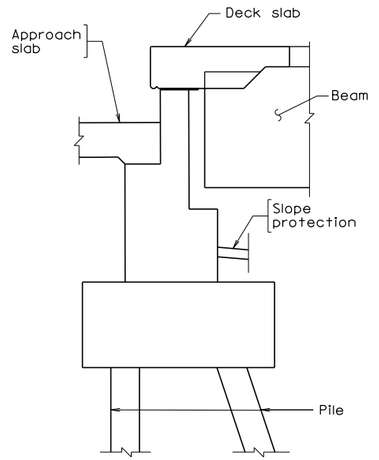


FINAL - TRANSVERSE SECTION

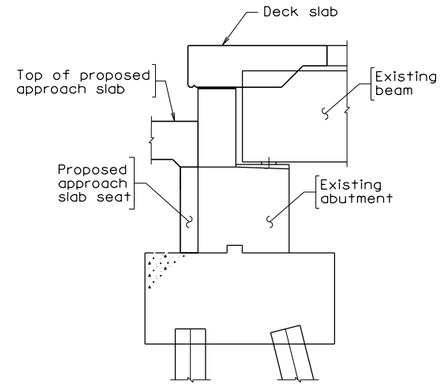
(EBL shown, WBL opposite hand, except as noted)

Note:

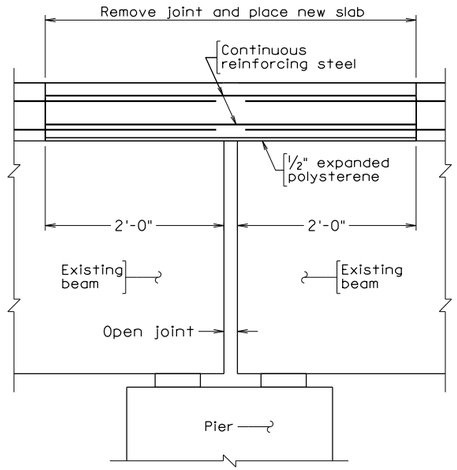
All sections shown looking station-ahead (to the east).



PROPOSED ABUTMENT SECTION



MODIFIED EXISTING ABUTMENT SECTION



CONTINUOUS SLAB RETROFIT DETAIL

PRELIMINARY PLANS

THESE PLANS NOT TO BE USED FOR CONSTRUCTION

SHIRLEY CONTRACTING COMPANY, LLC

Dewberry

Scale: 1/4" = 1'-0"

No.	Description	Date
	Revisions	

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION

STRUCTURE AND BRIDGE DIVISION

TRANSVERSE SECTION
(I-64 OVER RTE. 238
YORKTOWN RD.)

Designed: CJF	Date	Plan No.	Sheet No.
Drawn: EG		163-24A	2 of 2
Checked: XXX			

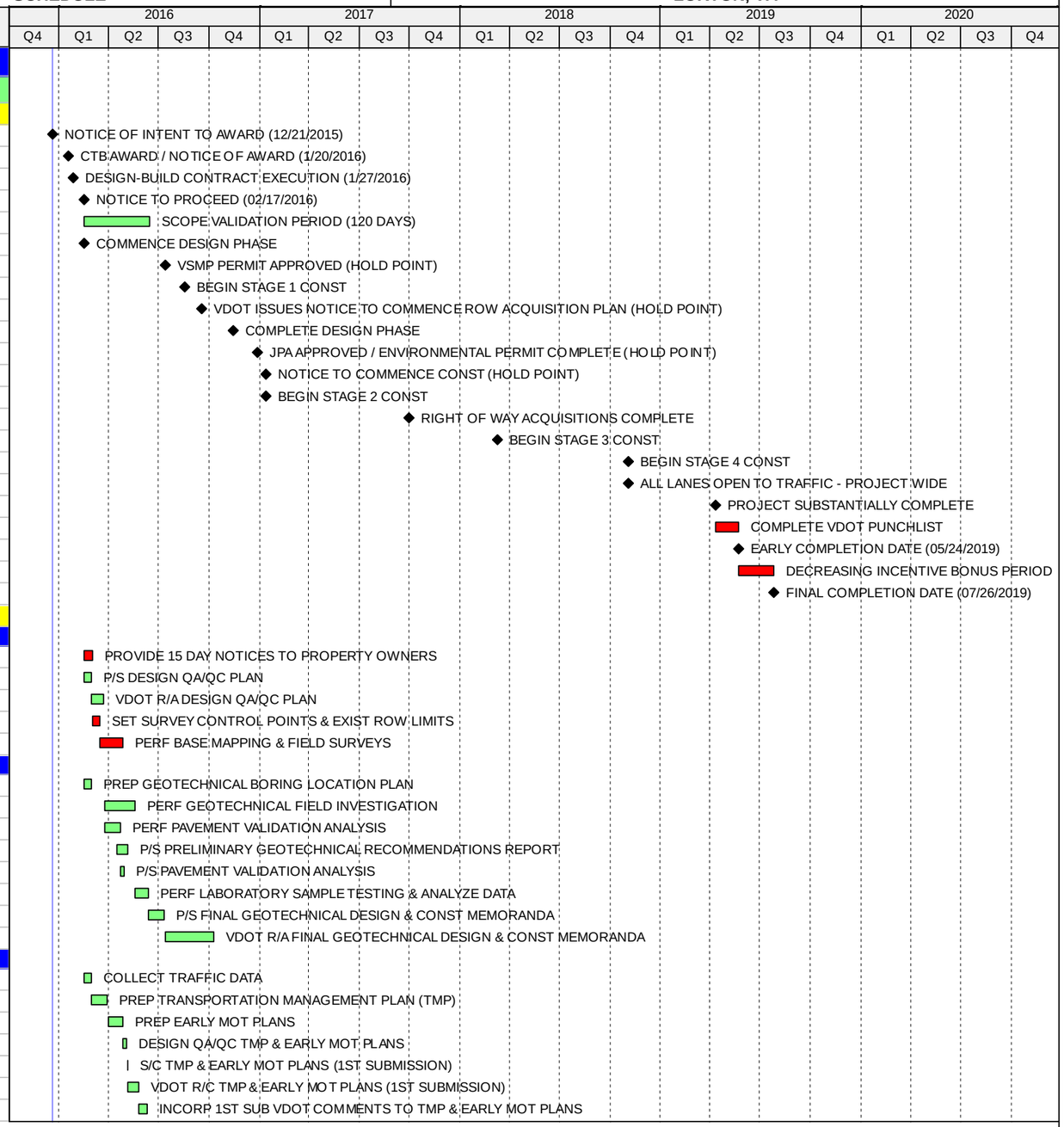
$DATE$ $TIME$
Typ Section_over Rt 238 Yorktown.dgn

Proposal Schedule

I-64 CAPACITY IMPROVEMENT - SEGMENT II | **TECHNICAL PROPOSAL** | **SHIRLEY CONTRACTING COMPANY, LLC**

CONTRACT NO C00106665DB82 | **SCHEDULE** | **LORTON, VA**

Activity ID	Activity Name	Original Duration	Total Float	Start	Finish
I-64 SEG II		940	0	21-Dec-15	26-Jul-19
I-64 CAPACITY IMPROVEMENTS SEGMENT II Contract C00106665DB8		940	0	21-Dec-15	26-Jul-19
SCHEDULE MILESTONES/SCOPE VALIDATION PERIOD		940	0	21-Dec-15	26-Jul-19
MS1000	NOTICE OF INTENT TO AWARD (12/21/2015)	0	0	21-Dec-15*	
MS1010	CTB AWARD / NOTICE OF AWARD (1/20/2016)	0	0	20-Jan-16*	
MS1020	DESIGN-BUILD CONTRACT EXECUTION (1/27/2016)	0	0	27-Jan-16*	
MS1030	NOTICE TO PROCEED (02/17/2016)	0	0	17-Feb-16*	
MS1050	SCOPE VALIDATION PERIOD (120 DAYS)	120	0	17-Feb-16	15-Jun-16*
MS1040	COMMENCE DESIGN PHASE	0	0	17-Feb-16	
MS1060	VSMP PERMIT APPROVED (HOLD POINT)	0	102	14-Jul-16	
MS1070	BEGIN STAGE 1 CONST	0	68	17-Aug-16	
MS1080	VDOT ISSUES NOTICE TO COMMENCE ROW ACQUISITION PLAN (HOLD	0	164	17-Sep-16	
MS1090	COMPLETE DESIGN PHASE	0	58		14-Nov-16
MS1100	JPA APPROVED / ENVIRONMENTAL PERMIT COMPLETE (HOLD POINT)	0	14		28-Dec-16
MS1110	NOTICE TO COMMENCE CONST (HOLD POINT)	0	0	12-Jan-17	
MS1115	BEGIN STAGE 2 CONST	0	0	12-Jan-17	
MS1130	RIGHT OF WAY ACQUISITIONS COMPLETE	0	161		29-Sep-17
MS1140	BEGIN STAGE 3 CONST	0	0	10-Mar-18	
MS1150	BEGIN STAGE 4 CONST	0	0	03-Nov-18	
MS1160	ALL LANES OPEN TO TRAFFIC - PROJECT WIDE	0	159		03-Nov-18
MS1170	PROJECT SUBSTANTIALLY COMPLETE	0	0		11-Apr-19
MS1180	COMPLETE VDOT PUNCHLIST	30	0	11-Apr-19	23-May-19
MS1190	EARLY COMPLETION DATE (05/24/2019)	0	0		24-May-19
MS1195	DECREASING INCENTIVE BONUS PERIOD	64	0	24-May-19	26-Jul-19
MS1200	FINAL COMPLETION DATE (07/26/2019)	0	0		26-Jul-19*
DESIGN PHASE		219	43	17-Feb-16	19-Dec-16
PRELIMINARY DESIGN		50	10	17-Feb-16	26-Apr-16
DES10140	PROVIDE 15 DAY NOTICES TO PROPERTY OWNERS	15	0	17-Feb-16	02-Mar-16
DES10000	P/S DESIGN QA/QC PLAN	10	34	17-Feb-16	01-Mar-16
DES10130	VDOT R/A DESIGN QA/QC PLAN	21	49	02-Mar-16	22-Mar-16
DES10150	SET SURVEY CONTROL POINTS & EXIST ROW LIMITS	10	0	02-Mar-16	16-Mar-16
DES10160	PERF BASE MAPPING & FIELD SURVEYS	28	0	16-Mar-16	26-Apr-16
GEOTECHNICAL WORK		169	49	17-Feb-16	10-Oct-16
DES10170	PREP GEOTECHNICAL BORING LOCATION PLAN	10	44	17-Feb-16	01-Mar-16
DES10180	PERF GEOTECHNICAL FIELD INVESTIGATION	40	27	24-Mar-16	20-May-16
DES10230	PERF PAVEMENT VALIDATION ANALYSIS	20	27	24-Mar-16	22-Apr-16
DES10190	P/S PRELIMINARY GEOTECHNICAL RECOMMENDATIONS REPORT	15	58	15-Apr-16	06-May-16
DES10240	P/S PAVEMENT VALIDATION ANALYSIS	5	27	22-Apr-16	29-Apr-16
DES10200	PERF LABORATORY SAMPLE TESTING & ANALYZE DATA	15	48	20-May-16	13-Jun-16
DES10210	P/S FINAL GEOTECHNICAL DESIGN & CONST MEMORANDA	20	48	13-Jun-16	12-Jul-16
DES10220	VDOT R/A FINAL GEOTECHNICAL DESIGN & CONST MEMORANDA	90	69	13-Jul-16	10-Oct-16
TMP & MOT PLANS		130	48	17-Feb-16	16-Aug-16
DES10250	COLLECT TRAFFIC DATA	10	9	17-Feb-16	01-Mar-16
DES10260	PREP TRANSPORTATION MANAGEMENT PLAN (TMP)	20	9	02-Mar-16	30-Mar-16
DES10270	PREP EARLY MOT PLANS	20	9	31-Mar-16	27-Apr-16
DES10280	DESIGN QA/QC TMP & EARLY MOT PLANS	5	9	28-Apr-16	04-May-16
DES10290	S/C TMP & EARLY MOT PLANS (1ST SUBMISSION)	1	9	05-May-16	05-May-16
DES10300	VDOT R/C TMP & EARLY MOT PLANS (1ST SUBMISSION)	21	13	06-May-16	26-May-16
DES10310	INCORP 1ST SUB VDOT COMMENTS TO TMP & EARLY MOT PLANS	10	47	26-May-16	10-Jun-16



Actual Work | Critical Remaining Work | Remaining Work | Milestone

I-64 CAPACITY IMPROVEMENT - SEGMENT II

CONTRACT NO C00106665DB82

TECHNICAL PROPOSAL

SCHEDULE

SHIRLEY CONTRACTING COMPANY, LLC

LORTON, VA

Activity ID	Activity Name	Original Duration	Total Float	Start	Finish
DES10320	DESIGN QA/QC TMP & EARLY MOT PLANS (2ND SUBMISSION)	5	47	10-Jun-16	17-Jun-16
DES10330	S/C TMP & EARLY MOT PLANS (2ND SUBMISSION)	1	47	17-Jun-16	20-Jun-16
DES10340	VDOT R/A TMP & EARLY MOT PLANS (2ND SUBMISSION)	21	66	21-Jun-16	11-Jul-16
DES10350	INCORP 2ND SUB VDOT COMMENTS TO TMP & EARLY MOT PLANS	10	47	11-Jul-16	25-Jul-16
DES10360	S/A FINAL TMP & EARLY MOT PLANS	1	47	25-Jul-16	26-Jul-16
DES10370	VDOT R/A FINAL TMP & EARLY MOT PLANS	21	66	27-Jul-16	16-Aug-16
DES10380	TMP & EARLY MOT PLANS APPROVED	0	47		16-Aug-16
ROADWAY DESIGN		138	48	26-Apr-16	04-Nov-16
DES10390	PREP RIGHT-OF-WAY PLANS	15	0	26-Apr-16	17-May-16
DES10400	PREP GRADING PLANS	15	0	03-May-16	24-May-16
DES10410	PREP DRAINAGE DESIGN	15	0	10-May-16	01-Jun-16
DES10420	DESIGN STORMWATER MANAGEMENT FACILITIES (BMP)	15	0	17-May-16	08-Jun-16
DES10430	PERF H&HA ANALYSIS AT STREAM AREAS (HOLD POINT)	15	38	01-Jun-16	22-Jun-16
DES10440	COMPILE ROADWAY PLANS (1ST SUBMISSION)	5	0	08-Jun-16	15-Jun-16
DES10450	ROADWAY DESIGN QA/QC (1ST SUBMISSION)	5	0	15-Jun-16	22-Jun-16
DES10460	S/C ROADWAY PLANS (1ST SUBMISSION)	1	0	22-Jun-16	23-Jun-16
DES10470	VDOT/FHWA R/C ROADWAY PLANS (1ST SUBMISSION)	21	0	24-Jun-16	14-Jul-16
DES10480	INCORPORATE VDOT/FHWA REVIEW COMMENTS	5	0	15-Jul-16	19-Jul-16
DES10490	PREP ROADWAY PLANS (2ND SUBMISSION)	20	0	19-Jul-16	16-Aug-16
DES10500	ROADWAY DESIGN QA/QC (2ND SUBMISSION)	5	0	16-Aug-16	23-Aug-16
DES10510	S/C ROADWAY PLANS (2ND SUBMISSION)	1	0	23-Aug-16	24-Aug-16
DES10520	VDOT/FHWA R/C ROADWAY PLANS (2ND SUBMISSION)	21	64	25-Aug-16	14-Sep-16
DES10530	PREP FINAL ROADWAY PLANS	16	46	14-Sep-16	06-Oct-16
DES10540	ROADWAY DESIGN FINAL QA/QC PLANS	5	46	06-Oct-16	13-Oct-16
DES10550	S/A FINAL ROADWAY PLANS	1	46	13-Oct-16	14-Oct-16
DES10560	VDOT/FHWA R/A FINAL ROADWAY PLANS	21	68	15-Oct-16	04-Nov-16
DES10570	FINAL ROADWAY PLANS APPROVED	0	44	04-Nov-16	
BRIDGE DESIGN		173	42	16-Mar-16	14-Nov-16
BRIDGES B-627/B-628 I-64 OVER RTE 641 PENNIMAN RD & ABAND RR		173	40	16-Mar-16	14-Nov-16
DES10580	B-627/B-628 PREP BRIDGE REPORT/TS&L (STAGE 1)	10	105	16-Mar-16	31-Mar-16
DES10590	B-627/B-628 S/C BRIDGE REPORT/TS&L (STAGE 1)	1	105	31-Mar-16	01-Apr-16
DES10600	B-627/B-628 VDOT/FHWA R/C BRIDGE REPORT/TS&L (STAGE 1)	21	151	02-Apr-16	22-Apr-16
DES10610	B-627/B-628 PREP PRELIM BRIDGE DESIGN (STAGE 1)	20	36	26-Apr-16	24-May-16
DES10620	B-627/B-628 S/C PRELIM BRIDGE DESIGN (STAGE 1)	1	36	24-May-16	25-May-16
DES10630	B-627/B-628 VDOT/FHWA R/C PRELIM BRIDGE DESIGN (STAGE 1)	21	54	26-May-16	15-Jun-16
DES10650	B-627/B-628 PREP BRIDGE PLAN (STAGE 1)	40	37	15-Jun-16	11-Aug-16
DES10640	B-627/B-628 INCORP VDOT/FHWA BR REPORT/PRELIM DESIGN COMME	10	67	15-Jun-16	29-Jun-16
DES10660	B-627/B-628 DESIGN QA/QC BRIDGE PLAN (STAGE 1)	10	37	11-Aug-16	25-Aug-16
DES10670	B-627/B-628 S/C BRIDGE PLAN (STAGE 1)	1	37	25-Aug-16	26-Aug-16
DES10680	B-627/B-628 VDOT/FHWA R/C BRIDGE PLAN (STAGE 1)	21	54	27-Aug-16	16-Sep-16
DES10700	B-627/B-628 PREP FINAL BRIDGE PLAN (STAGE 2)	20	38	16-Sep-16	14-Oct-16
DES10690	B-627/B-628 INCORP VDOT/FHWA BRIDGE PLAN COMMENTS (STAGE 1)	5	53	16-Sep-16	23-Sep-16
DES10710	B-627/B-628 DESIGN QA/QC FINAL BRIDGE PLAN (STAGE 2)	5	38	14-Oct-16	21-Oct-16
DES10720	B-627/B-628 S/A FINAL BRIDGE PLAN (STAGE 2)	1	38	21-Oct-16	24-Oct-16
DES10730	B-627/B-628 VDOT/FHWA R/A FINAL BRIDGE PLAN (STAGE 2)	21	56	25-Oct-16	14-Nov-16
DES10740	B-627/B-628 FINAL BRIDGE PLANS APPROVED	0	36	14-Nov-16	
BRIDGE B-629 I-64 EB OVER WB 143 OFF RAMP		173	42	16-Mar-16	14-Nov-16
DES10750	B-629 PREP BRIDGE REPORT/TS&L (STAGE 1)	10	107	16-Mar-16	31-Mar-16
DES10760	B-629 S/C BRIDGE REPORT/TS&L (STAGE 1)	1	107	31-Mar-16	01-Apr-16
DES10770	B-629 VDOT/FHWA R/C BRIDGE REPORT/TS&L (STAGE 1)	21	153	02-Apr-16	22-Apr-16

Actual Work
Remaining Work
Critical Remaining Work
Milestone

I-64 CAPACITY IMPROVEMENT - SEGMENT II

CONTRACT NO C00106665DB82

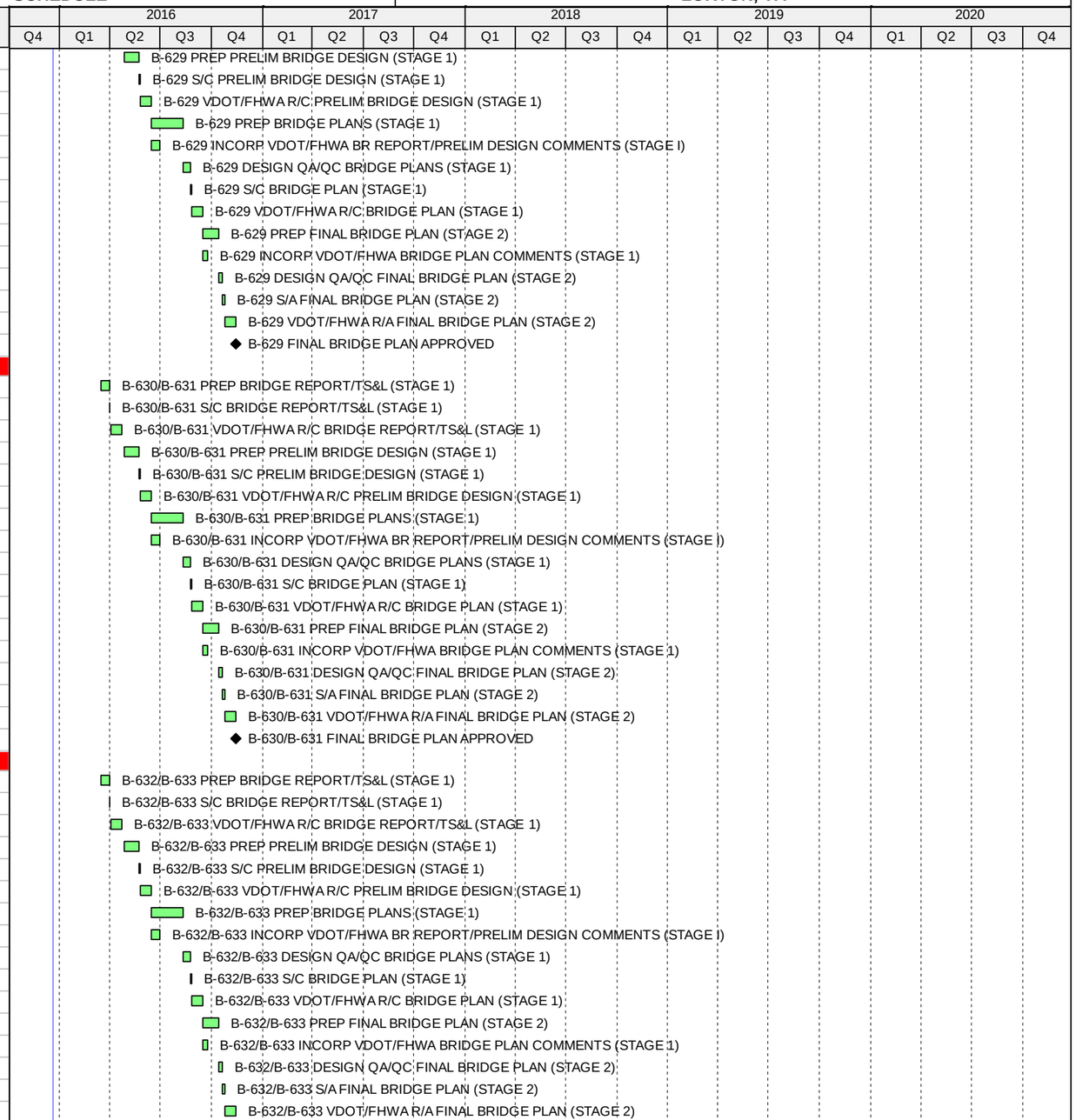
TECHNICAL PROPOSAL

SCHEDULE

SHIRLEY CONTRACTING COMPANY, LLC

LORTON, VA

Activity ID	Activity Name	Original Duration	Total Float	Start	Finish
DES10780	B-629 PREP PRELIM BRIDGE DESIGN (STAGE 1)	20	38	26-Apr-16	24-May-16
DES10790	B-629 S/C PRELIM BRIDGE DESIGN (STAGE 1)	1	38	24-May-16	25-May-16
DES10800	B-629 VDOT/FHWA R/C PRELIM BRIDGE DESIGN (STAGE 1)	21	56	26-May-16	15-Jun-16
DES10820	B-629 PREP BRIDGE PLANS (STAGE 1)	40	39	15-Jun-16	11-Aug-16
DES10810	B-629 INCORP VDOT/FHWA BR REPORT/PRELIM DESIGN COMMENTS (S	10	69	15-Jun-16	29-Jun-16
DES10830	B-629 DESIGN QA/QC BRIDGE PLANS (STAGE 1)	10	39	11-Aug-16	25-Aug-16
DES10840	B-629 S/C BRIDGE PLAN (STAGE 1)	1	39	25-Aug-16	26-Aug-16
DES10850	B-629 VDOT/FHWA R/C BRIDGE PLAN (STAGE 1)	21	58	27-Aug-16	16-Sep-16
DES10870	B-629 PREP FINAL BRIDGE PLAN (STAGE 2)	20	40	16-Sep-16	14-Oct-16
DES10860	B-629 INCORP VDOT/FHWA BRIDGE PLAN COMMENTS (STAGE 1)	5	55	16-Sep-16	23-Sep-16
DES10880	B-629 DESIGN QA/QC FINAL BRIDGE PLAN (STAGE 2)	5	40	14-Oct-16	21-Oct-16
DES10890	B-629 S/A FINAL BRIDGE PLAN (STAGE 2)	1	40	21-Oct-16	24-Oct-16
DES10900	B-629 VDOT/FHWA R/A FINAL BRIDGE PLAN (STAGE 2)	21	58	25-Oct-16	14-Nov-16
DES10910	B-629 FINAL BRIDGE PLAN APPROVED	0	38	14-Nov-16	
BRIDGES B-630/B-631 I-64 OVER BURMA RD & YORKTOWN NWS RR		173	42	16-Mar-16	14-Nov-16
DES10920	B-630/B-631 PREP BRIDGE REPORT/TS&L (STAGE 1)	10	76	16-Mar-16	31-Mar-16
DES10930	B-630/B-631 S/C BRIDGE REPORT/TS&L (STAGE 1)	1	76	31-Mar-16	01-Apr-16
DES10940	B-630/B-631 VDOT/FHWA R/C BRIDGE REPORT/TS&L (STAGE 1)	21	110	02-Apr-16	22-Apr-16
DES10950	B-630/B-631 PREP PRELIM BRIDGE DESIGN (STAGE 1)	20	38	26-Apr-16	24-May-16
DES10960	B-630/B-631 S/C PRELIM BRIDGE DESIGN (STAGE 1)	1	38	24-May-16	25-May-16
DES10970	B-630/B-631 VDOT/FHWA R/C PRELIM BRIDGE DESIGN (STAGE 1)	21	56	26-May-16	15-Jun-16
DES10990	B-630/B-631 PREP BRIDGE PLANS (STAGE 1)	40	39	15-Jun-16	11-Aug-16
DES10980	B-630/B-631 INCORP VDOT/FHWA BR REPORT/PRELIM DESIGN COMMEI	10	69	15-Jun-16	29-Jun-16
DES11000	B-630/B-631 DESIGN QA/QC BRIDGE PLANS (STAGE 1)	10	39	11-Aug-16	25-Aug-16
DES11010	B-630/B-631 S/C BRIDGE PLAN (STAGE 1)	1	39	25-Aug-16	26-Aug-16
DES11020	B-630/B-631 VDOT/FHWA R/C BRIDGE PLAN (STAGE 1)	21	58	27-Aug-16	16-Sep-16
DES11040	B-630/B-631 PREP FINAL BRIDGE PLAN (STAGE 2)	20	40	16-Sep-16	14-Oct-16
DES11030	B-630/B-631 INCORP VDOT/FHWA BRIDGE PLAN COMMENTS (STAGE 1)	5	55	16-Sep-16	23-Sep-16
DES11050	B-630/B-631 DESIGN QA/QC FINAL BRIDGE PLAN (STAGE 2)	5	40	14-Oct-16	21-Oct-16
DES11060	B-630/B-631 S/A FINAL BRIDGE PLAN (STAGE 2)	1	40	21-Oct-16	24-Oct-16
DES11070	B-630/B-631 VDOT/FHWA R/A FINAL BRIDGE PLAN (STAGE 2)	21	58	25-Oct-16	14-Nov-16
DES11080	B-630/B-631 FINAL BRIDGE PLAN APPROVED	0	38	14-Nov-16	
BRIDGES B-632/B-633 I-64 OVER RTE 143 JEFFERSON AVE		173	42	16-Mar-16	14-Nov-16
DES11090	B-632/B-633 PREP BRIDGE REPORT/TS&L (STAGE 1)	10	76	16-Mar-16	31-Mar-16
DES11100	B-632/B-633 S/C BRIDGE REPORT/TS&L (STAGE 1)	1	76	31-Mar-16	01-Apr-16
DES11110	B-632/B-633 VDOT/FHWA R/C BRIDGE REPORT/TS&L (STAGE 1)	21	110	02-Apr-16	22-Apr-16
DES11120	B-632/B-633 PREP PRELIM BRIDGE DESIGN (STAGE 1)	20	38	26-Apr-16	24-May-16
DES11130	B-632/B-633 S/C PRELIM BRIDGE DESIGN (STAGE 1)	1	38	24-May-16	25-May-16
DES11140	B-632/B-633 VDOT/FHWA R/C PRELIM BRIDGE DESIGN (STAGE 1)	21	56	26-May-16	15-Jun-16
DES11160	B-632/B-633 PREP BRIDGE PLANS (STAGE 1)	40	39	15-Jun-16	11-Aug-16
DES11150	B-632/B-633 INCORP VDOT/FHWA BR REPORT/PRELIM DESIGN COMMEI	10	69	15-Jun-16	29-Jun-16
DES11170	B-632/B-633 DESIGN QA/QC BRIDGE PLANS (STAGE 1)	10	39	11-Aug-16	25-Aug-16
DES11180	B-632/B-633 S/C BRIDGE PLAN (STAGE 1)	1	39	25-Aug-16	26-Aug-16
DES11190	B-632/B-633 VDOT/FHWA R/C BRIDGE PLAN (STAGE 1)	21	58	27-Aug-16	16-Sep-16
DES11210	B-632/B-633 PREP FINAL BRIDGE PLAN (STAGE 2)	20	40	16-Sep-16	14-Oct-16
DES11200	B-632/B-633 INCORP VDOT/FHWA BRIDGE PLAN COMMENTS (STAGE 1)	5	55	16-Sep-16	23-Sep-16
DES11220	B-632/B-633 DESIGN QA/QC FINAL BRIDGE PLAN (STAGE 2)	5	40	14-Oct-16	21-Oct-16
DES11230	B-632/B-633 S/A FINAL BRIDGE PLAN (STAGE 2)	1	40	21-Oct-16	24-Oct-16
DES11240	B-632/B-633 VDOT/FHWA R/A FINAL BRIDGE PLAN (STAGE 2)	21	58	25-Oct-16	14-Nov-16



Actual Work Critical Remaining Work

Remaining Work Milestone

I-64 CAPACITY IMPROVEMENT - SEGMENT II

CONTRACT NO C00106665DB82

TECHNICAL PROPOSAL

SCHEDULE

SHIRLEY CONTRACTING COMPANY, LLC

LORTON, VA

Activity ID	Activity Name	Original Duration	Total Float	Start	Finish
DES11250	B-632/B-633 FINAL BRIDGE PLAN APPROVED	0	38	14-Nov-16	
BRIDGES B-634/B-635 I-64 OVER RTE 238 YORKTOWN RD		173	42	16-Mar-16	14-Nov-16
DES11260	B-634/B-635 P/S STAGE I BRIDGE REPORT/TS&L (1ST SUBMISSION)	10	76	16-Mar-16	31-Mar-16
DES11270	B-634/B-635 S/C BRIDGE REPORT/TS&L (STAGE 1)	1	76	31-Mar-16	01-Apr-16
DES11280	B-634/B-635 VDOT/FHWA R/C BRIDGE REPORT/TS&L (STAGE 1)	21	110	02-Apr-16	22-Apr-16
DES11290	B-634/B-635 PREP PRELIM BRIDGE DESIGN (STAGE 1)	20	38	26-Apr-16	24-May-16
DES11300	B-634/B-635 S/C PRELIM BRIDGE DESIGN (STAGE 1)	1	38	24-May-16	25-May-16
DES11310	B-634/B-635 VDOT/FHWA R/C PRELIM BRIDGE DESIGN (STAGE 1)	21	56	26-May-16	15-Jun-16
DES11330	B-634/B-635 PREP BRIDGE PLANS (STAGE 1)	40	39	15-Jun-16	11-Aug-16
DES11320	B-634/B-635 INCORP VDOT/FHWA BR REPORT/PRELIM DESIGN COMME	10	69	15-Jun-16	29-Jun-16
DES11340	B-634/B-635 DESIGN QA/QC BRIDGE PLANS (STAGE 1)	10	39	11-Aug-16	25-Aug-16
DES11350	B-634/B-635 S/C BRIDGE PLAN (STAGE 1)	1	39	25-Aug-16	26-Aug-16
DES11360	B-634/B-635 VDOT/FHWA R/C BRIDGE PLAN (STAGE 1)	21	58	27-Aug-16	16-Sep-16
DES11380	B-634/B-635 PREP FINAL BRIDGE PLAN (STAGE 2)	20	40	16-Sep-16	14-Oct-16
DES11370	B-634/B-635 INCORP VDOT/FHWA BRIDGE PLAN COMMENTS (STAGE 1)	5	55	16-Sep-16	23-Sep-16
DES11390	B-634/B-635 DESIGN QA/QC FINAL BRIDGE PLAN (STAGE 2)	5	40	14-Oct-16	21-Oct-16
DES11400	B-634/B-635 S/A FINAL BRIDGE PLAN (STAGE 2)	1	40	21-Oct-16	24-Oct-16
DES11410	B-634/B-635 VDOT/FHWA R/A FINAL BRIDGE PLAN (STAGE 2)	21	58	25-Oct-16	14-Nov-16
DES11420	B-634/B-635 FINAL BRIDGE PLAN APPROVED	0	38	14-Nov-16	
THIRD PARTY COORDINATION		208	43	02-Mar-16	19-Dec-16
YORKTOWN NWS (YNWS) COORDINATION		208	43	02-Mar-16	19-Dec-16
DES10010	CONDUCT COORIDINATION KICK OFF MEETING WITH YNWS	1	118	02-Mar-16	03-Mar-16
DES10020	S/C PRELIMINARY BRIDGE DESIGNS B-627/B-628 & B-630/B-631 TO YNWS	1	60	25-May-16	26-May-16
DES10030	YNWS R/C PRELIMINARY BRIDGE DESIGNS B-627/B-628 & B-630/B-631	45	88	27-May-16	10-Jul-16
DES10060	P/S WORK PLAN AND DEMO PLANS B-627/B-628 & B-630/B-631 TO YNWS	20	63	11-Jul-16	05-Aug-16
DES10070	YNWS R/A WORK PLAN AND DEMO PLANS B-627/B-628 & B-630/B-631	45	90	06-Aug-16	19-Sep-16
DES10080	P/S RR CROSSING REQUEST	5	62	19-Sep-16	26-Sep-16
DES10100	S/A RR PROTECTIVE INSURANCE	5	135	20-Sep-16	24-Sep-16
DES10110	SCHEDULE NAVY RR FLAGMAN (IF REQUIRED)	30	110	20-Sep-16	19-Oct-16
DES10090	YNWS R/A RR CROSSING REQUEST	45	88	27-Sep-16	10-Nov-16
DES10040	S/C FINAL BRIDGE DESIGNS B-627/B-628 & B-630/B-631 TO YNWS	1	41	24-Oct-16	25-Oct-16
DES10050	YNWS R/C FINAL BRIDGE PLANS B-627/B-628 & B-630/B-631	45	59	26-Oct-16	09-Dec-16
DES10120	NOTIFY YNWS REGARDING START OF CONST OPERATIONS	10	59	10-Dec-16	19-Dec-16
LANDSCAPING FOR BUSCH GARDENS (BG) AREA COORDINATION		62	67	14-Jul-16	10-Oct-16
DES11430	CONDUCT BG COORDINATION KICKOFF MEETING WITH AHJ	1	67	14-Jul-16	15-Jul-16
DES11440	P&S/C PRELIM LANDSCAPING PLAN TO VDOT/AHJ	20	67	15-Jul-16	12-Aug-16
DES11450	VDOT/AHJ R/C PRELIM LANDSCAPING PLAN	21	96	13-Aug-16	02-Sep-16
DES11460	P/S FINAL LANDSCAPING PLAN	5	65	02-Sep-16	12-Sep-16
DES11470	S/A FINAL LANDSCAPING PLAN TO VDOT/AHJ	5	65	12-Sep-16	19-Sep-16
DES11480	VDOT/AHJ R/A FINAL LANDSCAPING PLAN	21	93	20-Sep-16	10-Oct-16
CULTURAL RESOURCES (CR) COORDINATION		27	4	26-Apr-16	02-Jun-16
DES11490	CONDUCT CR COORDINATION MEETING WITH AHJ	1	5	26-Apr-16	27-Apr-16
DES11500	S/C PRELIM ROW PLANS TO AHJ	5	5	27-Apr-16	04-May-16
DES11510	AHJ R/C PRELIM ROW PLANS	21	7	05-May-16	25-May-16
DES11520	INCORP AHJ COMMENTS INTO ROADWAY PLANS	5	4	25-May-16	02-Jun-16
RESERVOIR COORDINATION		32	8	26-Apr-16	10-Jun-16
DES11530	CONDUCT RESERVOIR COORDINATION MEETING WITH NEWPORT NEV	1	8	26-Apr-16	27-Apr-16
DES11540	S/C PRELIM ROADWAY/BRIDGE PLANS TO NEWPORT NEWS	5	8	27-Apr-16	04-May-16
DES11550	NEWPORT NEWS R/C PRELIM ROADWAY/BRIDGE PLANS	21	8	04-May-16	03-Jun-16
DES11560	INCORP NEWPORT NEWS COMMENTS INTO ROADWAY/BRIDGE PLANS	5	8	03-Jun-16	10-Jun-16

Actual Work | Critical Remaining Work

Remaining Work | Milestone

I-64 CAPACITY IMPROVEMENT - SEGMENT II

CONTRACT NO C00106665DB82

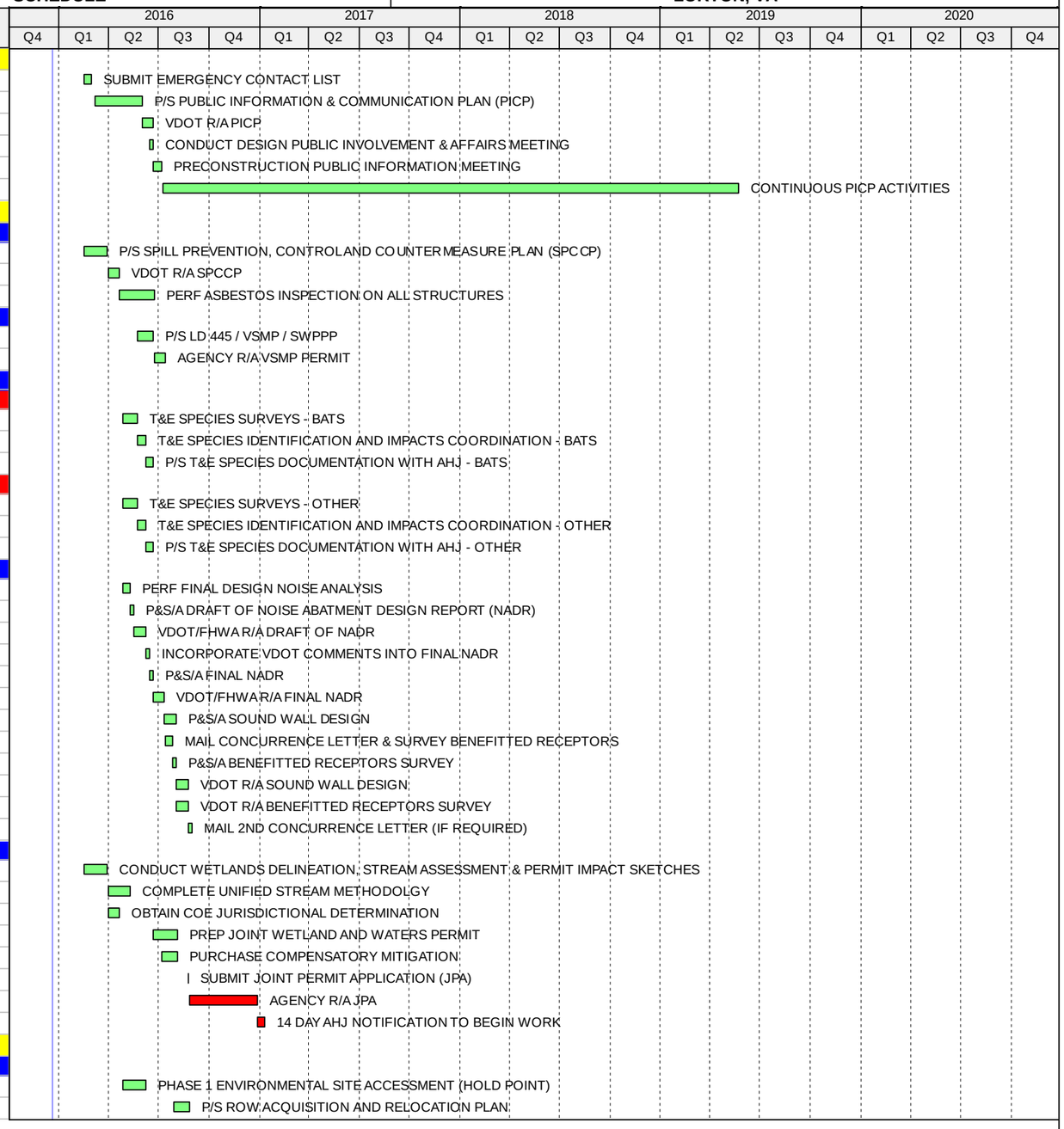
TECHNICAL PROPOSAL

SCHEDULE

SHIRLEY CONTRACTING COMPANY, LLC

LORTON, VA

Activity ID	Activity Name	Original Duration	Total Float	Start	Finish
PUBLIC INVOLVEMENT PHASE		851	1	17-Feb-16	22-May-19
P1000	SUBMIT EMERGENCY CONTACT LIST	10	5	17-Feb-16	01-Mar-16
P1010	P/S PUBLIC INFORMATION & COMMUNICATION PLAN (PICP)	60	1	07-Mar-16	01-Jun-16
P1020	VDOT R/A PICP	21	1	02-Jun-16	22-Jun-16
P1030	CONDUCT DESIGN PUBLIC INVOLVEMENT & AFFAIRS MEETING	5	1	15-Jun-16	22-Jun-16
P1040	PRECONSTRUCTION PUBLIC INFORMATION MEETING	10	1	22-Jun-16	07-Jul-16
P1050	CONTINUOUS PICP ACTIVITIES	1049	1	08-Jul-16	22-May-19
ENVIRONMENTAL PERMITTING PHASE		236	393	17-Feb-16	11-Jan-17
HAZARDOUS MATERIALS		92	142	17-Feb-16	23-Jun-16
ENV1210	P/S SPILL PREVENTION, CONTROLAND COUNTERMEASURE PLAN (SPC	30	136	17-Feb-16	30-Mar-16
ENV1220	VDOT R/A SPCCP	21	195	31-Mar-16	20-Apr-16
ENV1230	PERF ASBESTOS INSPECTION ON ALL STRUCTURES	45	136	20-Apr-16	23-Jun-16
VA STORMWATER MANAGEMENT PROGRAM (VSMP) PERMITS		36	72	24-May-16	13-Jul-16
ENV1190	P/S LD 445 / VSMP / SWPPP	20	70	24-May-16	22-Jun-16
ENV1200	AGENCY R/A VSMP PERMIT	21	102	23-Jun-16	13-Jul-16
THREATENED & ENDANGERED SPECIES		40	14	26-Apr-16	22-Jun-16
BAT SPECIES		40	14	26-Apr-16	22-Jun-16
ENV1240	T&E SPECIES SURVEYS - BATS	20	14	26-Apr-16	24-May-16
ENV1250	T&E SPECIES IDENTIFICATION AND IMPACTS COORDINATION - BATS	10	14	24-May-16	08-Jun-16
ENV1260	P/S T&E SPECIES DOCUMENTATION WITH AHJ - BATS	10	14	08-Jun-16	22-Jun-16
OTHER T&E SPECIES		40	14	26-Apr-16	22-Jun-16
ENV1270	T&E SPECIES SURVEYS - OTHER	20	14	26-Apr-16	24-May-16
ENV1280	T&E SPECIES IDENTIFICATION AND IMPACTS COORDINATION - OTHER	10	14	24-May-16	08-Jun-16
ENV1290	P/S T&E SPECIES DOCUMENTATION WITH AHJ - OTHER	10	14	08-Jun-16	22-Jun-16
NOISE ANALYSIS & SOUNDWALL DESIGN		90	489	26-Apr-16	30-Aug-16
ENV1070	PERF FINAL DESIGN NOISE ANALYSIS	10	5	26-Apr-16	10-May-16
ENV1080	P&S/A DRAFT OF NOISE ABATMENT DESIGN REPORT (NADR)	5	5	10-May-16	17-May-16
ENV1090	VDOT/FHWA R/A DRAFT OF NADR	21	7	18-May-16	07-Jun-16
ENV1100	INCORPORATE VDOT COMMENTS INTO FINAL NADR	5	5	07-Jun-16	14-Jun-16
ENV1110	P&S/A FINAL NADR	5	5	14-Jun-16	21-Jun-16
ENV1120	VDOT/FHWA R/A FINAL NADR	21	7	22-Jun-16	12-Jul-16
ENV1170	P&S/A SOUND WALL DESIGN	15	286	12-Jul-16	02-Aug-16
ENV1130	MAIL CONCURRENCE LETTER & SURVEY BENEFITTED RECEPTORS	14	413	13-Jul-16	26-Jul-16
ENV1140	P&S/A BENEFITTED RECEPTORS SURVEY	5	286	26-Jul-16	02-Aug-16
ENV1180	VDOT R/A SOUND WALL DESIGN	21	413	03-Aug-16	23-Aug-16
ENV1150	VDOT R/A BENEFITTED RECEPTORS SURVEY	21	413	03-Aug-16	23-Aug-16
ENV1160	MAIL 2ND CONCURRENCE LETTER (IF REQUIRED)	5	473	23-Aug-16	30-Aug-16
JOINT WETLANDS AND WATERS PERMITTING		236	0	17-Feb-16	11-Jan-17
ENV1000	CONDUCT WETLANDS DELINEATION, STREAM ASSESSMENT & PERMIT I	30	43	17-Feb-16	30-Mar-16
ENV1010	COMPLETE UNIFIED STREAM METHODOLGY	30	43	31-Mar-16	11-May-16
ENV1020	OBTAIN COE JURISDICTIONAL DETERMINATION	21	84	31-Mar-16	20-Apr-16
ENV1030	PREP JOINT WETLAND AND WATERS PERMIT	30	14	22-Jun-16	04-Aug-16
ENV1040	PURCHASE COMPENSATORY MITIGATION	21	14	06-Jul-16	04-Aug-16
ENV1050	SUBMIT JOINT PERMIT APPLICATION (JPA)	1	0	24-Aug-16	25-Aug-16
ENV1060	AGENCY R/A JPA	125	0	26-Aug-16	28-Dec-16
ENV1065	14 DAY AHJ NOTIFICATION TO BEGIN WORK	14	0	29-Dec-16	11-Jan-17
RIGHT OF WAY & EASEMENT ACQUISITION		373	115	26-Apr-16	29-Sep-17
ACQUISITION PLAN		103	116	26-Apr-16	16-Sep-16
ROW1000	PHASE 1 ENVIRONMENTAL SITE ACCESSMENT (HOLD POINT)	30	182	26-Apr-16	08-Jun-16
ROW1010	P/S ROW ACQUISITION AND RELOCATION PLAN	20	111	29-Jul-16	26-Aug-16



Actual Work
Remaining Work
Critical Remaining Work
Milestone

I-64 CAPACITY IMPROVEMENT - SEGMENT II

CONTRACT NO C00106665DB82

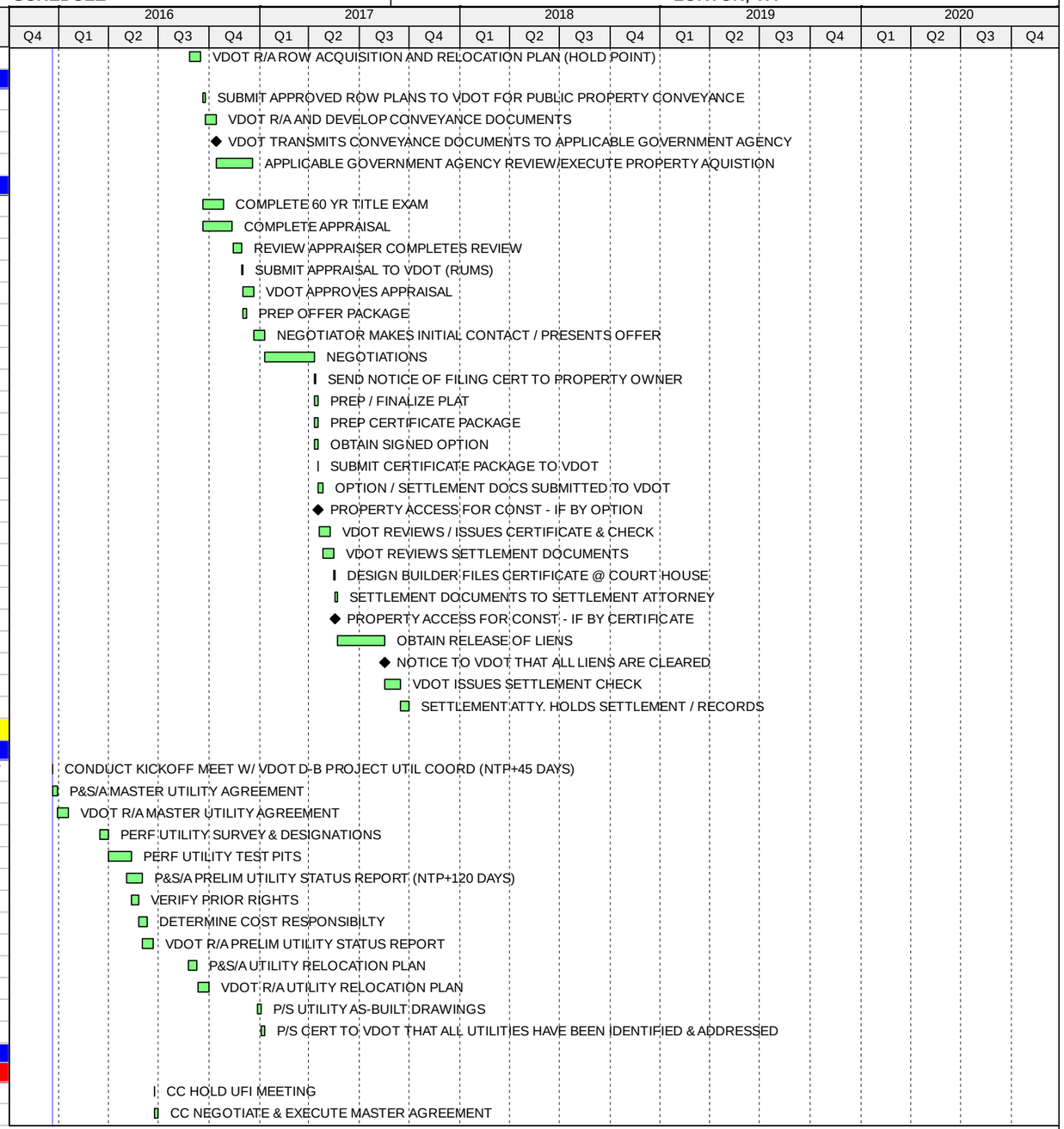
TECHNICAL PROPOSAL

SCHEDULE

SHIRLEY CONTRACTING COMPANY, LLC

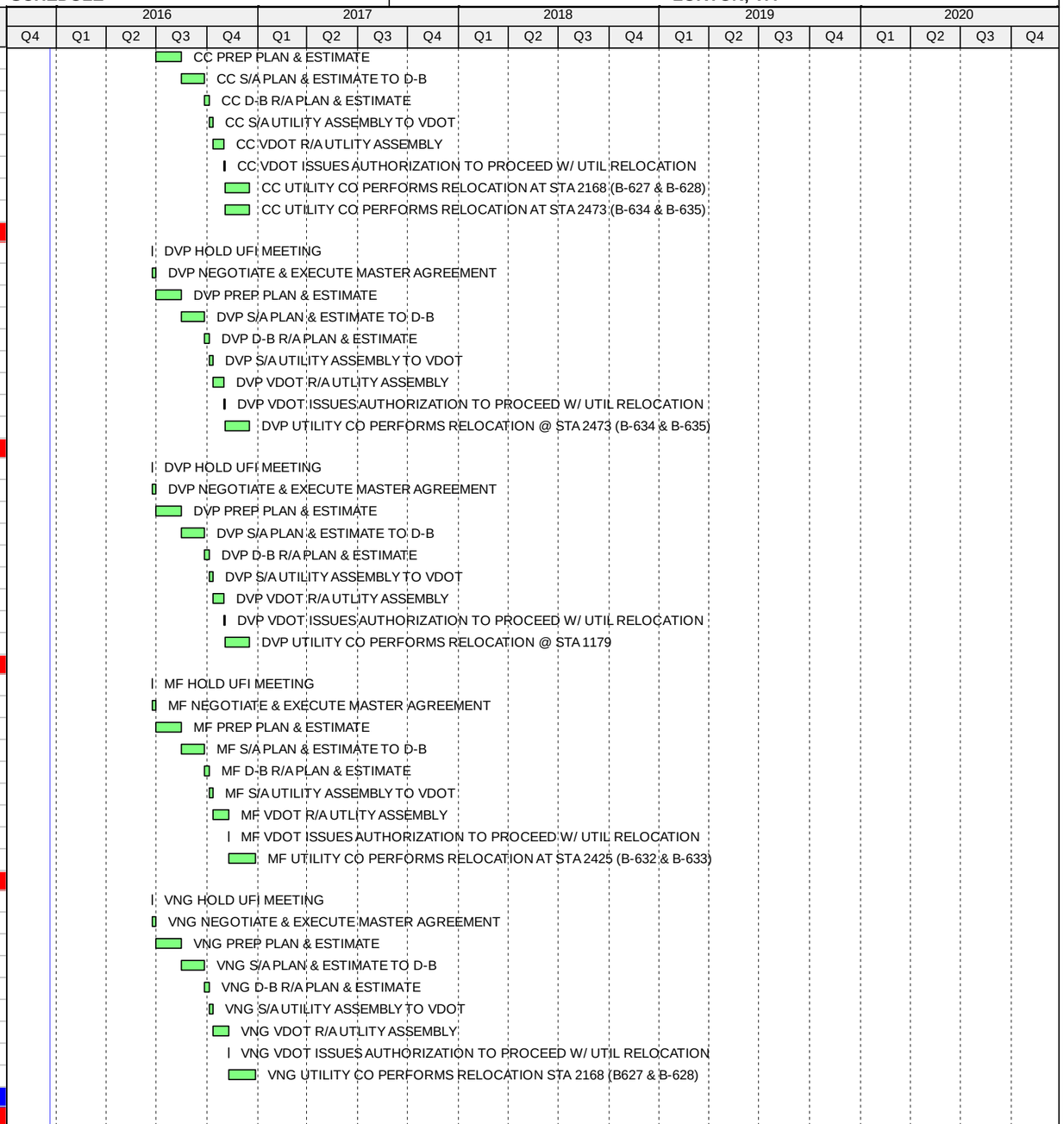
LORTON, VA

Activity ID	Activity Name	Original Duration	Total Float	Start	Finish
ROW1020	VDOT R/A ROW ACQUISITION AND RELOCATION PLAN (HOLD POINT)	21	164	27-Aug-16	16-Sep-16
PUBLIC PROPERTIES		67	318	19-Sep-16	20-Dec-16
ROW1030	SUBMIT APPROVED ROW PLANS TO VDOT FOR PUBLIC PROPERTY CON	5	310	19-Sep-16	23-Sep-16
ROW1040	VDOT R/A AND DEVELOP CONVEYANCE DOCUMENTS	21	448	24-Sep-16	14-Oct-16
ROW1060	VDOT TRANSMITS CONVEYANCE DOCUMENTS TO APPLICABLE GOVER	0	308		14-Oct-16
ROW1050	APPLICABLE GOVERNMENT AGENCY REVIEW/EXECUTE PROPERTY AQU	45	308	14-Oct-16	20-Dec-16
PRIVATE PROPERTIES		270	115	19-Sep-16	29-Sep-17
ROW1070	COMPLETE 60 YR TITLE EXAM	30	112	19-Sep-16	28-Oct-16
ROW1080	COMPLETE APPRAISAL	40	112	19-Sep-16	11-Nov-16
ROW1090	REVIEW APPRAISER COMPLETES REVIEW	10	112	14-Nov-16	29-Nov-16
ROW1100	SUBMIT APPRAISAL TO VDOT (RUMS)	2	112	30-Nov-16	01-Dec-16
ROW1110	VDOT APPROVES APPRAISAL	21	161	02-Dec-16	22-Dec-16
ROW1120	PREP OFFER PACKAGE	5	121	02-Dec-16	08-Dec-16
ROW1130	NEGOTIATOR MAKES INITIAL CONTACT / PRESENTS OFFER	10	111	22-Dec-16	09-Jan-17
ROW1140	NEGOTIATIONS	65	111	09-Jan-17	10-Apr-17
ROW1150	SEND NOTICE OF FILING CERT TO PROPERTY OWNER	3	118	10-Apr-17	13-Apr-17
ROW1160	PREP / FINALIZE PLAT	4	117	10-Apr-17	17-Apr-17
ROW1170	PREP CERTIFICATE PACKAGE	5	116	10-Apr-17	18-Apr-17
ROW1180	OBTAIN SIGNED OPTION	5	111	10-Apr-17	18-Apr-17
ROW1190	SUBMIT CERTIFICATE PACKAGE TO VDOT	0	116	18-Apr-17	18-Apr-17
ROW1210	OPTION / SETTLEMENT DOCS SUBMITTED TO VDOT	5	111	18-Apr-17	25-Apr-17
ROW1240	PROPERTY ACCESS FOR CONST - IF BY OPTION	0	133		18-Apr-17
ROW1200	VDOT REVIEWS / ISSUES CERTIFICATE & CHECK	21	167	19-Apr-17	09-May-17
ROW1220	VDOT REVIEWS SETTLEMENT DOCUMENTS	21	160	26-Apr-17	16-May-17
ROW1230	DESIGN BUILDER FILES CERTIFICATE @ COURT HOUSE	2	111	16-May-17	18-May-17
ROW1260	SETTLEMENT DOCUMENTS TO SETTLEMENT ATTORNEY	2	111	18-May-17	22-May-17
ROW1250	PROPERTY ACCESS FOR CONST - IF BY CERTIFICATE	0	111		18-May-17
ROW1270	OBTAIN RELEASE OF LIENS	60	111	22-May-17	16-Aug-17
ROW1280	NOTICE TO VDOT THAT ALL LIENS ARE CLEARED	0	111		16-Aug-17
ROW1290	VDOT ISSUES SETTLEMENT CHECK	21	111	16-Aug-17	15-Sep-17
ROW1300	SETTLEMENT ATTY. HOLDS SETTLEMENT / RECORDS	10	111	15-Sep-17	29-Sep-17
UTILITY RELOCATION PHASE		278	616	21-Dec-15	11-Jan-17
PRELIMINARY - ALL UTILITIES		278	616	21-Dec-15	11-Jan-17
UT1000	CONDUCT KICKOFF MEET W/ VDOT D-B PROJECT UTIL COORD (NTP+4	1	42	21-Dec-15	21-Dec-15*
UT1010	P&S/A MASTER UTILITY AGREEMENT	5	145	22-Dec-15	29-Dec-15
UT1020	VDOT R/A MASTER UTILITY AGREEMENT	21	209	30-Dec-15	19-Jan-16
UT1030	PERF UTILITY SURVEY & DESIGNATIONS	10	34	16-Mar-16	31-Mar-16
UT1060	PERF UTILITY TEST PITS	30	118	31-Mar-16	12-May-16
UT1040	P&S/A PRELIM UTILITY STATUS REPORT (NTP+120 DAYS)	20	11	03-May-16	01-Jun-16*
UT1070	VERIFY PRIOR RIGHTS	10	118	12-May-16	26-May-16
UT1080	DETERMINE COST RESPONSIBILTY	10	118	26-May-16	10-Jun-16
UT1050	VDOT R/A PRELIM UTILITY STATUS REPORT	21	51	02-Jun-16	22-Jun-16
UT1090	P&S/A UTILITY RELOCATION PLAN	10	65	25-Aug-16	09-Sep-16
UT1100	VDOT R/A UTILITY RELOCATION PLAN	21	95	10-Sep-16	30-Sep-16
UT1110	P/S UTILITY AS-BUILT DRAWINGS	5	599	27-Dec-16	04-Jan-17
UT1120	P/S CERT TO VDOT THAT ALL UTILITIES HAVE BEEN IDENTIFIED & ADDR	5	599	04-Jan-17	11-Jan-17
POTENTIAL UTILITY CONFLICTS		133	417	23-Jun-16	27-Dec-16
COX COMMUNICATIONS (CC)		126	112	23-Jun-16	16-Dec-16
CC1000	CC HOLD UFI MEETING	1	75	23-Jun-16	24-Jun-16
CC1010	CC NEGOTIATE & EXECUTE MASTER AGREEMENT	5	75	24-Jun-16	01-Jul-16



Actual Work
Remaining Work
Critical Remaining Work
Milestone

Activity ID	Activity Name	Original Duration	Total Float	Start	Finish
CC1020	CC PREP PLAN & ESTIMATE	30	75	01-Jul-16	15-Aug-16
CC1030	CC S/A PLAN & ESTIMATE TO D-B	30	75	15-Aug-16	27-Sep-16
CC1040	CC D-B R/A PLAN & ESTIMATE	5	75	27-Sep-16	04-Oct-16
CC1050	CC S/A UTILITY ASSEMBLY TO VDOT	5	75	04-Oct-16	11-Oct-16
CC1060	CC VDOT R/A UTLITY ASSEMBLY	21	111	12-Oct-16	01-Nov-16
CC1070	CC VDOT ISSUES AUTHORIZATION TO PROCEED W/ UTIL RELOCATION	1	75	01-Nov-16	02-Nov-16
CC1080	CC UTILITY CO PERFORMS RELOCATION AT STA 2168 (B-627 & B-628)	30	109	02-Nov-16	16-Dec-16
CC1090	CC UTILITY CO PERFORMS RELOCATION AT STA 2473 (B-634 & B-635)	30	75	02-Nov-16	16-Dec-16
DOMINION VIRGINIA POWER (DVP)		126	77	23-Jun-16	16-Dec-16
DVP1000	DVP HOLD UFI MEETING	1	75	23-Jun-16	24-Jun-16
DVP1010	DVP NEGOTIATE & EXECUTE MASTER AGREEMENT	5	75	24-Jun-16	01-Jul-16
DVP1020	DVP PREP PLAN & ESTIMATE	30	75	01-Jul-16	15-Aug-16
DVP1030	DVP S/A PLAN & ESTIMATE TO D-B	30	75	15-Aug-16	27-Sep-16
DVP1040	DVP D-B R/A PLAN & ESTIMATE	5	75	27-Sep-16	04-Oct-16
DVP1050	DVP S/A UTILITY ASSEMBLY TO VDOT	5	75	04-Oct-16	11-Oct-16
DVP1060	DVP VDOT R/A UTLITY ASSEMBLY	21	111	12-Oct-16	01-Nov-16
DVP1070	DVP VDOT ISSUES AUTHORIZATION TO PROCEED W/ UTIL RELOCATION	1	75	01-Nov-16	02-Nov-16
DVP1080	DVP UTILITY CO PERFORMS RELOCATION @ STA 2473 (B-634 & B-635)	30	75	02-Nov-16	16-Dec-16
DOMINION VIRGINIA POWER TRANSMISSION (DVPT)		126	424	23-Jun-16	16-Dec-16
DVPT1000	DVP HOLD UFI MEETING	1	411	23-Jun-16	24-Jun-16
DVPT1010	DVP NEGOTIATE & EXECUTE MASTER AGREEMENT	5	411	24-Jun-16	01-Jul-16
DVPT1020	DVP PREP PLAN & ESTIMATE	30	411	01-Jul-16	15-Aug-16
DVPT1030	DVP S/A PLAN & ESTIMATE TO D-B	30	411	15-Aug-16	27-Sep-16
DVPT1040	DVP D-B R/A PLAN & ESTIMATE	5	411	27-Sep-16	04-Oct-16
DVPT1050	DVP S/A UTILITY ASSEMBLY TO VDOT	5	411	04-Oct-16	11-Oct-16
DVPT1060	DVP VDOT R/A UTLITY ASSEMBLY	21	595	12-Oct-16	01-Nov-16
DVPT1070	DVP VDOT ISSUES AUTHORIZATION TO PROCEED W/ UTIL RELOCATION	1	411	01-Nov-16	02-Nov-16
DVPT1080	DVP UTILITY CO PERFORMS RELOCATION @ STA 1179	30	411	02-Nov-16	16-Dec-16
METRO FIBER (MF)		128	35	23-Jun-16	27-Dec-16
MF1000	MF HOLD UFI MEETING	1	35	23-Jun-16	24-Jun-16
MF1010	MF NEGOTIATE & EXECUTE MASTER AGREEMENT	5	35	24-Jun-16	01-Jul-16
MF1020	MF PREP PLAN & ESTIMATE	30	35	01-Jul-16	15-Aug-16
MF1030	MF S/A PLAN & ESTIMATE TO D-B	30	35	15-Aug-16	27-Sep-16
MF1040	MF D-B R/A PLAN & ESTIMATE	5	35	27-Sep-16	04-Oct-16
MF1050	MF S/A UTILITY ASSEMBLY TO VDOT	5	35	04-Oct-16	11-Oct-16
MF1060	MF VDOT R/A UTLITY ASSEMBLY	21	35	11-Oct-16	09-Nov-16
MF1070	MF VDOT ISSUES AUTHORIZATION TO PROCEED W/ UTIL RELOCATION	1	35	09-Nov-16	10-Nov-16
MF1090	MF UTILITY CO PERFORMS RELOCATION AT STA 2425 (B-632 & B-633)	30	35	10-Nov-16	27-Dec-16
VIRGINIA NATURAL GAS (VNG)		128	103	23-Jun-16	27-Dec-16
VNG1000	VNG HOLD UFI MEETING	1	103	23-Jun-16	24-Jun-16
VNG1010	VNG NEGOTIATE & EXECUTE MASTER AGREEMENT	5	103	24-Jun-16	01-Jul-16
VNG1020	VNG PREP PLAN & ESTIMATE	30	103	01-Jul-16	15-Aug-16
VNG1030	VNG S/A PLAN & ESTIMATE TO D-B	30	103	15-Aug-16	27-Sep-16
VNG1040	VNG D-B R/A PLAN & ESTIMATE	5	103	27-Sep-16	04-Oct-16
VNG1050	VNG S/A UTILITY ASSEMBLY TO VDOT	5	103	04-Oct-16	11-Oct-16
VNG1060	VNG VDOT R/A UTLITY ASSEMBLY	21	103	11-Oct-16	09-Nov-16
VNG1070	VNG VDOT ISSUES AUTHORIZATION TO PROCEED W/ UTIL RELOCATIOI	1	103	09-Nov-16	10-Nov-16
VNG1080	VNG UTILITY CO PERFORMS RELOCATION STA 2168 (B627 & B-628)	30	103	10-Nov-16	27-Dec-16
NO UTILITY CONFLICTS		30	89	23-Jun-16	05-Aug-16
AT&T (A)		30	89	23-Jun-16	05-Aug-16



I-64 CAPACITY IMPROVEMENT - SEGMENT II

CONTRACT NO C00106665DB82

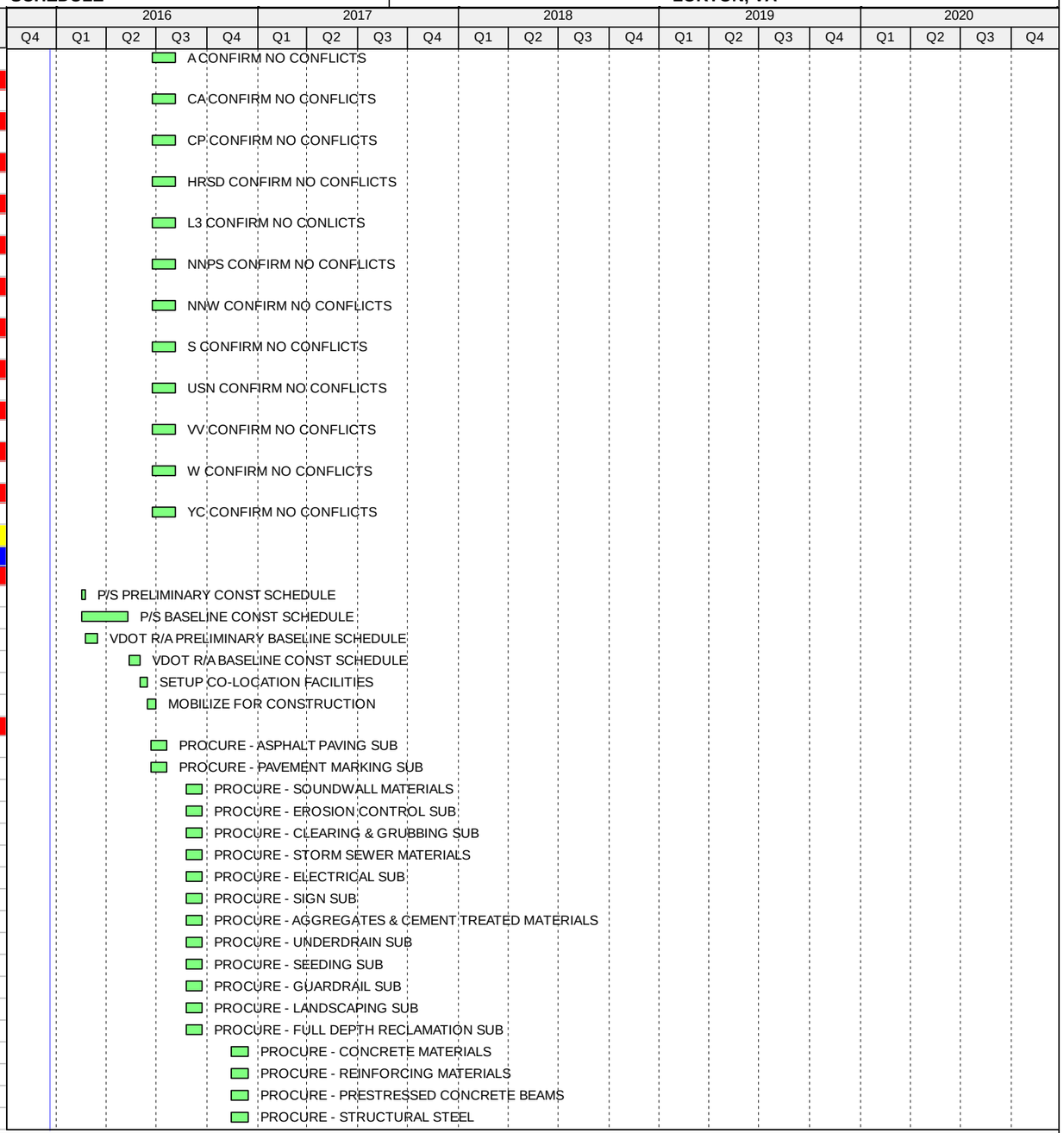
TECHNICAL PROPOSAL

SCHEDULE

SHIRLEY CONTRACTING COMPANY, LLC

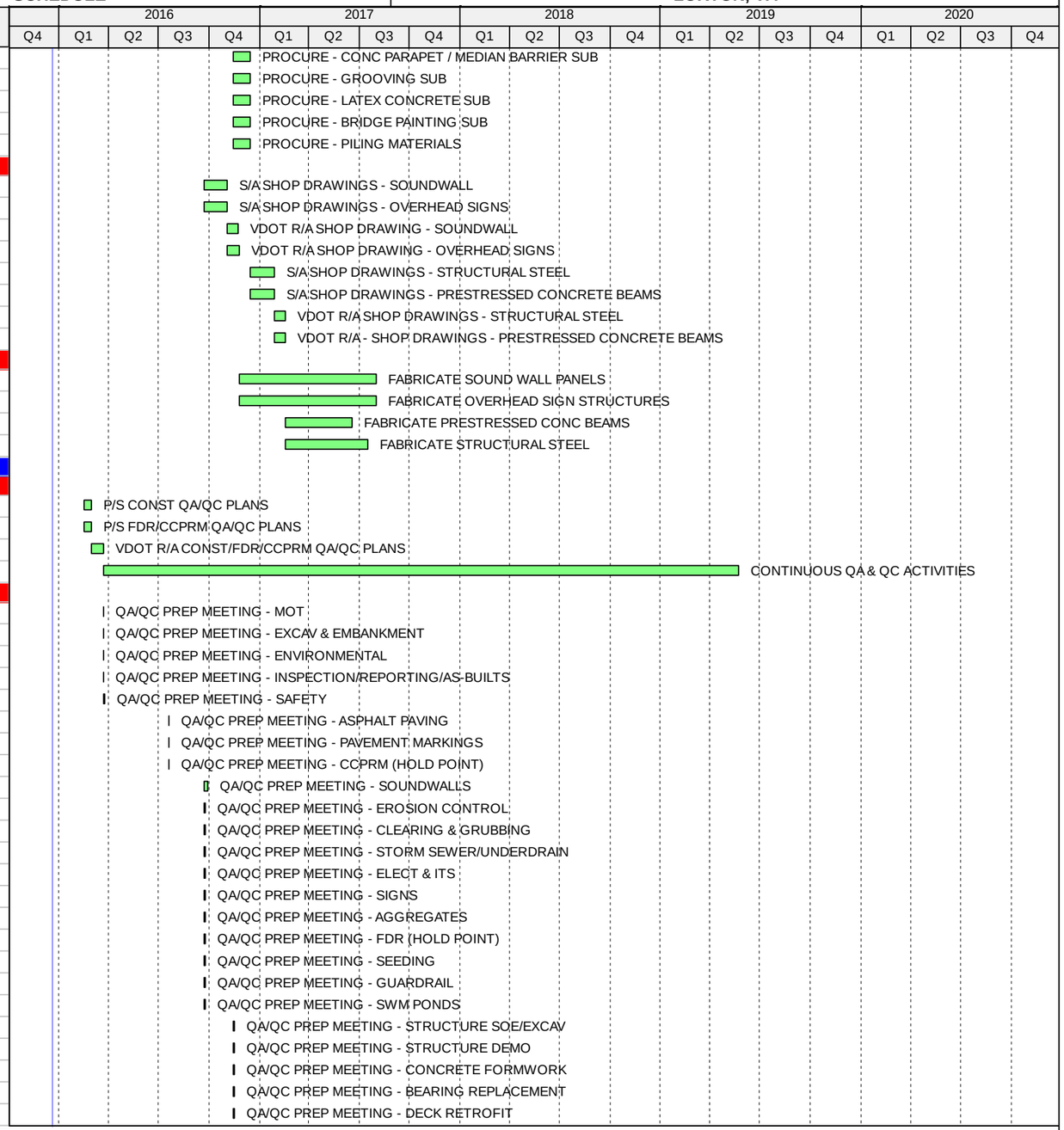
LORTON, VA

Activity ID	Activity Name	Original Duration	Total Float	Start	Finish
A1000	A CONFIRM NO CONFLICTS	30	89	23-Jun-16	05-Aug-16
CABLE ASSOCIATES (CA)		30	89	23-Jun-16	05-Aug-16
CA1000	CA CONFIRM NO CONFLICTS	30	89	23-Jun-16	05-Aug-16
COLONIAL PIPELINE (CP)		30	89	23-Jun-16	05-Aug-16
CP1000	CP CONFIRM NO CONFLICTS	30	89	23-Jun-16	05-Aug-16
HAMPTON ROADS SANITATION DISTRICT (HRSD)		30	89	23-Jun-16	05-Aug-16
HRSD1000	HRSD CONFIRM NO CONFLICTS	30	89	23-Jun-16	05-Aug-16
LEVEL III COMMUNICATIONS (L3)		30	89	23-Jun-16	05-Aug-16
L31000	L3 CONFIRM NO CONLICTS	30	89	23-Jun-16	05-Aug-16
NEWPORT NEWS PUBLIC SCHOOLS (NNPS)		30	89	23-Jun-16	05-Aug-16
NNPS1000	NNPS CONFIRM NO CONFLICTS	30	89	23-Jun-16	05-Aug-16
NEWPORT NEWS WATER (NNW)		30	89	23-Jun-16	05-Aug-16
NNW1000	NNW CONFIRM NO CONFLICTS	30	89	23-Jun-16	05-Aug-16
SPRINT (S)		30	89	23-Jun-16	05-Aug-16
S1000	S CONFIRM NO CONFLICTS	30	89	23-Jun-16	05-Aug-16
US NAVY (USN)		30	89	23-Jun-16	05-Aug-16
USN1000	USN CONFIRM NO CONFLICTS	30	89	23-Jun-16	05-Aug-16
VERIZON VIRGINIA (VV)		30	89	23-Jun-16	05-Aug-16
VV1000	VV CONFIRM NO CONFLICTS	30	89	23-Jun-16	05-Aug-16
WINDSTREAM (W)		30	89	23-Jun-16	05-Aug-16
W1000	W CONFIRM NO CONFLICTS	30	89	23-Jun-16	05-Aug-16
YORK COUNTY (YC)		30	89	23-Jun-16	05-Aug-16
YC1000	YC CONFIRM NO CONFLICTS	30	89	23-Jun-16	05-Aug-16
CONSTRUCTION PHASE INCL PROJECT MANAGEMENT		851	1	17-Feb-16	22-May-19
PROJECT MANAGEMENT		380	315	17-Feb-16	01-Aug-17
PRELIMINARY/STARTUP		96	82	17-Feb-16	29-Jun-16
CP10460	P/S PRELIMINARY CONST SCHEDULE	5	120	17-Feb-16	23-Feb-16
CP10480	P/S BASELINE CONST SCHEDULE	60	80	17-Feb-16	11-May-16
CP10470	VDOT R/A PRELIMINARY BASELINE SCHEDULE	21	173	24-Feb-16	15-Mar-16
CP10490	VDOT R/A BASELINE CONST SCHEDULE	21	116	12-May-16	01-Jun-16
CP10500	SETUP CO-LOCATION FACILITIES	10	80	01-Jun-16	15-Jun-16
CP10510	MOBILIZE FOR CONSTRUCTION	10	80	15-Jun-16	29-Jun-16
SUBCONTRACTOR/MATERIAL PROCUREMENT		123	444	20-Jun-16	14-Dec-16
CP10520	PROCURE - ASPHALT PAVING SUB	20	71	20-Jun-16	19-Jul-16
CP10530	PROCURE - PAVEMENT MARKING SUB	20	115	20-Jun-16	19-Jul-16
CP10750	PROCURE - SOUNDWALL MATERIALS	20	286	23-Aug-16	21-Sep-16
CP10540	PROCURE - EROSION CONTROL SUB	20	79	24-Aug-16	22-Sep-16
CP10550	PROCURE - CLEARING & GRUBBING SUB	20	84	24-Aug-16	22-Sep-16
CP10570	PROCURE - STORM SEWER MATERIALS	20	182	24-Aug-16	22-Sep-16
CP10580	PROCURE - ELECTRICAL SUB	20	272	24-Aug-16	22-Sep-16
CP10590	PROCURE - SIGN SUB	20	277	24-Aug-16	22-Sep-16
CP10600	PROCURE - AGGREGATES & CEMENT TREATED MATERIALS	20	292	24-Aug-16	22-Sep-16
CP10620	PROCURE - UNDERDRAIN SUB	20	182	24-Aug-16	22-Sep-16
CP10630	PROCURE - SEEDING SUB	20	79	24-Aug-16	22-Sep-16
CP10640	PROCURE - GUARDRAIL SUB	20	360	24-Aug-16	22-Sep-16
CP10720	PROCURE - LANDSCAPING SUB	20	299	24-Aug-16	22-Sep-16
CP10610	PROCURE - FULL DEPTH RECLAMATION SUB	20	473	24-Aug-16	22-Sep-16
CP10660	PROCURE - CONCRETE MATERIALS	20	74	14-Nov-16	14-Dec-16
CP10670	PROCURE - REINFORCING MATERIALS	20	74	14-Nov-16	14-Dec-16
CP10680	PROCURE - PRESTRESSED CONCRETE BEAMS	20	60	14-Nov-16	14-Dec-16
CP10690	PROCURE - STRUCTURAL STEEL	20	36	14-Nov-16	14-Dec-16



Actual Work | Remaining Work | Critical Remaining Work | Milestone

Activity ID	Activity Name	Original Duration	Total Float	Start	Finish
CP10700	PROCURE - CONC PARAPET / MEDIAN BARRIER SUB	20	225	14-Nov-16	14-Dec-16
CP10710	PROCURE - GROOVING SUB	20	268	14-Nov-16	14-Dec-16
CP10730	PROCURE - LATEX CONCRETE SUB	20	404	14-Nov-16	14-Dec-16
CP10740	PROCURE - BRIDGE PAINTING SUB	20	444	14-Nov-16	14-Dec-16
CP10650	PROCURE - PILING MATERIALS	20	64	14-Nov-16	14-Dec-16
WORKING DRAWINGS		107	254	21-Sep-16	17-Feb-17
CP10380	S/A SHOP DRAWINGS - SOUNDWALL	30	286	21-Sep-16	02-Nov-16
CP10400	S/A SHOP DRAWINGS - OVERHEAD SIGNS	30	303	22-Sep-16	03-Nov-16
CP10390	VDOT R/A SHOP DRAWING - SOUNDWALL	21	414	03-Nov-16	23-Nov-16
CP10410	VDOT R/A SHOP DRAWING - OVERHEAD SIGNS	21	441	04-Nov-16	24-Nov-16
CP10420	S/A SHOP DRAWINGS - STRUCTURAL STEEL	30	36	14-Dec-16	27-Jan-17
CP10440	S/A SHOP DRAWINGS - PRESTRESSED CONCRETE BEAMS	30	60	14-Dec-16	27-Jan-17
CP10430	VDOT R/A SHOP DRAWINGS - STRUCTURAL STEEL	21	52	28-Jan-17	17-Feb-17
CP10450	VDOT R/A - SHOP DRAWINGS - PRESTRESSED CONCRETE BEAMS	21	87	28-Jan-17	17-Feb-17
FABRICATE LONG LEAD TIME MATERIALS		251	441	24-Nov-16	01-Aug-17
CP10790	FABRICATE SOUND WALL PANELS	250	414	24-Nov-16	31-Jul-17
CP10780	FABRICATE OVERHEAD SIGN STRUCTURES	250	441	25-Nov-16	01-Aug-17
CP10760	FABRICATE PRESTRESSED CONC BEAMS	120	87	18-Feb-17	17-Jun-17
CP10770	FABRICATE STRUCTURAL STEEL	150	52	18-Feb-17	17-Jul-17
QUALITY ASSUR & QUALITY CONTROL		851	1	17-Feb-16	22-May-19
PRELIMINARY/GENERAL QA/QC		851	1	17-Feb-16	22-May-19
CP10000	P/S CONST QA/QC PLANS	10	1	17-Feb-16	01-Mar-16
CP10010	P/S FDR/CCPRM QA/QC PLANS	10	1	17-Feb-16	01-Mar-16
CP10020	VDOT R/A CONST/FDR/CCPRM QA/QC PLANS	21	1	02-Mar-16	22-Mar-16
CP10030	CONTINUOUS QA & QC ACTIVITIES	1156	1	23-Mar-16	22-May-19
QA/QC PREP MEETINGS		192	458	22-Mar-16	15-Dec-16
CP10070	QA/QC PREP MEETING - MOT	1	148	22-Mar-16	23-Mar-16
CP10120	QA/QC PREP MEETING - EXCAV & EMBANKMENT	1	290	22-Mar-16	23-Mar-16
CP10060	QA/QC PREP MEETING - ENVIRONMENTAL	1	148	22-Mar-16	23-Mar-16
CP10040	QA/QC PREP MEETING - INSPECTION/REPORTING/AS-BUILTS	1	211	23-Mar-16	23-Mar-16
CP10050	QA/QC PREP MEETING - SAFETY	1	147	23-Mar-16	24-Mar-16
CP10090	QA/QC PREP MEETING - ASPHALT PAVING	1	71	19-Jul-16	20-Jul-16
CP10100	QA/QC PREP MEETING - PAVEMENT MARKINGS	1	115	19-Jul-16	20-Jul-16
CP10200	QA/QC PREP MEETING - CCPRM (HOLD POINT)	1	365	19-Jul-16	20-Jul-16
CP10370	QA/QC PREP MEETING - SOUNDWALLS	5	458	21-Sep-16	28-Sep-16
CP10080	QA/QC PREP MEETING - EROSION CONTROL	1	79	22-Sep-16	23-Sep-16
CP10110	QA/QC PREP MEETING - CLEARING & GRUBBING	1	84	22-Sep-16	23-Sep-16
CP10140	QA/QC PREP MEETING - STORM SEWER/UNDERDRAIN	1	182	22-Sep-16	23-Sep-16
CP10160	QA/QC PREP MEETING - ELECT & ITS	1	272	22-Sep-16	23-Sep-16
CP10170	QA/QC PREP MEETING - SIGNS	1	277	22-Sep-16	23-Sep-16
CP10180	QA/QC PREP MEETING - AGGREGATES	1	292	22-Sep-16	23-Sep-16
CP10210	QA/QC PREP MEETING - FDR (HOLD POINT)	1	473	22-Sep-16	23-Sep-16
CP10220	QA/QC PREP MEETING - SEEDING	1	79	22-Sep-16	23-Sep-16
CP10230	QA/QC PREP MEETING - GUARDRAIL	1	360	22-Sep-16	23-Sep-16
CP10150	QA/QC PREP MEETING - SWM PONDS	1	299	22-Sep-16	23-Sep-16
CP10240	QA/QC PREP MEETING - STRUCTURE SOE/EXCAV	1	62	14-Nov-16	15-Nov-16
CP10250	QA/QC PREP MEETING - STRUCTURE DEMO	1	64	14-Nov-16	15-Nov-16
CP10280	QA/QC PREP MEETING - CONCRETE FORMWORK	1	94	14-Nov-16	15-Nov-16
CP10330	QA/QC PREP MEETING - BEARING REPLACEMENT	1	344	14-Nov-16	15-Nov-16
CP10340	QA/QC PREP MEETING - DECK RETROFIT	1	384	14-Nov-16	15-Nov-16



Actual Work
Remaining Work
Critical Remaining Work
Milestone

I-64 CAPACITY IMPROVEMENT - SEGMENT II

CONTRACT NO C00106665DB82

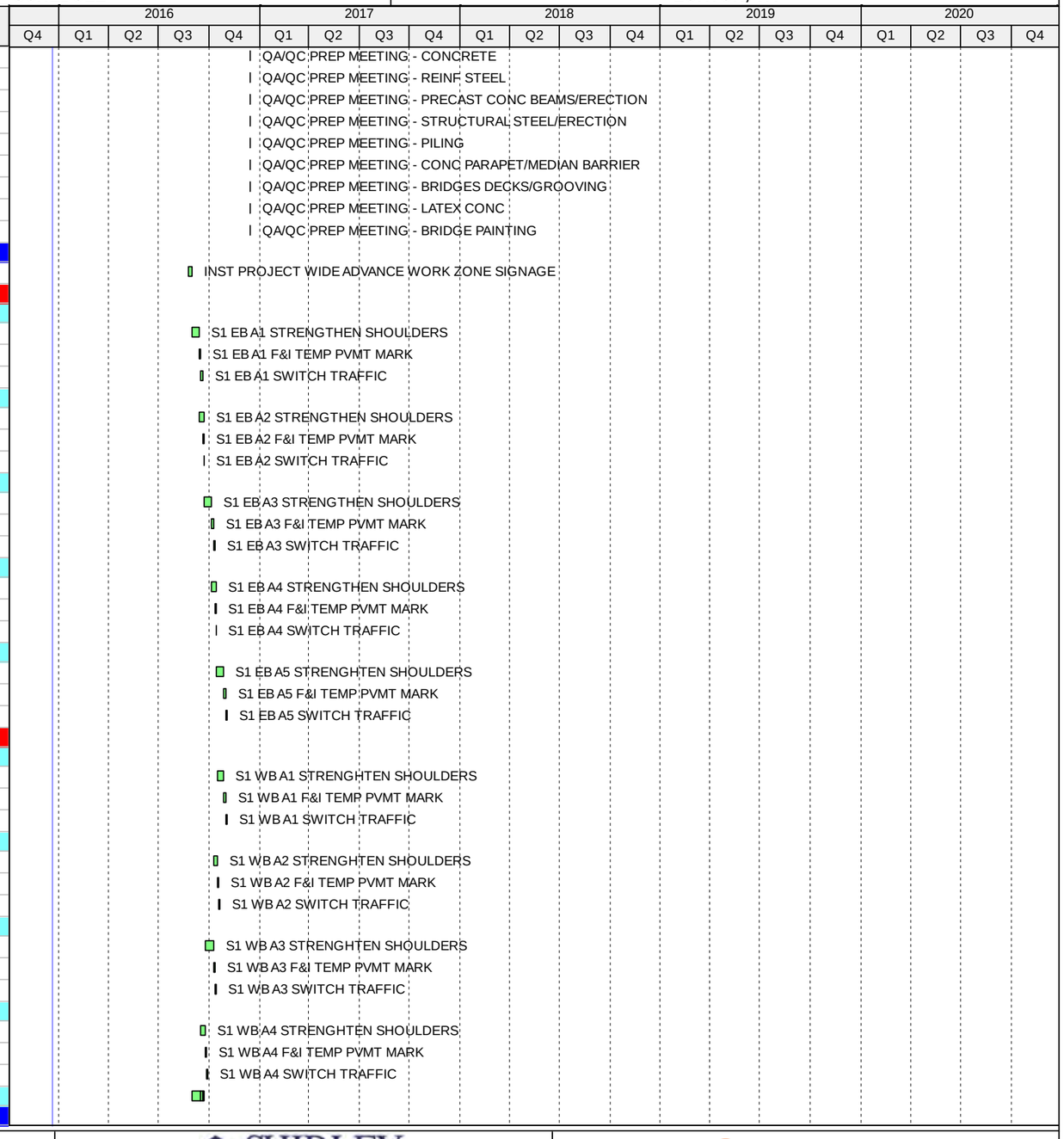
TECHNICAL PROPOSAL

SCHEDULE

SHIRLEY CONTRACTING COMPANY, LLC

LORTON, VA

Activity ID	Activity Name	Original Duration	Total Float	Start	Finish
CP10270	QA/QC PREP MEETING - CONCRETE	1	74	14-Dec-16	15-Dec-16
CP10290	QA/QC PREP MEETING - REINF STEEL	1	74	14-Dec-16	15-Dec-16
CP10300	QA/QC PREP MEETING - PRECAST CONC BEAMS/ERECTION	1	193	14-Dec-16	15-Dec-16
CP10310	QA/QC PREP MEETING - STRUCTURAL STEEL/ERECTION	1	184	14-Dec-16	15-Dec-16
CP10260	QA/QC PREP MEETING - PILING	1	64	14-Dec-16	15-Dec-16
CP10190	QA/QC PREP MEETING - CONC PARAPET/MEDIAN BARRIER	1	225	14-Dec-16	15-Dec-16
CP10320	QA/QC PREP MEETING - BRIDGES DECKS/GROOVING	1	268	14-Dec-16	15-Dec-16
CP10350	QA/QC PREP MEETING - LATEX CONC	1	404	14-Dec-16	15-Dec-16
CP10360	QA/QC PREP MEETING - BRIDGE PAINTING	1	444	14-Dec-16	15-Dec-16
STAGE 1 CONSTRUCTION		50	50	24-Aug-16	02-Nov-16
C10000	INST PROJECT WIDE ADVANCE WORK ZONE SIGNAGE	5	41	24-Aug-16	31-Aug-16
STAGE 1 EBL CONSTRUCTION		45	50	31-Aug-16	02-Nov-16
STAGE 1 EBL AREA 1 STA 1128-1213		13	82	31-Aug-16	19-Sep-16
C10010	S1 EB A1 STRENGTHEN SHOULDERS	9	41	31-Aug-16	14-Sep-16
C10020	S1 EB A1 F&I TEMP PVMT MARK	2	73	14-Sep-16	16-Sep-16
C20000	S1 EB A1 SWITCH TRAFFIC	1	78	16-Sep-16	19-Sep-16
STAGE 1 EBL AREA 2 STA 1213-1258		6	75	14-Sep-16	22-Sep-16
C10030	S1 EB A2 STRENGTHEN SHOULDERS	5	41	14-Sep-16	21-Sep-16
C10040	S1 EB A2 F&I TEMP PVMT MARK	2	75	19-Sep-16	21-Sep-16
C22630	S1 EB A2 SWITCH TRAFFIC	1	75	21-Sep-16	22-Sep-16
STAGE 1 EBL AREA 3 STA 1258-1358		14	66	21-Sep-16	11-Oct-16
C10050	S1 EB A3 STRENGTHEN SHOULDERS	11	41	21-Sep-16	06-Oct-16
C10060	S1 EB A3 F&I TEMP PVMT MARK	2	57	06-Oct-16	10-Oct-16
C20760	S1 EB A3 SWITCH TRAFFIC	1	62	10-Oct-16	11-Oct-16
STAGE 1 EBL AREA 4 STA 1358-1402		6	63	06-Oct-16	14-Oct-16
C10070	S1 EB A4 STRENGTHEN SHOULDERS	5	41	06-Oct-16	13-Oct-16
C10080	S1 EB A4 F&I TEMP PVMT MARK	2	54	11-Oct-16	13-Oct-16
C22990	S1 EB A4 SWITCH TRAFFIC	1	59	13-Oct-16	14-Oct-16
STAGE 1 EBL AREA 5 STA 1402-1502		14	50	13-Oct-16	02-Nov-16
C10090	S1 EB A5 STRENGHTEN SHOULDERS	11	41	13-Oct-16	28-Oct-16
C10100	S1 EB A5 F&I TEMP PVMT MARK	2	41	28-Oct-16	01-Nov-16
C21590	S1 EB A5 SWITCH TRAFFIC	1	46	01-Nov-16	02-Nov-16
STAGE 1 WBL CONSTRUCTION		45	50	31-Aug-16	02-Nov-16
STAGE 1 WBL AREA 1 STA 2128-2213		12	50	17-Oct-16	02-Nov-16
C10110	S1 WB A1 STRENGHTEN SHOULDERS	9	41	17-Oct-16	28-Oct-16
C10120	S1 WB A1 F&I TEMP PVMT MARK	2	41	28-Oct-16	01-Nov-16
C20420	S1 WB A1 SWITCH TRAFFIC	1	46	01-Nov-16	02-Nov-16
STAGE 1 WBL AREA 2 STA 2213-2258		8	59	10-Oct-16	20-Oct-16
C10130	S1 WB A2 STRENGHTEN SHOULDERS	5	41	10-Oct-16	17-Oct-16
C10140	S1 WB A2 F&I TEMP PVMT MARK	2	50	17-Oct-16	19-Oct-16
C22810	S1 WB A2 SWITCH TRAFFIC	1	55	19-Oct-16	20-Oct-16
STAGE 1 WBL AREA 3 STA 2258-2358		14	64	23-Sep-16	13-Oct-16
C10150	S1 WB A3 STRENGHTEN SHOULDERS	11	41	23-Sep-16	10-Oct-16
C10160	S1 WB A3 F&I TEMP PVMT MARK	2	55	10-Oct-16	12-Oct-16
C21240	S1 WB A3 SWITCH TRAFFIC	1	60	12-Oct-16	13-Oct-16
STAGE 1 WBL AREA 4 STA 2358-2402		8	75	16-Sep-16	28-Sep-16
C10170	S1 WB A4 STRENGHTEN SHOULDERS	5	41	16-Sep-16	23-Sep-16
C10180	S1 WB A4 F&I TEMP PVMT MARK	2	66	23-Sep-16	27-Sep-16
C23170	S1 WB A4 SWITCH TRAFFIC	1	71	27-Sep-16	28-Sep-16
STAGE 1 WBL AREA 5 STA 2402-2502		15	80	31-Aug-16	21-Sep-16
STAGE 2 A/B CONSTRUCTION		302	0	12-Jan-17	09-Mar-18



Actual Work
Remaining Work
Critical Remaining Work
Milestone

I-64 CAPACITY IMPROVEMENT - SEGMENT II

CONTRACT NO C00106665DB82

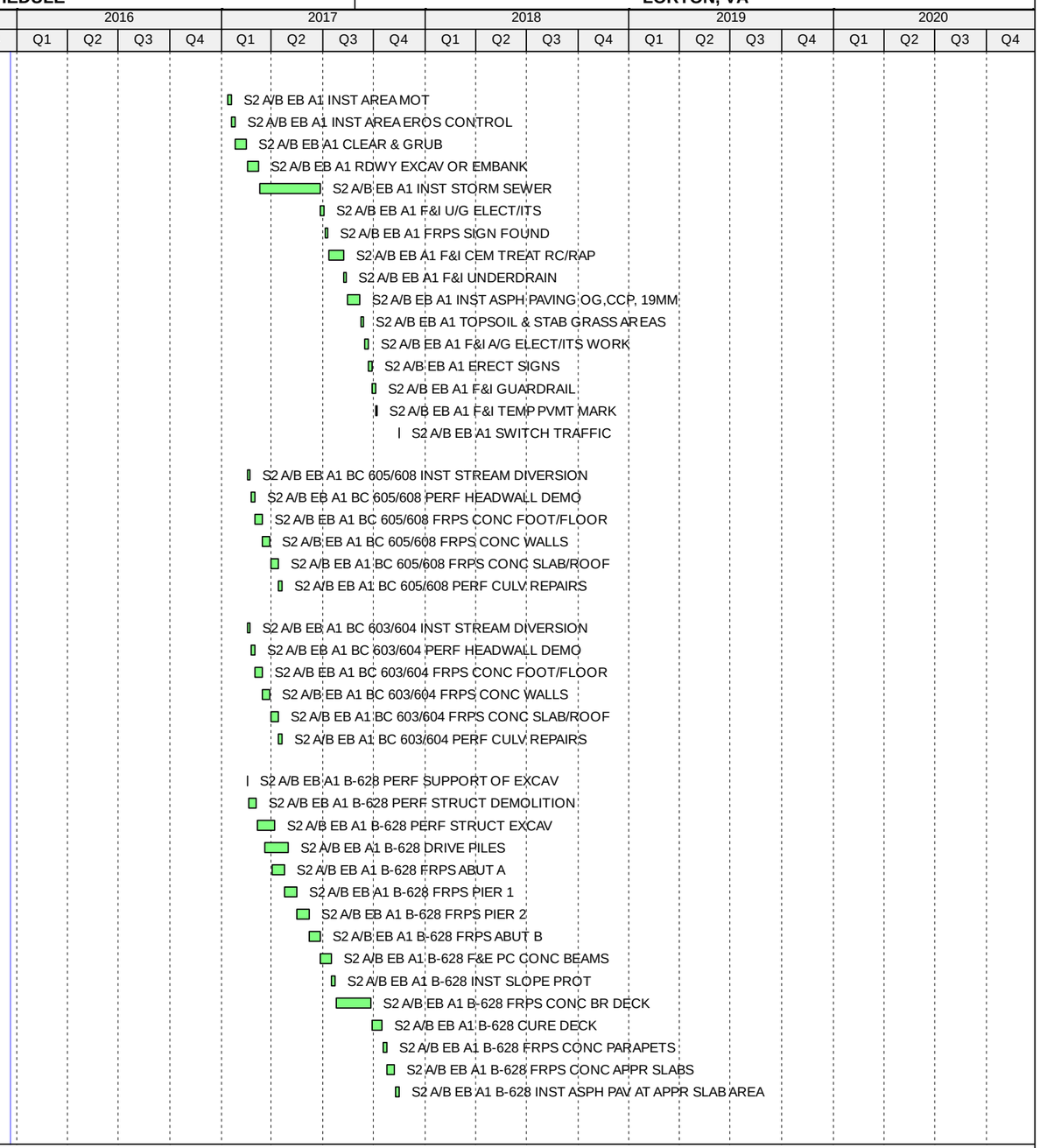
TECHNICAL PROPOSAL

SCHEDULE

SHIRLEY CONTRACTING COMPANY, LLC

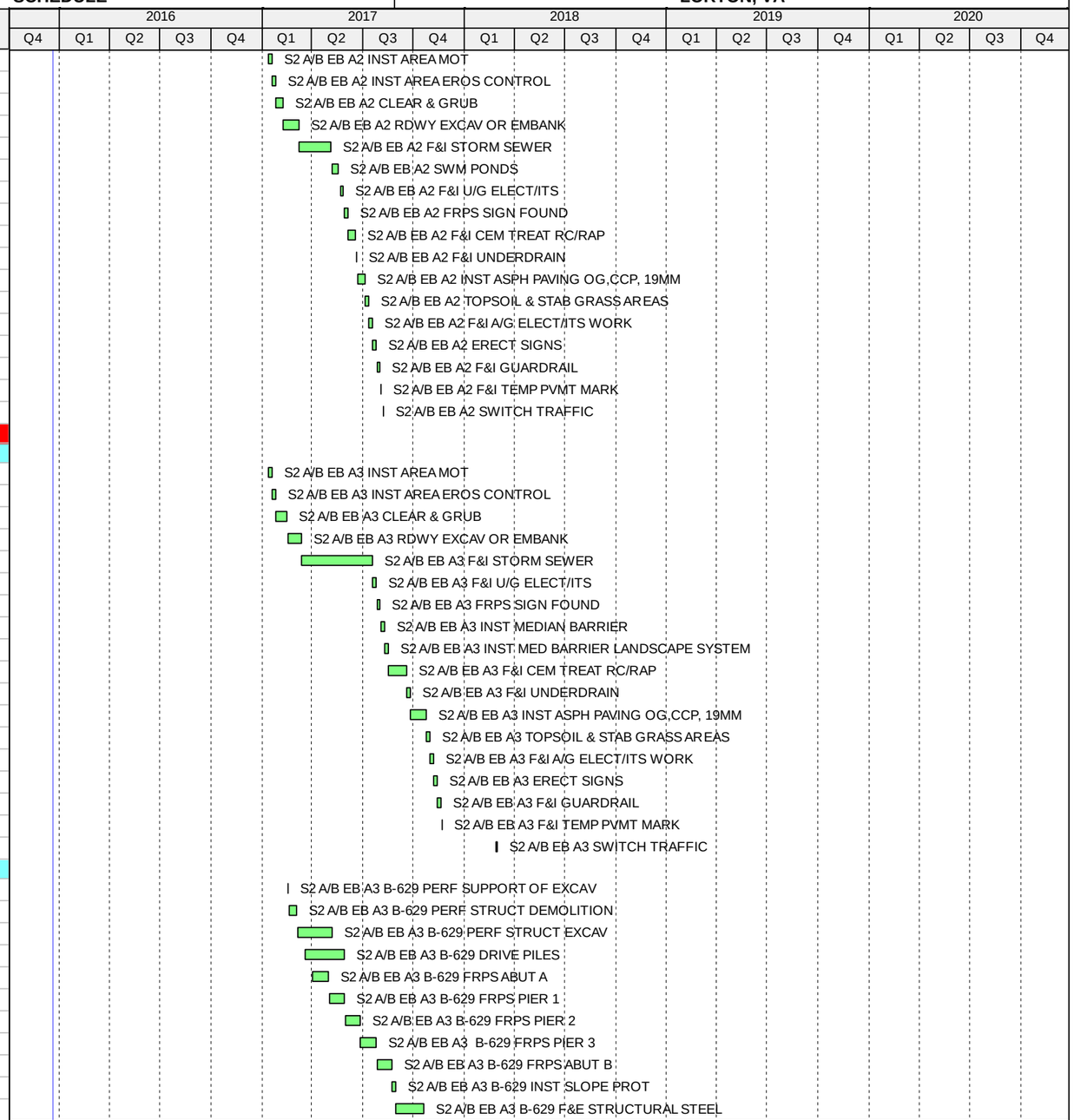
LORTON, VA

Activity ID	Activity Name	Original Duration	Total Float	Start	Finish
STAGE 2 A/B EBL AREA 1 STA 1128-1213		220	82	12-Jan-17	15-Nov-17
ROADWAY		220	82	12-Jan-17	15-Nov-17
C20010	S2 A/B EB A1 INST AREA MOT	5	48	12-Jan-17	18-Jan-17
C20020	S2 A/B EB A1 INST AREA EROS CONTROL	5	48	19-Jan-17	25-Jan-17
C20030	S2 A/B EB A1 CLEAR & GRUB	15	48	26-Jan-17	15-Feb-17
C20040	S2 A/B EB A1 RDWY EXCAV OR EMBANK	16	97	16-Feb-17	09-Mar-17
C20060	S2 A/B EB A1 INST STORM SEWER	75	97	10-Mar-17	26-Jun-17
C20070	S2 A/B EB A1 F&I U/G ELECT/ITS	5	97	27-Jun-17	03-Jul-17
C20080	S2 A/B EB A1 FRPS SIGN FOUND	5	97	05-Jul-17	11-Jul-17
C20090	S2 A/B EB A1 F&I CEM TREAT RC/RAP	19	97	12-Jul-17	07-Aug-17
C20100	S2 A/B EB A1 F&I UNDERDRAIN	4	100	08-Aug-17	11-Aug-17
C20110	S2 A/B EB A1 INST ASPH PAVING OG,CCP, 19MM	17	96	14-Aug-17	06-Sep-17
C20120	S2 A/B EB A1 TOPSOIL & STAB GRASS AREAS	5	105	07-Sep-17	13-Sep-17
C20130	S2 A/B EB A1 F&I A/G ELECT/ITS WORK	5	105	14-Sep-17	20-Sep-17
C20140	S2 A/B EB A1 ERECT SIGNS	5	105	21-Sep-17	27-Sep-17
C20150	S2 A/B EB A1 F&I GUARDRAIL	5	105	28-Sep-17	04-Oct-17
C20160	S2 A/B EB A1 F&I TEMP PVMT MARK	2	105	05-Oct-17	06-Oct-17
C30000	S2 A/B EB A1 SWITCH TRAFFIC	1	78	15-Nov-17	15-Nov-17
BOX CULV 605/608		45	48	16-Feb-17	20-Apr-17
C20230	S2 A/B EB A1 BC 605/608 INST STREAM DIVERSION	5	48	16-Feb-17	22-Feb-17
C20240	S2 A/B EB A1 BC 605/608 PERF HEADWALL DEMO	5	48	23-Feb-17	01-Mar-17
C20250	S2 A/B EB A1 BC 605/608 FRPS CONC FOOT/FLOOR	10	48	02-Mar-17	15-Mar-17
C20260	S2 A/B EB A1 BC 605/608 FRPS CONC WALLS	10	48	16-Mar-17	29-Mar-17
C20270	S2 A/B EB A1 BC 605/608 FRPS CONC SLAB/ROOF	10	48	30-Mar-17	12-Apr-17
C20280	S2 A/B EB A1 BC 605/608 PERF CULV REPAIRS	5	48	13-Apr-17	20-Apr-17
BOX CULV 603/604		45	48	16-Feb-17	20-Apr-17
C20170	S2 A/B EB A1 BC 603/604 INST STREAM DIVERSION	5	48	16-Feb-17	22-Feb-17
C20180	S2 A/B EB A1 BC 603/604 PERF HEADWALL DEMO	5	48	23-Feb-17	01-Mar-17
C20190	S2 A/B EB A1 BC 603/604 FRPS CONC FOOT/FLOOR	10	48	02-Mar-17	15-Mar-17
C20200	S2 A/B EB A1 BC 603/604 FRPS CONC WALLS	10	48	16-Mar-17	29-Mar-17
C20210	S2 A/B EB A1 BC 603/604 FRPS CONC SLAB/ROOF	10	48	30-Mar-17	12-Apr-17
C20220	S2 A/B EB A1 BC 603/604 PERF CULV REPAIRS	5	48	13-Apr-17	20-Apr-17
BRIDGE B-628		194	82	16-Feb-17	14-Nov-17
C20290	S2 A/B EB A1 B-628 PERF SUPPORT OF EXCAV	2	69	16-Feb-17	17-Feb-17
C20300	S2 A/B EB A1 B-628 PERF STRUCT DEMOLITION	10	69	20-Feb-17	03-Mar-17
C20310	S2 A/B EB A1 B-628 PERF STRUCT EXCAV	25	69	06-Mar-17	07-Apr-17
C20320	S2 A/B EB A1 B-628 DRIVE PILES	30	69	20-Mar-17	01-May-17
C20330	S2 A/B EB A1 B-628 FRPS ABUT A	15	69	03-Apr-17	24-Apr-17
C20340	S2 A/B EB A1 B-628 FRPS PIER 1	15	69	25-Apr-17	15-May-17
C20350	S2 A/B EB A1 B-628 FRPS PIER 2	15	69	16-May-17	06-Jun-17
C20360	S2 A/B EB A1 B-628 FRPS ABUT B	15	69	07-Jun-17	27-Jun-17
C20370	S2 A/B EB A1 B-628 F&E PC CONC BEAMS	13	69	28-Jun-17	17-Jul-17
C20380	S2 A/B EB A1 B-628 INST SLOPE PROT	5	69	18-Jul-17	24-Jul-17
C20390	S2 A/B EB A1 B-628 FRPS CONC BR DECK	45	69	25-Jul-17	26-Sep-17
C20400	S2 A/B EB A1 B-628 CURE DECK	14	75	27-Sep-17	16-Oct-17
C20410	S2 A/B EB A1 B-628 FRPS CONC PARAPETS	5	75	17-Oct-17	23-Oct-17
C20720	S2 A/B EB A1 B-628 FRPS CONC APPR SLABS	11	75	24-Oct-17	07-Nov-17
C20730	S2 A/B EB A1 B-628 INST ASPH PAV AT APPR SLAB AREA	5	61	08-Nov-17	14-Nov-17
STAGE 2 A/B EBL AREA 2 STA 1213-1258		148	154	12-Jan-17	07-Aug-17
ROADWAY		148	154	12-Jan-17	07-Aug-17



Actual Work
Remaining Work
Critical Remaining Work
Milestone

Activity ID	Activity Name	Original Duration	Total Float	Start	Finish
C22640	S2 A/B EB A2 INST AREA MOT	5	144	12-Jan-17	18-Jan-17
C22650	S2 A/B EB A2 INST AREA EROS CONTROL	5	144	19-Jan-17	25-Jan-17
C22660	S2 A/B EB A2 CLEAR & GRUB	10	144	26-Jan-17	08-Feb-17
C22670	S2 A/B EB A2 RDWY EXCAV OR EMBANK	20	144	09-Feb-17	08-Mar-17
C22690	S2 A/B EB A2 F&I STORM SEWER	41	144	09-Mar-17	05-May-17
C22700	S2 A/B EB A2 SWM PONDS	10	144	08-May-17	19-May-17
C22710	S2 A/B EB A2 F&I U/G ELECT/ITS	5	144	22-May-17	26-May-17
C22720	S2 A/B EB A2 FRPS SIGN FOUND	5	144	30-May-17	05-Jun-17
C22730	S2 A/B EB A2 F&I CEM TREAT RC/RAP	10	141	06-Jun-17	19-Jun-17
C22740	S2 A/B EB A2 F&I UNDERDRAIN	2	148	20-Jun-17	21-Jun-17
C22750	S2 A/B EB A2 INST ASPH PAVING OG,CCP, 19MM	9	140	22-Jun-17	05-Jul-17
C22760	S2 A/B EB A2 TOPSOIL & STAB GRASS AREAS	5	149	06-Jul-17	12-Jul-17
C22770	S2 A/B EB A2 F&I A/G ELECT/ITS WORK	5	149	13-Jul-17	19-Jul-17
C22780	S2 A/B EB A2 ERECT SIGNS	5	149	20-Jul-17	26-Jul-17
C22790	S2 A/B EB A2 F&I GUARDRAIL	5	149	27-Jul-17	02-Aug-17
C22800	S2 A/B EB A2 F&I TEMP PVMT MARK	2	149	03-Aug-17	04-Aug-17
C31580	S2 A/B EB A2 SWITCH TRAFFIC	1	149	07-Aug-17	07-Aug-17
STAGE 2 A/B EBL AREA 3 STA 1258-1358		295	7	12-Jan-17	28-Feb-18
ROADWAY		295	7	12-Jan-17	28-Feb-18
C20770	S2 A/B EB A3 INST AREA MOT	5	5	12-Jan-17	18-Jan-17
C20780	S2 A/B EB A3 INST AREA EROS CONTROL	5	5	19-Jan-17	25-Jan-17
C20790	S2 A/B EB A3 CLEAR & GRUB	15	5	26-Jan-17	15-Feb-17
C20800	S2 A/B EB A3 RDWY EXCAV OR EMBANK	18	66	16-Feb-17	13-Mar-17
C20820	S2 A/B EB A3 F&I STORM SEWER	89	66	14-Mar-17	19-Jul-17
C20830	S2 A/B EB A3 F&I U/G ELECT/ITS	5	66	20-Jul-17	26-Jul-17
C20840	S2 A/B EB A3 FRPS SIGN FOUND	5	66	27-Jul-17	02-Aug-17
C20850	S2 A/B EB A3 INST MEDIAN BARRIER	5	66	03-Aug-17	09-Aug-17
C20860	S2 A/B EB A3 INST MED BARRIER LANDSCAPE SYSTEM	5	66	10-Aug-17	16-Aug-17
C20870	S2 A/B EB A3 F&I CEM TREAT RC/RAP	22	66	17-Aug-17	18-Sep-17
C20880	S2 A/B EB A3 F&I UNDERDRAIN	5	66	19-Sep-17	25-Sep-17
C20890	S2 A/B EB A3 INST ASPH PAVING OG,CCP, 19MM	20	63	26-Sep-17	23-Oct-17
C20900	S2 A/B EB A3 TOPSOIL & STAB GRASS AREAS	5	72	24-Oct-17	30-Oct-17
C20910	S2 A/B EB A3 F&I A/G ELECT/ITS WORK	5	72	31-Oct-17	06-Nov-17
C20920	S2 A/B EB A3 ERECT SIGNS	5	72	07-Nov-17	13-Nov-17
C20930	S2 A/B EB A3 F&I GUARDRAIL	5	72	14-Nov-17	20-Nov-17
C20940	S2 A/B EB A3 F&I TEMP PVMT MARK	2	72	21-Nov-17	22-Nov-17
C30440	S2 A/B EB A3 SWITCH TRAFFIC	1	7	28-Feb-18	28-Feb-18
BRIDGE B-629		269	7	16-Feb-17	27-Feb-18
C20950	S2 A/B EB A3 B-629 PERF SUPPORT OF EXCAV	2	5	16-Feb-17	17-Feb-17
C20960	S2 A/B EB A3 B-629 PERF STRUCT DEMOLITION	10	5	20-Feb-17	03-Mar-17
C20970	S2 A/B EB A3 B-629 PERF STRUCT EXCAV	45	5	06-Mar-17	08-May-17
C20980	S2 A/B EB A3 B-629 DRIVE PILES	50	5	20-Mar-17	30-May-17
C20990	S2 A/B EB A3 B-629 FRPS ABUT A	20	5	03-Apr-17	01-May-17
C21000	S2 A/B EB A3 B-629 FRPS PIER 1	20	5	02-May-17	30-May-17
C21010	S2 A/B EB A3 B-629 FRPS PIER 2	20	5	31-May-17	27-Jun-17
C21020	S2 A/B EB A3 B-629 FRPS PIER 3	20	5	28-Jun-17	26-Jul-17
C21030	S2 A/B EB A3 B-629 FRPS ABUT B	20	5	27-Jul-17	23-Aug-17
C21040	S2 A/B EB A3 B-629 INST SLOPE PROT	5	5	24-Aug-17	30-Aug-17
C21050	S2 A/B EB A3 B-629 F&E STRUCTURAL STEEL	35	5	31-Aug-17	19-Oct-17



I-64 CAPACITY IMPROVEMENT - SEGMENT II

CONTRACT NO C00106665DB82

TECHNICAL PROPOSAL

SCHEDULE

SHIRLEY CONTRACTING COMPANY, LLC

LORTON, VA

Activity ID	Activity Name	Original Duration	Total Float	Start	Finish
C21060	S2 A/B EB A3 B-629 FRPS CONC BR DECK	50	5	20-Oct-17	10-Jan-18
C21070	S2 A/B EB A3 B-629 CURE DECK	14	7	11-Jan-18	30-Jan-18
C21080	S2 A/B EB A3 B-629 FRPS PIER PROT	5	7	31-Jan-18	06-Feb-18
C21090	S2 A/B EB A3 B-629 FRPS CONC PARAPETS	5	7	07-Feb-18	13-Feb-18
C21560	S2 A/B EB A3 B-629 FRPS CONC APPR SLABS	10	7	14-Feb-18	27-Feb-18
BRIDGE B-630		260	16	16-Feb-17	14-Feb-18
C21100	S2 A/B EB A3 B-630 PERF SUPPORT OF EXCAV	10	10	16-Feb-17	01-Mar-17
C21110	S2 A/B EB A3 B-630 PERF STRUCT DEMOLITION	10	10	02-Mar-17	15-Mar-17
C21120	S2 A/B EB A3 B-630 PERF STRUCT EXCAV	30	10	16-Mar-17	27-Apr-17
C21130	S2 A/B EB A3 B-630 DRIVE PILES	45	10	30-Mar-17	02-Jun-17
C21140	S2 A/B EB A3 B-630 FRPS ABUT A	20	10	13-Apr-17	11-May-17
C21150	S2 A/B EB A3 B-630 FRPS PIER 1	20	10	28-Apr-17	25-May-17
C21160	S2 A/B EB A3 B-630 FRPS PIER 2	20	10	26-May-17	23-Jun-17
C21170	S2 A/B EB A3 B-630 FRPS PIER 3	20	10	26-Jun-17	24-Jul-17
C21180	S2 A/B EB A3 B-630 FRPS ABUT B	20	10	25-Jul-17	21-Aug-17
C21190	S2 A/B EB A3 B-630 INST SLOPE PROT	5	10	22-Aug-17	28-Aug-17
C21200	S2 A/B EB A3 B-630 F&E STRUCTURAL STEEL	35	10	29-Aug-17	17-Oct-17
C21210	S2 A/B EB A3 B-630 FRPS CONC BR DECK	50	10	18-Oct-17	04-Jan-18
C21220	S2 A/B EB A3 B-630 CURE DECK	14	16	05-Jan-18	24-Jan-18
C21230	S2 A/B EB A3 B-630 FRPS CONC PARAPETS	5	16	25-Jan-18	31-Jan-18
C21231	S2 A/B EB A3 B-630 FRPS CONC APPR SLABS	10	16	01-Feb-18	14-Feb-18
STAGE 2 A/B EBL AREA 4 STA 1358-1402		132	170	12-Jan-17	14-Jul-17
ROADWAY		132	170	12-Jan-17	14-Jul-17
C23000	S2 A/B EB A4 INST AREA MOT	5	157	12-Jan-17	18-Jan-17
C23010	S2 A/B EB A4 INST AREA EROS CONTROL	5	157	19-Jan-17	25-Jan-17
C23020	S2 A/B EB A4 CLEAR & GRUB	10	157	26-Jan-17	08-Feb-17
C23030	S2 A/B EB A4 RDWY EXCAV OR EMBANK	10	157	09-Feb-17	22-Feb-17
C23050	S2 A/B EB A4 F&I STORM SEWER	40	157	23-Feb-17	20-Apr-17
C23060	S2 A/B EB A4 F&I U/G ELECT/ITS	5	157	21-Apr-17	27-Apr-17
C23070	S2 A/B EB A4 FRPS SIGN FOUND	5	157	28-Apr-17	04-May-17
C23080	S2 A/B EB A4 INST MEDIAN BARRIER	5	157	05-May-17	11-May-17
C23090	S2 A/B EB A4 INST MED BARRIER LANDSCAPE SYSTEM	5	157	12-May-17	18-May-17
C23100	S2 A/B EB A4 F&I CEM TREAT RC/RAP	10	154	19-May-17	02-Jun-17
C23110	S2 A/B EB A4 F&I UNDERDRAIN	2	163	05-Jun-17	06-Jun-17
C23120	S2 A/B EB A4 INST ASPH PAVING OG,CCP, 19MM	9	154	07-Jun-17	19-Jun-17
C23130	S2 A/B EB A4 TOPSOIL & STAB GRASS AREAS	5	165	20-Jun-17	26-Jun-17
C23140	S2 A/B EB A4 F&I A/G ELECT/ITS WORK	5	165	27-Jun-17	03-Jul-17
C23150	S2 A/B EB A4 ERECT SIGNS	5	165	05-Jul-17	11-Jul-17
C23160	S2 A/B EB A4 F&I TEMP PVMT MARK	2	165	12-Jul-17	13-Jul-17
C31970	S2 A/B EB A4 SWITCH TRAFFIC	1	165	14-Jul-17	14-Jul-17
STAGE 2 A/B EBL AREA 5 STA 1402-1502		302	0	12-Jan-17	09-Mar-18
ROADWAY		302	0	12-Jan-17	09-Mar-18
C21600	S2 A/B EB A5 INST AREA MOT	5	0	12-Jan-17	18-Jan-17
C21610	S2 A/B EB A5 INST AREA EROS CONTROL	5	0	19-Jan-17	25-Jan-17
C21620	S2 A/B EB A5 CLEAR & GRUB	15	0	26-Jan-17	15-Feb-17
C21630	S2 A/B EB A5 RDWY EXCAV OR EMBANK	15	109	16-Feb-17	08-Mar-17
C21650	S2 A/B EB A5 F&I STORM SEWER	50	109	09-Mar-17	18-May-17
C21660	S2 A/B EB A5 F&I U/G ELECT/ITS	5	109	19-May-17	25-May-17
C21670	S2 A/B EB A5 FRPS SIGN FOUND	5	109	26-May-17	02-Jun-17
C21680	S2 A/B EB A5 INST MEDIAN BARRIER	5	109	05-Jun-17	09-Jun-17

Actual Work
Remaining Work
Critical Remaining Work
Milestone

I-64 CAPACITY IMPROVEMENT - SEGMENT II

CONTRACT NO C00106665DB82

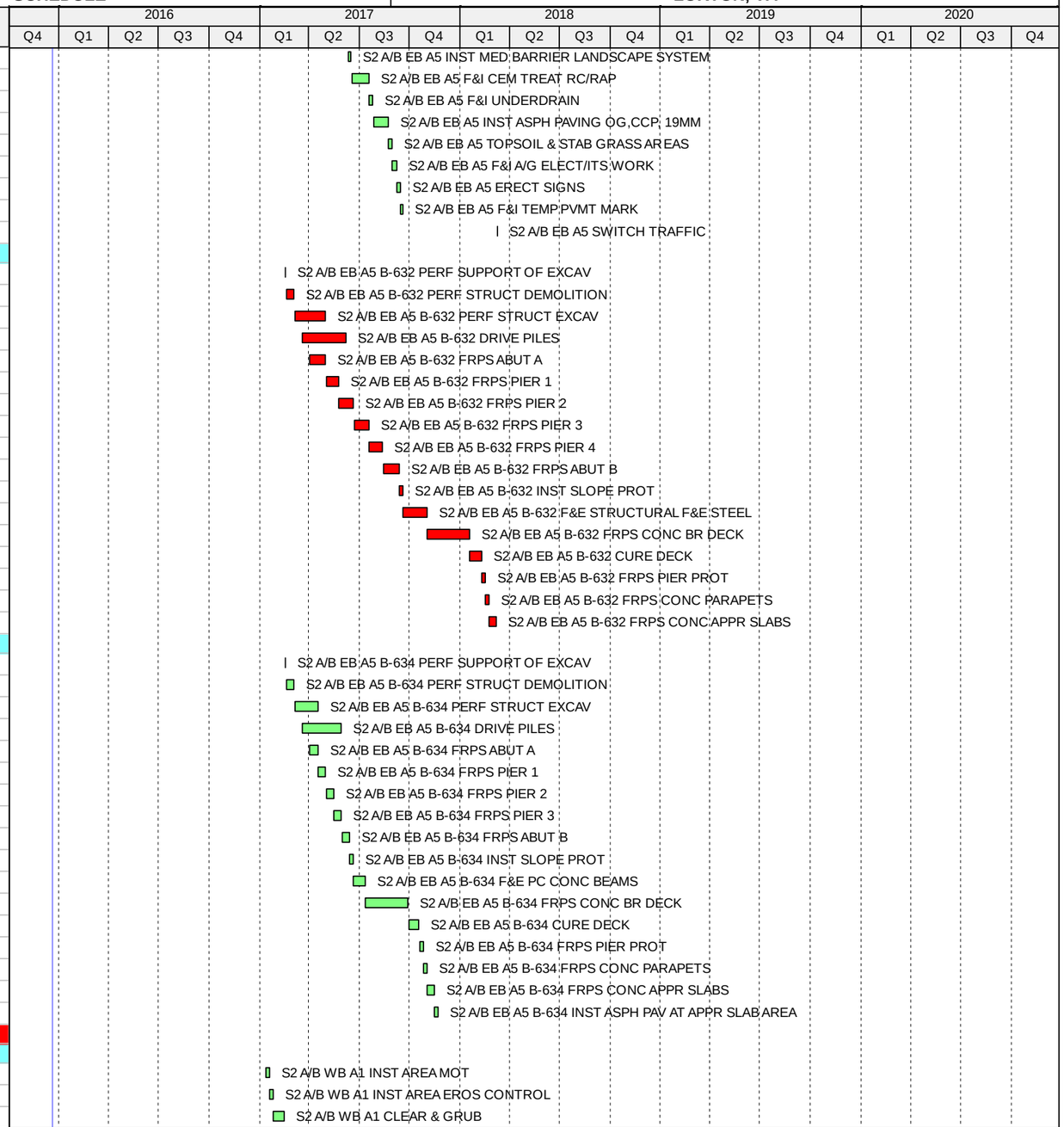
TECHNICAL PROPOSAL

SCHEDULE

SHIRLEY CONTRACTING COMPANY, LLC

LORTON, VA

Activity ID	Activity Name	Original Duration	Total Float	Start	Finish
C21690	S2 A/B EB A5 INST MED BARRIER LANDSCAPE SYSTEM	5	109	12-Jun-17	16-Jun-17
C21700	S2 A/B EB A5 F&I CEM TREAT RC/RAP	22	109	19-Jun-17	19-Jul-17
C21710	S2 A/B EB A5 F&I UNDERDRAIN	5	111	20-Jul-17	26-Jul-17
C21720	S2 A/B EB A5 INST ASPH PAVING OG,CCP, 19MM	20	108	27-Jul-17	23-Aug-17
C21730	S2 A/B EB A5 TOPSOIL & STAB GRASS AREAS	5	119	24-Aug-17	30-Aug-17
C21740	S2 A/B EB A5 F&I A/G ELECT/ITS WORK	5	119	31-Aug-17	07-Sep-17
C21750	S2 A/B EB A5 ERECT SIGNS	5	119	08-Sep-17	14-Sep-17
C21760	S2 A/B EB A5 F&I TEMP PVMT MARK	2	119	15-Sep-17	18-Sep-17
C30960	S2 A/B EB A5 SWITCH TRAFFIC	1	0	09-Mar-18	09-Mar-18
BRIDGE B-632		276	0	16-Feb-17	08-Mar-18
C21770	S2 A/B EB A5 B-632 PERF SUPPORT OF EXCAV	2	0	16-Feb-17	17-Feb-17
C21780	S2 A/B EB A5 B-632 PERF STRUCT DEMOLITION	10	0	20-Feb-17	03-Mar-17
C21790	S2 A/B EB A5 B-632 PERF STRUCT EXCAV	40	0	06-Mar-17	01-May-17
C21800	S2 A/B EB A5 B-632 DRIVE PILES	55	0	20-Mar-17	06-Jun-17
C21810	S2 A/B EB A5 B-632 FRPS ABUT A	20	0	03-Apr-17	01-May-17
C21820	S2 A/B EB A5 B-632 FRPS PIER 1	18	0	02-May-17	25-May-17
C21830	S2 A/B EB A5 B-632 FRPS PIER 2	18	0	26-May-17	21-Jun-17
C21840	S2 A/B EB A5 B-632 FRPS PIER 3	18	0	22-Jun-17	18-Jul-17
C21850	S2 A/B EB A5 B-632 FRPS PIER 4	18	0	19-Jul-17	11-Aug-17
C21860	S2 A/B EB A5 B-632 FRPS ABUT B	20	0	14-Aug-17	11-Sep-17
C21870	S2 A/B EB A5 B-632 INST SLOPE PROT	5	0	12-Sep-17	18-Sep-17
C21880	S2 A/B EB A5 B-632 F&E STRUCTURAL F&E STEEL	33	0	19-Sep-17	02-Nov-17
C21890	S2 A/B EB A5 B-632 FRPS CONC BR DECK	45	0	03-Nov-17	18-Jan-18
C21900	S2 A/B EB A5 B-632 CURE DECK	15	0	19-Jan-18	08-Feb-18
C21910	S2 A/B EB A5 B-632 FRPS PIER PROT	5	0	09-Feb-18	15-Feb-18
C21920	S2 A/B EB A5 B-632 FRPS CONC PARAPETS	5	0	16-Feb-18	22-Feb-18
C22570	S2 A/B EB A5 B-632 FRPS CONC APPR SLABS	10	0	23-Feb-18	08-Mar-18
BRIDGE B-634		200	76	16-Feb-17	22-Nov-17
C21930	S2 A/B EB A5 B-634 PERF SUPPORT OF EXCAV	2	64	16-Feb-17	17-Feb-17
C21940	S2 A/B EB A5 B-634 PERF STRUCT DEMOLITION	10	64	20-Feb-17	03-Mar-17
C21950	S2 A/B EB A5 B-634 PERF STRUCT EXCAV	30	64	06-Mar-17	17-Apr-17
C21960	S2 A/B EB A5 B-634 DRIVE PILES	50	64	20-Mar-17	30-May-17
C21970	S2 A/B EB A5 B-634 FRPS ABUT A	10	64	03-Apr-17	17-Apr-17
C21980	S2 A/B EB A5 B-634 FRPS PIER 1	10	64	18-Apr-17	01-May-17
C21990	S2 A/B EB A5 B-634 FRPS PIER 2	10	64	02-May-17	15-May-17
C22000	S2 A/B EB A5 B-634 FRPS PIER 3	10	64	16-May-17	30-May-17
C22010	S2 A/B EB A5 B-634 FRPS ABUT B	10	64	31-May-17	13-Jun-17
C22020	S2 A/B EB A5 B-634 INST SLOPE PROT	5	64	14-Jun-17	20-Jun-17
C22030	S2 A/B EB A5 B-634 F&E PC CONC BEAMS	15	64	21-Jun-17	12-Jul-17
C22040	S2 A/B EB A5 B-634 FRPS CONC BR DECK	55	64	13-Jul-17	28-Sep-17
C22050	S2 A/B EB A5 B-634 CURE DECK	14	69	29-Sep-17	18-Oct-17
C22060	S2 A/B EB A5 B-634 FRPS PIER PROT	5	69	19-Oct-17	25-Oct-17
C22070	S2 A/B EB A5 B-634 FRPS CONC PARAPETS	5	69	26-Oct-17	01-Nov-17
C22580	S2 A/B EB A5 B-634 FRPS CONC APPR SLABS	10	69	02-Nov-17	15-Nov-17
C22590	S2 A/B EB A5 B-634 INST ASPH PAV AT APPR SLAB AREA	5	55	16-Nov-17	22-Nov-17
STAGE 2 A/B WBL AREA 1 STA 2128-2213		244	58	12-Jan-17	19-Dec-17
ROADWAY		244	58	12-Jan-17	19-Dec-17
C20430	S2 A/B WB A1 INST AREA MOT	5	68	12-Jan-17	18-Jan-17
C20440	S2 A/B WB A1 INST AREA EROS CONTROL	5	68	19-Jan-17	25-Jan-17
C20450	S2 A/B WB A1 CLEAR & GRUB	15	68	26-Jan-17	15-Feb-17



Actual Work
Remaining Work
Critical Remaining Work
Milestone

I-64 CAPACITY IMPROVEMENT - SEGMENT II

CONTRACT NO C00106665DB82

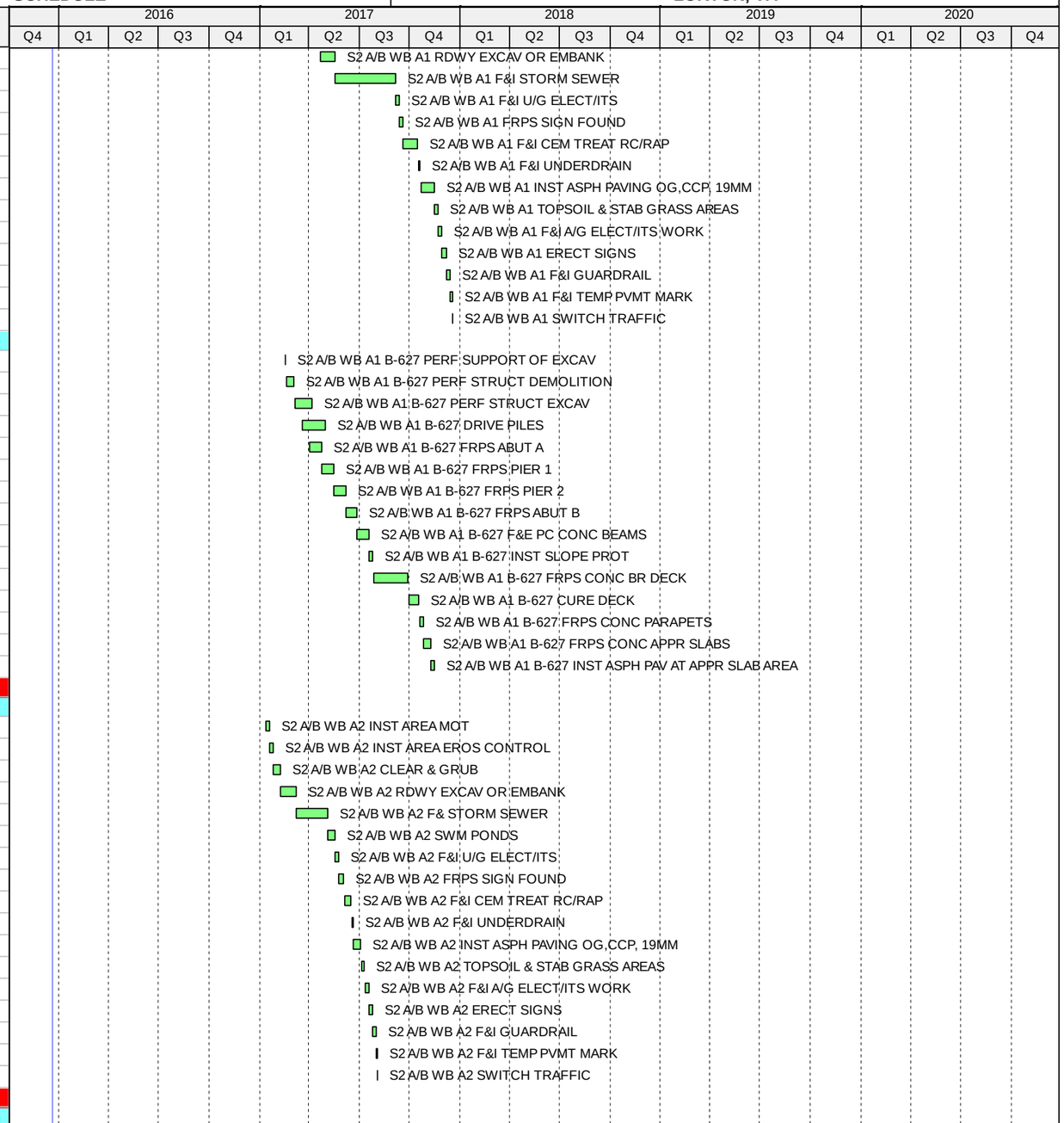
TECHNICAL PROPOSAL

SCHEDULE

SHIRLEY CONTRACTING COMPANY, LLC

LORTON, VA

Activity ID	Activity Name	Original Duration	Total Float	Start	Finish
C20460	S2 A/B WB A1 RDWY EXCAV OR EMBANK	20	48	21-Apr-17	18-May-17
C20480	S2 A/B WB A1 F&I STORM SEWER	75	48	19-May-17	05-Sep-17
C20490	S2 A/B WB A1 F&I U/G ELECT/ITS	5	48	06-Sep-17	12-Sep-17
C20500	S2 A/B WB A1 FRPS SIGN FOUND	5	48	13-Sep-17	19-Sep-17
C20510	S2 A/B WB A1 F&I CEM TREAT RC/RAP	19	48	20-Sep-17	16-Oct-17
C20520	S2 A/B WB A1 F&I UNDERDRAIN	4	51	17-Oct-17	20-Oct-17
C20530	S2 A/B WB A1 INST ASPH PAVING OG,CCP, 19MM	17	47	23-Oct-17	14-Nov-17
C20540	S2 A/B WB A1 TOPSOIL & STAB GRASS AREAS	5	56	15-Nov-17	21-Nov-17
C20550	S2 A/B WB A1 F&I A/G ELECT/ITS WORK	5	56	22-Nov-17	28-Nov-17
C20560	S2 A/B WB A1 ERECT SIGNS	5	56	29-Nov-17	07-Dec-17
C20570	S2 A/B WB A1 F&I GUARDRAIL	5	56	08-Dec-17	14-Dec-17
C20580	S2 A/B WB A1 F&I TEMP PVMT MARK	2	56	15-Dec-17	18-Dec-17
C30220	S2 A/B WB A1 SWITCH TRAFFIC	1	56	19-Dec-17	19-Dec-17
BRIDGE B-627		195	81	16-Feb-17	15-Nov-17
C20590	S2 A/B WB A1 B-627 PERF SUPPORT OF EXCAV	2	68	16-Feb-17	17-Feb-17
C20600	S2 A/B WB A1 B-627 PERF STRUCT DEMOLITION	10	68	20-Feb-17	03-Mar-17
C20610	S2 A/B WB A1 B-627 PERF STRUCT EXCAV	25	68	06-Mar-17	07-Apr-17
C20620	S2 A/B WB A1 B-627 DRIVE PILES	30	68	20-Mar-17	01-May-17
C20630	S2 A/B WB A1 B-627 FRPS ABUT A	15	68	03-Apr-17	24-Apr-17
C20640	S2 A/B WB A1 B-627 FRPS PIER 1	15	68	25-Apr-17	15-May-17
C20650	S2 A/B WB A1 B-627 FRPS PIER 2	15	68	16-May-17	06-Jun-17
C20660	S2 A/B WB A1 B-627 FRPS ABUT B	15	68	07-Jun-17	27-Jun-17
C20670	S2 A/B WB A1 B-627 F&E PC CONC BEAMS	15	68	28-Jun-17	19-Jul-17
C20680	S2 A/B WB A1 B-627 INST SLOPE PROT	5	68	20-Jul-17	26-Jul-17
C20690	S2 A/B WB A1 B-627 FRPS CONC BR DECK	45	68	27-Jul-17	28-Sep-17
C20700	S2 A/B WB A1 B-627 CURE DECK	14	74	29-Sep-17	18-Oct-17
C20710	S2 A/B WB A1 B-627 FRPS CONC PARAPETS	5	74	19-Oct-17	25-Oct-17
C20740	S2 A/B WB A1 B-627 FRPS CONC APPR SLABS	10	74	26-Oct-17	08-Nov-17
C20750	S2 A/B WB A1 B-627 INST ASPH PAV AT APPR SLAB AREA	5	60	09-Nov-17	15-Nov-17
STAGE 2 A/B WBL AREA 2 STA 2213-2258		147	155	12-Jan-17	04-Aug-17
ROADWAY		147	155	12-Jan-17	04-Aug-17
C22820	S2 A/B WB A2 INST AREA MOT	5	145	12-Jan-17	18-Jan-17
C22830	S2 A/B WB A2 INST AREA EROS CONTROL	5	145	19-Jan-17	25-Jan-17
C22840	S2 A/B WB A2 CLEAR & GRUB	10	145	26-Jan-17	08-Feb-17
C22850	S2 A/B WB A2 RDWY EXCAV OR EMBANK	20	145	09-Feb-17	08-Mar-17
C22870	S2 A/B WB A2 F& STORM SEWER	40	145	09-Mar-17	04-May-17
C22880	S2 A/B WB A2 SWM PONDS	10	145	05-May-17	18-May-17
C22890	S2 A/B WB A2 F&I U/G ELECT/ITS	5	145	19-May-17	25-May-17
C22900	S2 A/B WB A2 FRPS SIGN FOUND	5	145	26-May-17	02-Jun-17
C22910	S2 A/B WB A2 F&I CEM TREAT RC/RAP	10	142	05-Jun-17	16-Jun-17
C22920	S2 A/B WB A2 F&I UNDERDRAIN	2	149	19-Jun-17	20-Jun-17
C22930	S2 A/B WB A2 INST ASPH PAVING OG,CCP, 19MM	9	141	21-Jun-17	03-Jul-17
C22940	S2 A/B WB A2 TOPSOIL & STAB GRASS AREAS	5	150	05-Jul-17	11-Jul-17
C22950	S2 A/B WB A2 F&I A/G ELECT/ITS WORK	5	150	12-Jul-17	18-Jul-17
C22960	S2 A/B WB A2 ERECT SIGNS	5	150	19-Jul-17	25-Jul-17
C22970	S2 A/B WB A2 F&I GUARDRAIL	5	150	26-Jul-17	01-Aug-17
C22980	S2 A/B WB A2 F&I TEMP PVMT MARK	2	150	02-Aug-17	03-Aug-17
C31800	S2 A/B WB A2 SWITCH TRAFFIC	1	150	04-Aug-17	04-Aug-17
STAGE 2 A/B WBL AREA 3 STA 2258-2358		300	2	12-Jan-17	07-Mar-18
ROADWAY		300	2	12-Jan-17	07-Mar-18



Actual Work
Remaining Work
Critical Remaining Work
Milestone

I-64 CAPACITY IMPROVEMENT - SEGMENT II

CONTRACT NO C00106665DB82

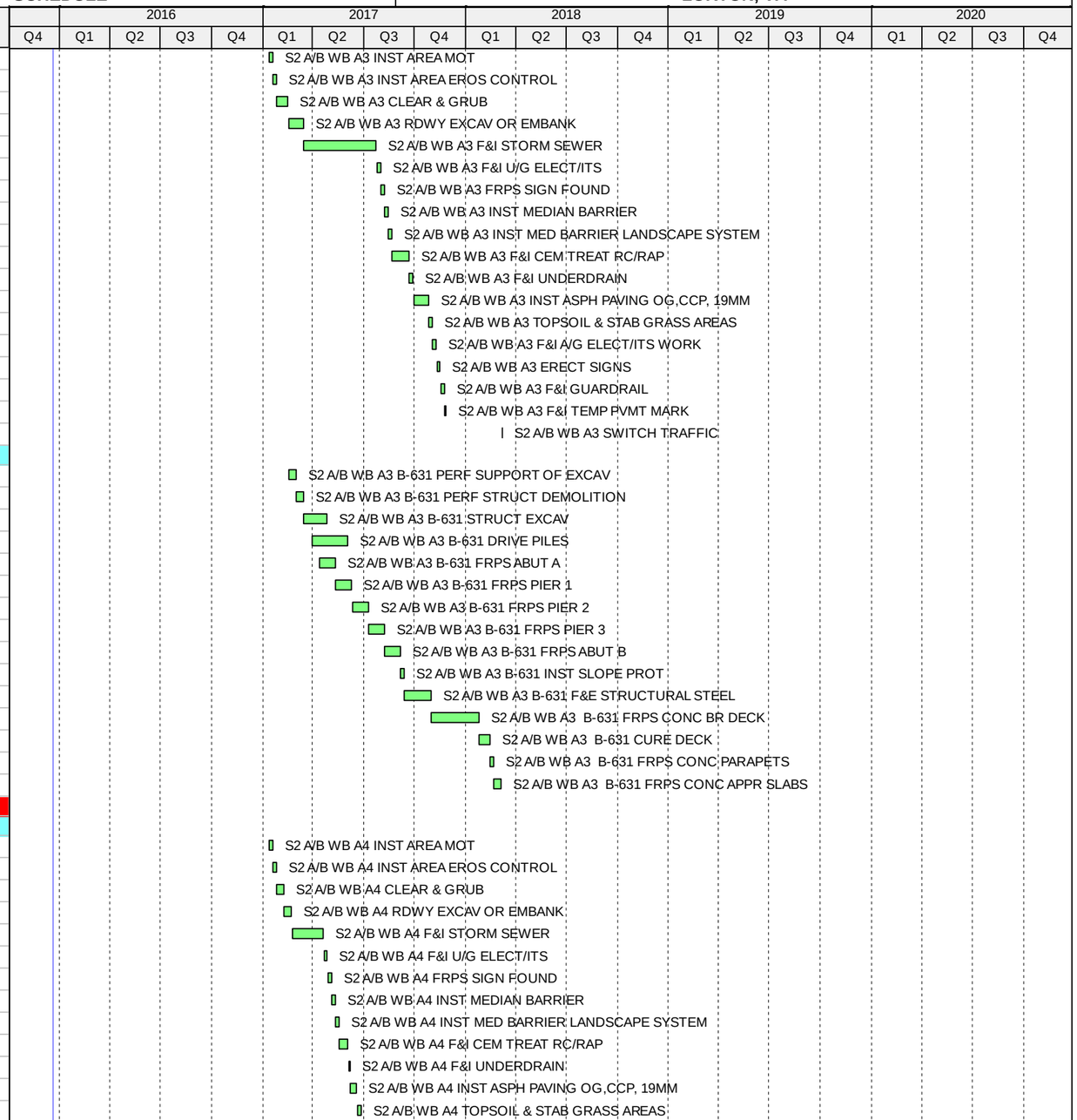
TECHNICAL PROPOSAL

SCHEDULE

SHIRLEY CONTRACTING COMPANY, LLC

LORTON, VA

Activity ID	Activity Name	Original Duration	Total Float	Start	Finish
C21250	S2 A/B WB A3 INST AREA MOT	5	1	12-Jan-17	18-Jan-17
C21260	S2 A/B WB A3 INST AREA EROS CONTROL	5	1	19-Jan-17	25-Jan-17
C21270	S2 A/B WB A3 CLEAR & GRUB	15	1	26-Jan-17	15-Feb-17
C21280	S2 A/B WB A3 RDWY EXCAV OR EMBANK	20	63	16-Feb-17	15-Mar-17
C21300	S2 A/B WB A3 F&I STORM SEWER	90	63	16-Mar-17	24-Jul-17
C21310	S2 A/B WB A3 F&I U/G ELECT/ITS	5	63	25-Jul-17	31-Jul-17
C21320	S2 A/B WB A3 FRPS SIGN FOUND	5	63	01-Aug-17	07-Aug-17
C21330	S2 A/B WB A3 INST MEDIAN BARRIER	5	63	08-Aug-17	14-Aug-17
C21340	S2 A/B WB A3 INST MED BARRIER LANDSCAPE SYSTEM	5	63	15-Aug-17	21-Aug-17
C21350	S2 A/B WB A3 F&I CEM TREAT RC/RAP	22	63	22-Aug-17	21-Sep-17
C21360	S2 A/B WB A3 F&I UNDERDRAIN	5	63	22-Sep-17	28-Sep-17
C21370	S2 A/B WB A3 INST ASPH PAVING OG,CCP, 19MM	20	60	29-Sep-17	26-Oct-17
C21380	S2 A/B WB A3 TOPSOIL & STAB GRASS AREAS	5	69	27-Oct-17	02-Nov-17
C21390	S2 A/B WB A3 F&I A/G ELECT/ITS WORK	5	69	03-Nov-17	09-Nov-17
C21400	S2 A/B WB A3 ERECT SIGNS	5	69	10-Nov-17	16-Nov-17
C21410	S2 A/B WB A3 F&I GUARDRAIL	5	69	17-Nov-17	23-Nov-17
C21420	S2 A/B WB A3 F&I TEMP PVMT MARK	2	69	24-Nov-17	27-Nov-17
C30730	S2 A/B WB A3 SWITCH TRAFFIC	1	2	07-Mar-18	07-Mar-18
BRIDGE B-631		274	2	16-Feb-17	06-Mar-18
C21430	S2 A/B WB A3 B-631 PERF SUPPORT OF EXCAV	10	1	16-Feb-17	01-Mar-17
C21440	S2 A/B WB A3 B-631 PERF STRUCT DEMOLITION	10	1	02-Mar-17	15-Mar-17
C21445	S2 A/B WB A3 B-631 STRUCT EXCAV	30	1	16-Mar-17	27-Apr-17
C21450	S2 A/B WB A3 B-631 DRIVE PILES	45	1	30-Mar-17	02-Jun-17
C21460	S2 A/B WB A3 B-631 FRPS ABUT A	20	1	13-Apr-17	11-May-17
C21470	S2 A/B WB A3 B-631 FRPS PIER 1	20	1	12-May-17	09-Jun-17
C21480	S2 A/B WB A3 B-631 FRPS PIER 2	20	1	12-Jun-17	10-Jul-17
C21490	S2 A/B WB A3 B-631 FRPS PIER 3	20	1	11-Jul-17	07-Aug-17
C21500	S2 A/B WB A3 B-631 FRPS ABUT B	20	1	08-Aug-17	05-Sep-17
C21510	S2 A/B WB A3 B-631 INST SLOPE PROT	5	1	06-Sep-17	12-Sep-17
C21520	S2 A/B WB A3 B-631 F&E STRUCTURAL STEEL	34	1	13-Sep-17	30-Oct-17
C21530	S2 A/B WB A3 B-631 FRPS CONC BR DECK	50	1	31-Oct-17	24-Jan-18
C21540	S2 A/B WB A3 B-631 CURE DECK	14	2	25-Jan-18	13-Feb-18
C21550	S2 A/B WB A3 B-631 FRPS CONC PARAPETS	5	2	14-Feb-18	20-Feb-18
C21580	S2 A/B WB A3 B-631 FRPS CONC APPR SLABS	10	2	21-Feb-18	06-Mar-18
STAGE 2 A/B WBL AREA 4 STA 2358-2402		132	170	12-Jan-17	14-Jul-17
ROADWAY		132	170	12-Jan-17	14-Jul-17
C23180	S2 A/B WB A4 INST AREA MOT	5	157	12-Jan-17	18-Jan-17
C23190	S2 A/B WB A4 INST AREA EROS CONTROL	5	157	19-Jan-17	25-Jan-17
C23200	S2 A/B WB A4 CLEAR & GRUB	10	157	26-Jan-17	08-Feb-17
C23210	S2 A/B WB A4 RDWY EXCAV OR EMBANK	10	157	09-Feb-17	22-Feb-17
C23230	S2 A/B WB A4 F&I STORM SEWER	40	157	23-Feb-17	20-Apr-17
C23240	S2 A/B WB A4 F&I U/G ELECT/ITS	5	157	21-Apr-17	27-Apr-17
C23250	S2 A/B WB A4 FRPS SIGN FOUND	5	157	28-Apr-17	04-May-17
C23260	S2 A/B WB A4 INST MEDIAN BARRIER	5	157	05-May-17	11-May-17
C23270	S2 A/B WB A4 INST MED BARRIER LANDSCAPE SYSTEM	5	157	12-May-17	18-May-17
C23280	S2 A/B WB A4 F&I CEM TREAT RC/RAP	10	154	19-May-17	02-Jun-17
C23290	S2 A/B WB A4 F&I UNDERDRAIN	2	163	05-Jun-17	06-Jun-17
C23300	S2 A/B WB A4 INST ASPH PAVING OG,CCP, 19MM	9	154	07-Jun-17	19-Jun-17
C23310	S2 A/B WB A4 TOPSOIL & STAB GRASS AREAS	5	165	20-Jun-17	26-Jun-17



Actual Work
Remaining Work
Critical Remaining Work
Milestone

Activity ID	Activity Name	Original Duration	Total Float	Start	Finish
C23320	S2 A/B WB A4 A/G F&I ELECT/ITS WORK	5	165	27-Jun-17	03-Jul-17
C23330	S2 A/B WB A4 ERECT SIGNS	5	165	05-Jul-17	11-Jul-17
C23340	S2 A/B WB A4 F&I TEMP PVMT MARK	2	165	12-Jul-17	13-Jul-17
C32140	S2 A/B WB A4 SWITCH TRAFFIC	1	165	14-Jul-17	14-Jul-17
STAGE 2 A/B WBL AREA 5 STA 2402-2502		302	0	12-Jan-17	09-Mar-18
ROADWAY		302	0	12-Jan-17	09-Mar-18
C22090	S2 A/B WB A5 INST AREA MOT	5	0	12-Jan-17	18-Jan-17
C22100	S2 A/B WB A5 INST AREA EROS CONTROL	5	0	19-Jan-17	25-Jan-17
C22110	S2 A/B WB A5 CLEAR & GRUB	15	0	26-Jan-17	15-Feb-17
C22120	S2 A/B WB A5 RDWY EXCAV OR EMBANK	15	109	16-Feb-17	08-Mar-17
C22140	S2 A/B WB A5 F&I STORM SEWER	50	109	09-Mar-17	18-May-17
C22150	S2 A/B WB A5 F&I U/G ELECT/ITS	5	109	19-May-17	25-May-17
C22160	S2 A/B WB A5 FRPS SIGN FOUND	5	109	26-May-17	02-Jun-17
C22170	S2 A/B WB A5 INST MEDIAN BARRIER	5	109	05-Jun-17	09-Jun-17
C22180	S2 A/B WB A5 INST MED BARRIER LANDSCAPE SYSTEM	5	109	12-Jun-17	16-Jun-17
C22190	S2 A/B WB A5 F&I CEM TREAT RC/RAP	22	109	19-Jun-17	19-Jul-17
C22200	S2 A/B WB A5 F&I UNDERDRAIN	5	111	20-Jul-17	26-Jul-17
C22210	S2 A/B WB A5 INST ASPH PAVING OG,CCP, 19MM	20	108	27-Jul-17	23-Aug-17
C22220	S2 A/B WB A5 TOPSOIL & STAB GRASS AREAS	5	119	24-Aug-17	30-Aug-17
C22230	S2 A/B WB A5 A/G F&I ELECT/ITS WORK	5	119	31-Aug-17	07-Sep-17
C22240	S2 A/B WB A5 ERECT SIGNS	5	119	08-Sep-17	14-Sep-17
C22250	S2 A/B WB A5 F&I TEMP PVMT MARK	2	119	15-Sep-17	18-Sep-17
C31240	S2 A/B WB A5 SWITCH TRAFFIC	1	0	09-Mar-18	09-Mar-18
BRIDGE B-633		276	0	16-Feb-17	08-Mar-18
C22260	S2 A/B WB A5 B-633 PERF SUPPORT OF EXCAV	2	0	16-Feb-17	17-Feb-17
C22270	S2 A/B WB A5 B-633 PERF STRUCT DEMOLITION	10	0	20-Feb-17	03-Mar-17
C22280	S2 A/B WB A5 B-633 PERF STRUCT EXCAV	40	0	06-Mar-17	01-May-17
C22290	S2 A/B WB A5 B-633 DRIVE PILES	55	0	20-Mar-17	06-Jun-17
C22300	S2 A/B WB A5 B-633 FRPS ABUT A	20	0	03-Apr-17	01-May-17
C22310	S2 A/B WB A5 B-633 FRPS PIER 1	18	0	02-May-17	25-May-17
C22320	S2 A/B WB A5 B-633 FRPS PIER 2	18	0	26-May-17	21-Jun-17
C22330	S2 A/B WB A5 B-633 FRPS PIER 3	18	0	22-Jun-17	18-Jul-17
C22340	S2 A/B WB A5 B-633 FRPS PIER 4	18	0	19-Jul-17	11-Aug-17
C22350	S2 A/B WB A5 B-633 FRPS ABUT B	20	0	14-Aug-17	11-Sep-17
C22360	S2 A/B WB A5 B-633 INST SLOPE PROT	5	0	12-Sep-17	18-Sep-17
C22370	S2 A/B WB A5 B-633 F&E STRUCTURAL STEEL	33	0	19-Sep-17	02-Nov-17
C22380	S2 A/B WB A5 B-633 FRPS CONC BR DECK	45	0	03-Nov-17	18-Jan-18
C22390	S2 A/B WB A5 B-633 CURE DECK	15	0	19-Jan-18	08-Feb-18
C22400	S2 A/B WB A5 B-633 FRPS PIER PROT	5	0	09-Feb-18	15-Feb-18
C22410	S2 A/B WB A5 B-633 FRPS CONC PARAPETS	5	0	16-Feb-18	22-Feb-18
C22411	S2 A/B WB A5 B-633 FRPS CONC APPR SLABS	10	0	23-Feb-18	08-Mar-18
BRIDGE B-635		236	40	16-Feb-17	11-Jan-18
C22420	S2 A/B WB A5 B-635 PERF SUPPORT OF EXCAV	2	34	16-Feb-17	17-Feb-17
C22430	S2 A/B WB A5 B-635 PERF STRUCT DEMOLITION	10	34	20-Feb-17	03-Mar-17
C22440	S2 A/B WB A5 B-635 PERF STRUCT EXCAV	30	34	06-Mar-17	17-Apr-17
C22450	S2 A/B WB A5 B-635 DRIVE PILES	50	34	02-May-17	12-Jul-17
C22460	S2 A/B WB A5 B-635 FRPS ABUT A	10	34	16-May-17	30-May-17
C22470	S2 A/B WB A5 B-635 FRPS PIER 1	10	34	31-May-17	13-Jun-17
C22480	S2 A/B WB A5 B-635 FRPS PIER 2	10	34	14-Jun-17	27-Jun-17
C22490	S2 A/B WB A5 B-635 FRPS PIER 3	10	34	28-Jun-17	12-Jul-17

Actual Work
Remaining Work
Critical Remaining Work
Milestone

I-64 CAPACITY IMPROVEMENT - SEGMENT II

CONTRACT NO C00106665DB82

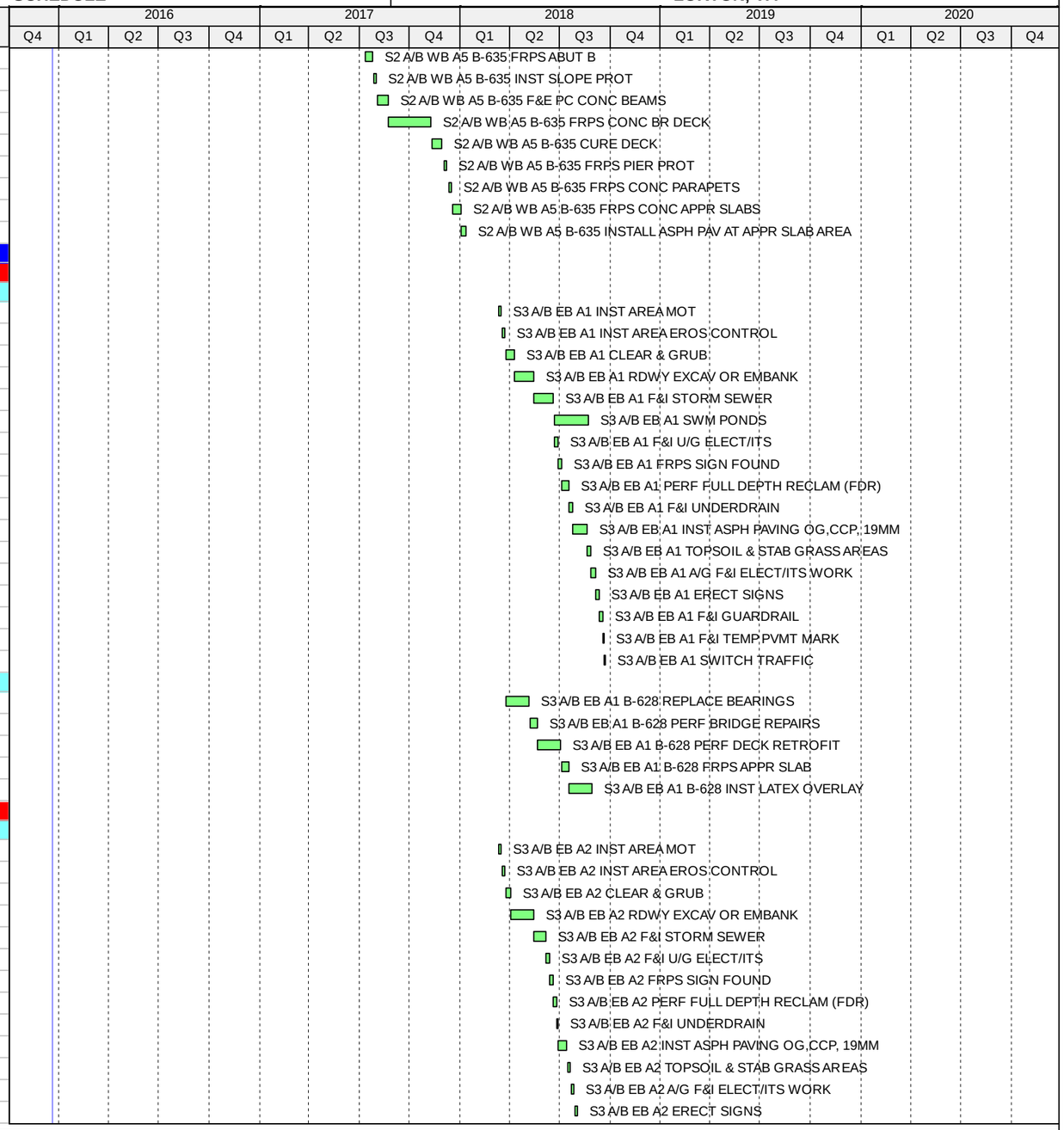
TECHNICAL PROPOSAL

SCHEDULE

SHIRLEY CONTRACTING COMPANY, LLC

LORTON, VA

Activity ID	Activity Name	Original Duration	Total Float	Start	Finish
C22500	S2 A/B WB A5 B-635 FRPS ABUT B	10	34	13-Jul-17	26-Jul-17
C22510	S2 A/B WB A5 B-635 INST SLOPE PROT	5	34	27-Jul-17	02-Aug-17
C22520	S2 A/B WB A5 B-635 F&E PC CONC BEAMS	15	34	03-Aug-17	23-Aug-17
C22530	S2 A/B WB A5 B-635 FRPS CONC BR DECK	55	34	24-Aug-17	09-Nov-17
C22540	S2 A/B WB A5 B-635 CURE DECK	14	39	10-Nov-17	29-Nov-17
C22550	S2 A/B WB A5 B-635 FRPS PIER PROT	5	39	04-Dec-17	08-Dec-17
C22560	S2 A/B WB A5 B-635 FRPS CONC PARAPETS	5	39	11-Dec-17	15-Dec-17
C22565	S2 A/B WB A5 B-635 FRPS CONC APPR SLABS	10	39	18-Dec-17	02-Jan-18
C22620	S2 A/B WB A5 B-635 INSTALL ASPH PAV AT APPR SLAB AREA	5	28	03-Jan-18	11-Jan-18
STAGE 3 A/B CONSTRUCTION		170	0	12-Mar-18	02-Nov-18
STAGE 3 A/B EBL AREA 1 STA 1128-1213		140	30	12-Mar-18	21-Sep-18
ROADWAY		140	30	12-Mar-18	21-Sep-18
C30010	S3 A/B EB A1 INST AREA MOT	5	30	12-Mar-18	16-Mar-18
C30020	S3 A/B EB A1 INST AREA EROS CONTROL	5	30	19-Mar-18	23-Mar-18
C30030	S3 A/B EB A1 CLEAR & GRUB	10	30	26-Mar-18	09-Apr-18
C30040	S3 A/B EB A1 RDWY EXCAV OR EMBANK	26	30	10-Apr-18	15-May-18
C30050	S3 A/B EB A1 F&I STORM SEWER	25	30	16-May-18	20-Jun-18
C30060	S3 A/B EB A1 SWM PONDS	45	30	21-Jun-18	23-Aug-18
C30070	S3 A/B EB A1 F&I U/G ELECT/ITS	5	30	21-Jun-18	27-Jun-18
C30080	S3 A/B EB A1 FRPS SIGN FOUND	5	30	28-Jun-18	05-Jul-18
C30090	S3 A/B EB A1 PERF FULL DEPTH RECLAM (FDR)	9	30	06-Jul-18	18-Jul-18
C30100	S3 A/B EB A1 F&I UNDERDRAIN	4	30	19-Jul-18	24-Jul-18
C30110	S3 A/B EB A1 INST ASPH PAVING OG,CCP, 19MM	19	30	25-Jul-18	20-Aug-18
C30120	S3 A/B EB A1 TOPSOIL & STAB GRASS AREAS	5	30	21-Aug-18	27-Aug-18
C30130	S3 A/B EB A1 A/G F&I ELECT/ITS WORK	5	30	28-Aug-18	04-Sep-18
C30140	S3 A/B EB A1 ERECT SIGNS	5	30	05-Sep-18	11-Sep-18
C30150	S3 A/B EB A1 F&I GUARDRAIL	5	30	12-Sep-18	18-Sep-18
C30160	S3 A/B EB A1 F&I TEMP PVMT MARK	2	30	19-Sep-18	20-Sep-18
C40000	S3 A/B EB A1 SWITCH TRAFFIC	1	30	21-Sep-18	21-Sep-18
BRIDGE B-628		113	44	26-Mar-18	29-Aug-18
C30170	S3 A/B EB A1 B-628 REPLACE BEARINGS	30	43	26-Mar-18	07-May-18
C30180	S3 A/B EB A1 B-628 PERF BRIDGE REPAIRS	10	43	08-May-18	21-May-18
C30190	S3 A/B EB A1 B-628 PERF DECK RETROFIT	30	43	22-May-18	03-Jul-18
C30200	S3 A/B EB A1 B-628 FRPS APPR SLAB	10	43	05-Jul-18	18-Jul-18
C30210	S3 A/B EB A1 B-628 INST LATEX OVERLAY	30	43	19-Jul-18	29-Aug-18
STAGE 3 A/B EBL AREA 2 STA 1213-1258		113	57	12-Mar-18	15-Aug-18
ROADWAY		113	57	12-Mar-18	15-Aug-18
C31590	S3 A/B EB A2 INST AREA MOT	5	56	12-Mar-18	16-Mar-18
C31600	S3 A/B EB A2 INST AREA EROS CONTROL	5	56	19-Mar-18	23-Mar-18
C31610	S3 A/B EB A2 CLEAR & GRUB	5	56	26-Mar-18	02-Apr-18
C31620	S3 A/B EB A2 RDWY EXCAV OR EMBANK	30	56	03-Apr-18	14-May-18
C31630	S3 A/B EB A2 F&I STORM SEWER	15	56	15-May-18	05-Jun-18
C31650	S3 A/B EB A2 F&I U/G ELECT/ITS	5	56	06-Jun-18	12-Jun-18
C31660	S3 A/B EB A2 FRPS SIGN FOUND	5	56	13-Jun-18	19-Jun-18
C31670	S3 A/B EB A2 PERF FULL DEPTH RECLAM (FDR)	5	56	20-Jun-18	26-Jun-18
C31680	S3 A/B EB A2 F&I UNDERDRAIN	2	56	27-Jun-18	28-Jun-18
C31690	S3 A/B EB A2 INST ASPH PAVING OG,CCP, 19MM	10	56	29-Jun-18	13-Jul-18
C31700	S3 A/B EB A2 TOPSOIL & STAB GRASS AREAS	5	56	16-Jul-18	20-Jul-18
C31710	S3 A/B EB A2 A/G F&I ELECT/ITS WORK	5	56	23-Jul-18	27-Jul-18
C31720	S3 A/B EB A2 ERECT SIGNS	5	56	30-Jul-18	03-Aug-18



Actual Work
Remaining Work
Critical Remaining Work
Milestone

I-64 CAPACITY IMPROVEMENT - SEGMENT II

CONTRACT NO C00106665DB82

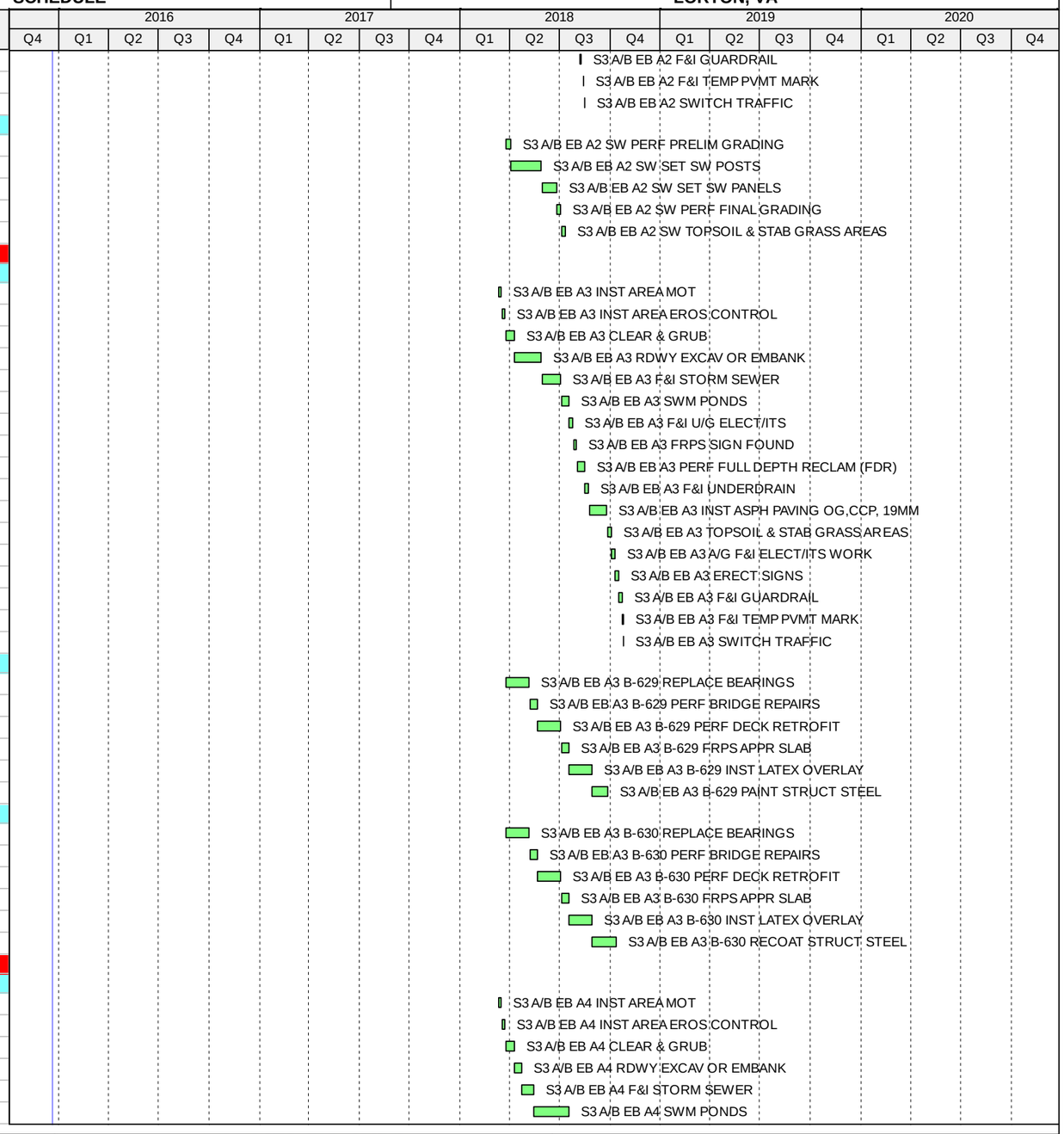
TECHNICAL PROPOSAL

SCHEDULE

SHIRLEY CONTRACTING COMPANY, LLC

LORTON, VA

Activity ID	Activity Name	Original Duration	Total Float	Start	Finish
C31730	S3 A/B EB A2 F&I GUARDRAIL	5	56	06-Aug-18	10-Aug-18
C31740	S3 A/B EB A2 F&I TEMP PVMT MARK	2	56	13-Aug-18	14-Aug-18
C40040	S3 A/B EB A2 SWITCH TRAFFIC	1	56	15-Aug-18	15-Aug-18
SOUNDWALL STA 1210-1236 EBL		75	78	26-Mar-18	11-Jul-18
C31750	S3 A/B EB A2 SW PERF PRELIM GRADING	5	78	26-Mar-18	02-Apr-18
C31760	S3 A/B EB A2 SW SET SW POSTS	40	78	03-Apr-18	29-May-18
C31770	S3 A/B EB A2 SW SET SW PANELS	20	78	30-May-18	26-Jun-18
C31780	S3 A/B EB A2 SW PERF FINAL GRADING	5	78	27-Jun-18	03-Jul-18
C31790	S3 A/B EB A2 SW TOPSOIL & STAB GRASS AREAS	5	78	05-Jul-18	11-Jul-18
STAGE 3 A/B EBL AREA 3 STA 1258-1358		165	5	12-Mar-18	26-Oct-18
ROADWAY		165	5	12-Mar-18	26-Oct-18
C30450	S3 A/B EB A3 INST AREA MOT	5	5	12-Mar-18	16-Mar-18
C30460	S3 A/B EB A3 INST AREA EROS CONTROL	5	5	19-Mar-18	23-Mar-18
C30470	S3 A/B EB A3 CLEAR & GRUB	10	5	26-Mar-18	09-Apr-18
C30480	S3 A/B EB A3 RDWY EXCAV OR EMBANK	35	5	10-Apr-18	29-May-18
C30490	S3 A/B EB A3 F&I STORM SEWER	25	5	30-May-18	03-Jul-18
C30500	S3 A/B EB A3 SWM PONDS	10	5	05-Jul-18	18-Jul-18
C30510	S3 A/B EB A3 F&I U/G ELECT/ITS	5	5	19-Jul-18	25-Jul-18
C30520	S3 A/B EB A3 FRPS SIGN FOUND	5	5	26-Jul-18	01-Aug-18
C30530	S3 A/B EB A3 PERF FULL DEPTH RECLAM (FDR)	11	5	02-Aug-18	16-Aug-18
C30540	S3 A/B EB A3 F&I UNDERDRAIN	5	5	17-Aug-18	23-Aug-18
C30550	S3 A/B EB A3 INST ASPH PAVING OG,CCP, 19MM	22	5	24-Aug-18	25-Sep-18
C30560	S3 A/B EB A3 TOPSOIL & STAB GRASS AREAS	5	5	26-Sep-18	02-Oct-18
C30570	S3 A/B EB A3 A/G F&I ELECT/ITS WORK	5	5	03-Oct-18	09-Oct-18
C30580	S3 A/B EB A3 ERECT SIGNS	5	5	10-Oct-18	16-Oct-18
C30590	S3 A/B EB A3 F&I GUARDRAIL	5	5	17-Oct-18	23-Oct-18
C30600	S3 A/B EB A3 F&I TEMP PVMT MARK	2	5	24-Oct-18	25-Oct-18
C40080	S3 A/B EB A3 SWITCH TRAFFIC	1	5	26-Oct-18	26-Oct-18
BRIDGE B-629		134	23	26-Mar-18	27-Sep-18
C30610	S3 A/B EB A3 B-629 REPLACE BEARINGS	30	24	26-Mar-18	07-May-18
C30620	S3 A/B EB A3 B-629 PERF BRIDGE REPAIRS	10	24	08-May-18	21-May-18
C30630	S3 A/B EB A3 B-629 PERF DECK RETROFIT	30	24	22-May-18	03-Jul-18
C30640	S3 A/B EB A3 B-629 FRPS APPR SLAB	10	24	05-Jul-18	18-Jul-18
C30650	S3 A/B EB A3 B-629 INST LATEX OVERLAY	30	24	19-Jul-18	29-Aug-18
C30660	S3 A/B EB A3 B-629 PAINT STRUCT STEEL	20	23	30-Aug-18	27-Sep-18
BRIDGE B-630		144	13	26-Mar-18	11-Oct-18
C30670	S3 A/B EB A3 B-630 REPLACE BEARINGS	30	14	26-Mar-18	07-May-18
C30680	S3 A/B EB A3 B-630 PERF BRIDGE REPAIRS	10	14	08-May-18	21-May-18
C30690	S3 A/B EB A3 B-630 PERF DECK RETROFIT	30	14	22-May-18	03-Jul-18
C30700	S3 A/B EB A3 B-630 FRPS APPR SLAB	10	14	05-Jul-18	18-Jul-18
C30710	S3 A/B EB A3 B-630 INST LATEX OVERLAY	30	14	19-Jul-18	29-Aug-18
C30720	S3 A/B EB A3 B-630 RECOAT STRUCT STEEL	30	13	30-Aug-18	11-Oct-18
STAGE 3 A/B EBL AREA 4 STA 1358-1402		144	26	12-Mar-18	27-Sep-18
ROADWAY		144	26	12-Mar-18	27-Sep-18
C31980	S3 A/B EB A4 INST AREA MOT	5	26	12-Mar-18	16-Mar-18
C31990	S3 A/B EB A4 INST AREA EROS CONTROL	5	26	19-Mar-18	23-Mar-18
C32000	S3 A/B EB A4 CLEAR & GRUB	10	26	26-Mar-18	09-Apr-18
C32010	S3 A/B EB A4 RDWY EXCAV OR EMBANK	10	26	10-Apr-18	23-Apr-18
C32020	S3 A/B EB A4 F&I STORM SEWER	15	26	24-Apr-18	14-May-18
C32030	S3 A/B EB A4 SWM PONDS	45	26	15-May-18	18-Jul-18



Actual Work | Critical Remaining Work | Remaining Work | Milestone

I-64 CAPACITY IMPROVEMENT - SEGMENT II

CONTRACT NO C00106665DB82

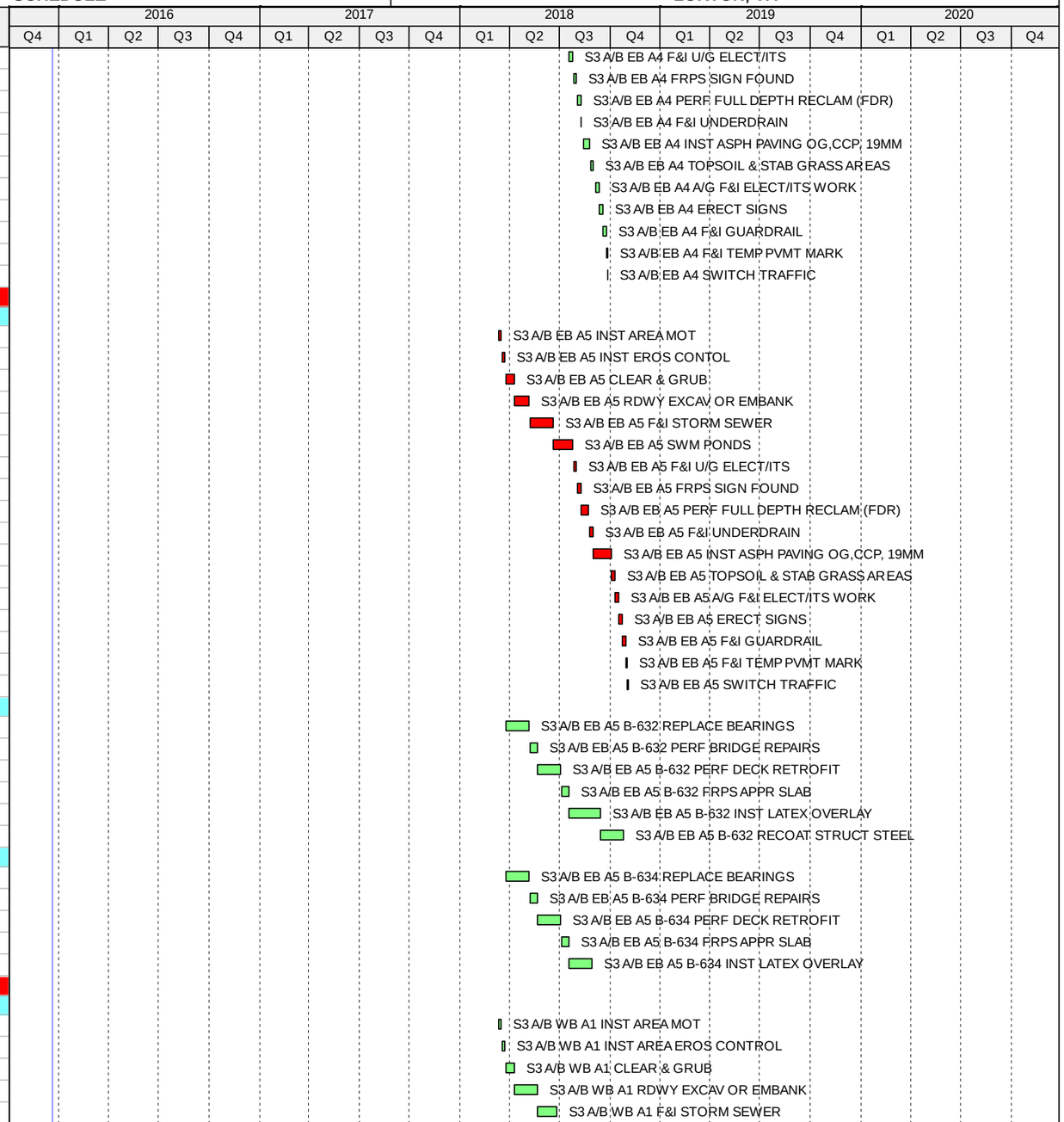
TECHNICAL PROPOSAL

SCHEDULE

SHIRLEY CONTRACTING COMPANY, LLC

LORTON, VA

Activity ID	Activity Name	Original Duration	Total Float	Start	Finish
C32040	S3 A/B EB A4 F&I U/G ELECT/ITS	5	26	19-Jul-18	25-Jul-18
C32050	S3 A/B EB A4 FRPS SIGN FOUND	5	26	26-Jul-18	01-Aug-18
C32060	S3 A/B EB A4 PERF FULL DEPTH RECLAM (FDR)	5	26	02-Aug-18	08-Aug-18
C32070	S3 A/B EB A4 F&I UNDERDRAIN	2	26	09-Aug-18	10-Aug-18
C32080	S3 A/B EB A4 INST ASPH PAVING OG,CCP, 19MM	10	26	13-Aug-18	24-Aug-18
C32090	S3 A/B EB A4 TOPSOIL & STAB GRASS AREAS	5	26	27-Aug-18	31-Aug-18
C32100	S3 A/B EB A4 A/G F&I ELECT/ITS WORK	5	26	04-Sep-18	10-Sep-18
C32110	S3 A/B EB A4 ERECT SIGNS	5	26	11-Sep-18	17-Sep-18
C32120	S3 A/B EB A4 F&I GUARDRAIL	5	26	18-Sep-18	24-Sep-18
C32130	S3 A/B EB A4 F&I TEMP PVMT MARK	2	26	25-Sep-18	26-Sep-18
C40120	S3 A/B EB A4 SWITCH TRAFFIC	1	26	27-Sep-18	27-Sep-18
STAGE 3 A/B EBL AREA 5 STA 1402-1502		170	0	12-Mar-18	02-Nov-18
ROADWAY		170	0	12-Mar-18	02-Nov-18
C30970	S3 A/B EB A5 INST AREA MOT	5	0	12-Mar-18	16-Mar-18
C30980	S3 A/B EB A5 INST EROS CONTOL	5	0	19-Mar-18	23-Mar-18
C30990	S3 A/B EB A5 CLEAR & GRUB	10	0	26-Mar-18	09-Apr-18
C31000	S3 A/B EB A5 RDWY EXCAV OR EMBANK	20	0	10-Apr-18	07-May-18
C31010	S3 A/B EB A5 F&I STORM SEWER	30	0	08-May-18	19-Jun-18
C31020	S3 A/B EB A5 SWM PONDS	25	0	20-Jun-18	25-Jul-18
C31030	S3 A/B EB A5 F&I U/G ELECT/ITS	5	0	26-Jul-18	01-Aug-18
C31040	S3 A/B EB A5 FRPS SIGN FOUND	5	0	02-Aug-18	08-Aug-18
C31050	S3 A/B EB A5 PERF FULL DEPTH RECLAM (FDR)	11	0	09-Aug-18	23-Aug-18
C31060	S3 A/B EB A5 F&I UNDERDRAIN	5	0	24-Aug-18	30-Aug-18
C31070	S3 A/B EB A5 INST ASPH PAVING OG,CCP, 19MM	22	0	31-Aug-18	02-Oct-18
C31080	S3 A/B EB A5 TOPSOIL & STAB GRASS AREAS	5	0	03-Oct-18	09-Oct-18
C31090	S3 A/B EB A5 A/G F&I ELECT/ITS WORK	5	0	10-Oct-18	16-Oct-18
C31100	S3 A/B EB A5 ERECT SIGNS	5	0	17-Oct-18	23-Oct-18
C31110	S3 A/B EB A5 F&I GUARDRAIL	5	0	24-Oct-18	30-Oct-18
C31120	S3 A/B EB A5 F&I TEMP PVMT MARK	2	0	31-Oct-18	01-Nov-18
C40160	S3 A/B EB A5 SWITCH TRAFFIC	1	0	02-Nov-18	02-Nov-18
BRIDGE B-632		154	3	26-Mar-18	25-Oct-18
C31130	S3 A/B EB A5 B-632 REPLACE BEARINGS	30	3	26-Mar-18	07-May-18
C31140	S3 A/B EB A5 B-632 PERF BRIDGE REPAIRS	10	3	08-May-18	21-May-18
C31150	S3 A/B EB A5 B-632 PERF DECK RETROFIT	30	3	22-May-18	03-Jul-18
C31160	S3 A/B EB A5 B-632 FRPS APPR SLAB	10	3	05-Jul-18	18-Jul-18
C31170	S3 A/B EB A5 B-632 INST LATEX OVERLAY	40	3	19-Jul-18	13-Sep-18
C31180	S3 A/B EB A5 B-632 RECOAT STRUCT STEEL	30	3	14-Sep-18	25-Oct-18
BRIDGE B-634		113	44	26-Mar-18	29-Aug-18
C31190	S3 A/B EB A5 B-634 REPLACE BEARINGS	30	43	26-Mar-18	07-May-18
C31200	S3 A/B EB A5 B-634 PERF BRIDGE REPAIRS	10	43	08-May-18	21-May-18
C31210	S3 A/B EB A5 B-634 PERF DECK RETROFIT	30	43	22-May-18	03-Jul-18
C31220	S3 A/B EB A5 B-634 FRPS APPR SLAB	10	43	05-Jul-18	18-Jul-18
C31230	S3 A/B EB A5 B-634 INST LATEX OVERLAY	30	43	19-Jul-18	29-Aug-18
STAGE 3 A/B WBL AREA 1 STA 2128-2213		162	8	12-Mar-18	23-Oct-18
ROADWAY		162	8	12-Mar-18	23-Oct-18
C30230	S3 A/B WB A1 INST AREA MOT	5	8	12-Mar-18	16-Mar-18
C30240	S3 A/B WB A1 INST AREA EROS CONTROL	5	8	19-Mar-18	23-Mar-18
C30250	S3 A/B WB A1 CLEAR & GRUB	10	8	26-Mar-18	09-Apr-18
C30260	S3 A/B WB A1 RDWY EXCAV OR EMBANK	30	8	10-Apr-18	21-May-18
C30270	S3 A/B WB A1 F&I STORM SEWER	25	26	22-May-18	26-Jun-18



Actual Work
Remaining Work
Critical Remaining Work
Milestone

I-64 CAPACITY IMPROVEMENT - SEGMENT II

CONTRACT NO C00106665DB82

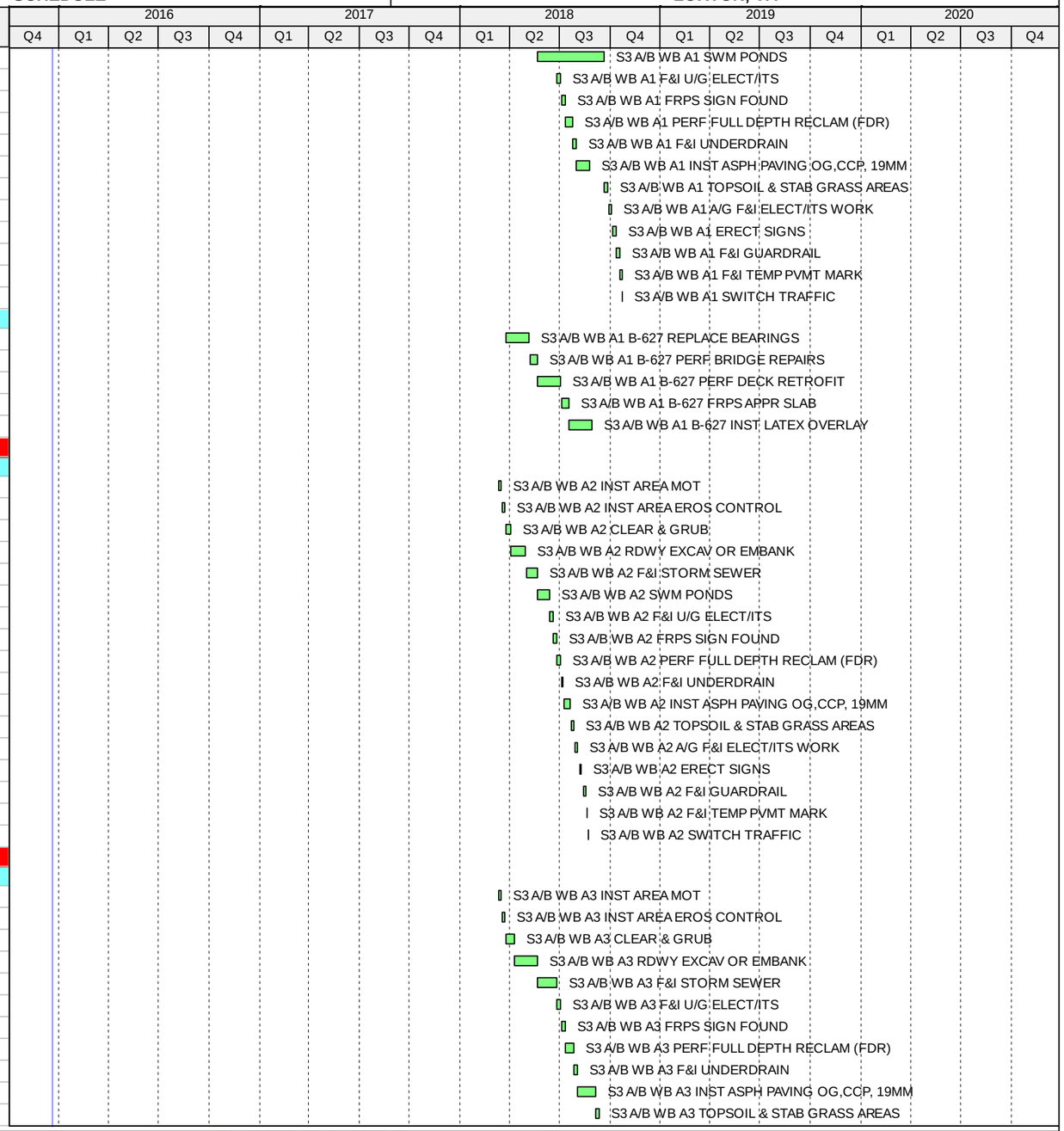
TECHNICAL PROPOSAL

SCHEDULE

SHIRLEY CONTRACTING COMPANY, LLC

LORTON, VA

Activity ID	Activity Name	Original Duration	Total Float	Start	Finish
C30280	S3 A/B WB A1 SWM PONDS	85	8	22-May-18	20-Sep-18
C30290	S3 A/B WB A1 F&I U/G ELECT/ITS	5	26	27-Jun-18	03-Jul-18
C30300	S3 A/B WB A1 FRPS SIGN FOUND	5	26	05-Jul-18	11-Jul-18
C30310	S3 A/B WB A1 PERF FULL DEPTH RECLAM (FDR)	9	26	12-Jul-18	24-Jul-18
C30320	S3 A/B WB A1 F&I UNDERDRAIN	4	26	25-Jul-18	30-Jul-18
C30330	S3 A/B WB A1 INST ASPH PAVING OG,CCP, 19MM	19	26	31-Jul-18	24-Aug-18
C30340	S3 A/B WB A1 TOPSOIL & STAB GRASS AREAS	5	8	21-Sep-18	27-Sep-18
C30350	S3 A/B WB A1 A/G F&I ELECT/ITS WORK	5	8	28-Sep-18	04-Oct-18
C30360	S3 A/B WB A1 ERECT SIGNS	5	8	05-Oct-18	11-Oct-18
C30370	S3 A/B WB A1 F&I GUARDRAIL	5	8	12-Oct-18	18-Oct-18
C30380	S3 A/B WB A1 F&I TEMP PVMT MARK	2	8	19-Oct-18	22-Oct-18
C40200	S3 A/B WB A1 SWITCH TRAFFIC	1	8	23-Oct-18	23-Oct-18
BRIDGE B-627		113	44	26-Mar-18	29-Aug-18
C30390	S3 A/B WB A1 B-627 REPLACE BEARINGS	30	43	26-Mar-18	07-May-18
C30400	S3 A/B WB A1 B-627 PERF BRIDGE REPAIRS	10	43	08-May-18	21-May-18
C30410	S3 A/B WB A1 B-627 PERF DECK RETROFIT	30	43	22-May-18	03-Jul-18
C30420	S3 A/B WB A1 B-627 FRPS APPR SLAB	10	43	05-Jul-18	18-Jul-18
C30430	S3 A/B WB A1 B-627 INST LATEX OVERLAY	30	43	19-Jul-18	29-Aug-18
STAGE 3 A/B WBL AREA 2 STA 2213-2258		118	52	12-Mar-18	22-Aug-18
ROADWAY		118	52	12-Mar-18	22-Aug-18
C31810	S3 A/B WB A2 INST AREA MOT	5	51	12-Mar-18	16-Mar-18
C31820	S3 A/B WB A2 INST AREA EROS CONTROL	5	51	19-Mar-18	23-Mar-18
C31830	S3 A/B WB A2 CLEAR & GRUB	5	51	26-Mar-18	02-Apr-18
C31840	S3 A/B WB A2 RDWY EXCAV OR EMBANK	20	51	03-Apr-18	30-Apr-18
C31850	S3 A/B WB A2 F&I STORM SEWER	15	51	01-May-18	21-May-18
C31860	S3 A/B WB A2 SWM PONDS	15	51	22-May-18	12-Jun-18
C31870	S3 A/B WB A2 F&I U/G ELECT/ITS	5	51	13-Jun-18	19-Jun-18
C31880	S3 A/B WB A2 FRPS SIGN FOUND	5	51	20-Jun-18	26-Jun-18
C31890	S3 A/B WB A2 PERF FULL DEPTH RECLAM (FDR)	5	51	27-Jun-18	03-Jul-18
C31900	S3 A/B WB A2 F&I UNDERDRAIN	2	51	05-Jul-18	06-Jul-18
C31910	S3 A/B WB A2 INST ASPH PAVING OG,CCP, 19MM	10	51	09-Jul-18	20-Jul-18
C31920	S3 A/B WB A2 TOPSOIL & STAB GRASS AREAS	5	51	23-Jul-18	27-Jul-18
C31930	S3 A/B WB A2 A/G F&I ELECT/ITS WORK	5	51	30-Jul-18	03-Aug-18
C31940	S3 A/B WB A2 ERECT SIGNS	5	51	06-Aug-18	10-Aug-18
C31950	S3 A/B WB A2 F&I GUARDRAIL	5	51	13-Aug-18	17-Aug-18
C31960	S3 A/B WB A2 F&I TEMP PVMT MARK	2	51	20-Aug-18	21-Aug-18
C40240	S3 A/B WB A2 SWITCH TRAFFIC	1	51	22-Aug-18	22-Aug-18
STAGE 3 A/B WBL AREA 3 STA 2258-2358		157	13	12-Mar-18	16-Oct-18
ROADWAY		157	13	12-Mar-18	16-Oct-18
C30740	S3 A/B WB A3 INST AREA MOT	5	14	12-Mar-18	16-Mar-18
C30750	S3 A/B WB A3 INST AREA EROS CONTROL	5	14	19-Mar-18	23-Mar-18
C30760	S3 A/B WB A3 CLEAR & GRUB	10	20	26-Mar-18	09-Apr-18
C30770	S3 A/B WB A3 RDWY EXCAV OR EMBANK	30	20	10-Apr-18	21-May-18
C30780	S3 A/B WB A3 F&I STORM SEWER	25	20	22-May-18	26-Jun-18
C30800	S3 A/B WB A3 F&I U/G ELECT/ITS	5	20	27-Jun-18	03-Jul-18
C30810	S3 A/B WB A3 FRPS SIGN FOUND	5	20	05-Jul-18	11-Jul-18
C30820	S3 A/B WB A3 PERF FULL DEPTH RECLAM (FDR)	11	20	12-Jul-18	26-Jul-18
C30830	S3 A/B WB A3 F&I UNDERDRAIN	5	20	27-Jul-18	02-Aug-18
C30840	S3 A/B WB A3 INST ASPH PAVING OG,CCP, 19MM	22	20	03-Aug-18	04-Sep-18
C30850	S3 A/B WB A3 TOPSOIL & STAB GRASS AREAS	5	20	05-Sep-18	11-Sep-18



Actual Work | Critical Remaining Work | Remaining Work | Milestone

I-64 CAPACITY IMPROVEMENT - SEGMENT II

CONTRACT NO C00106665DB82

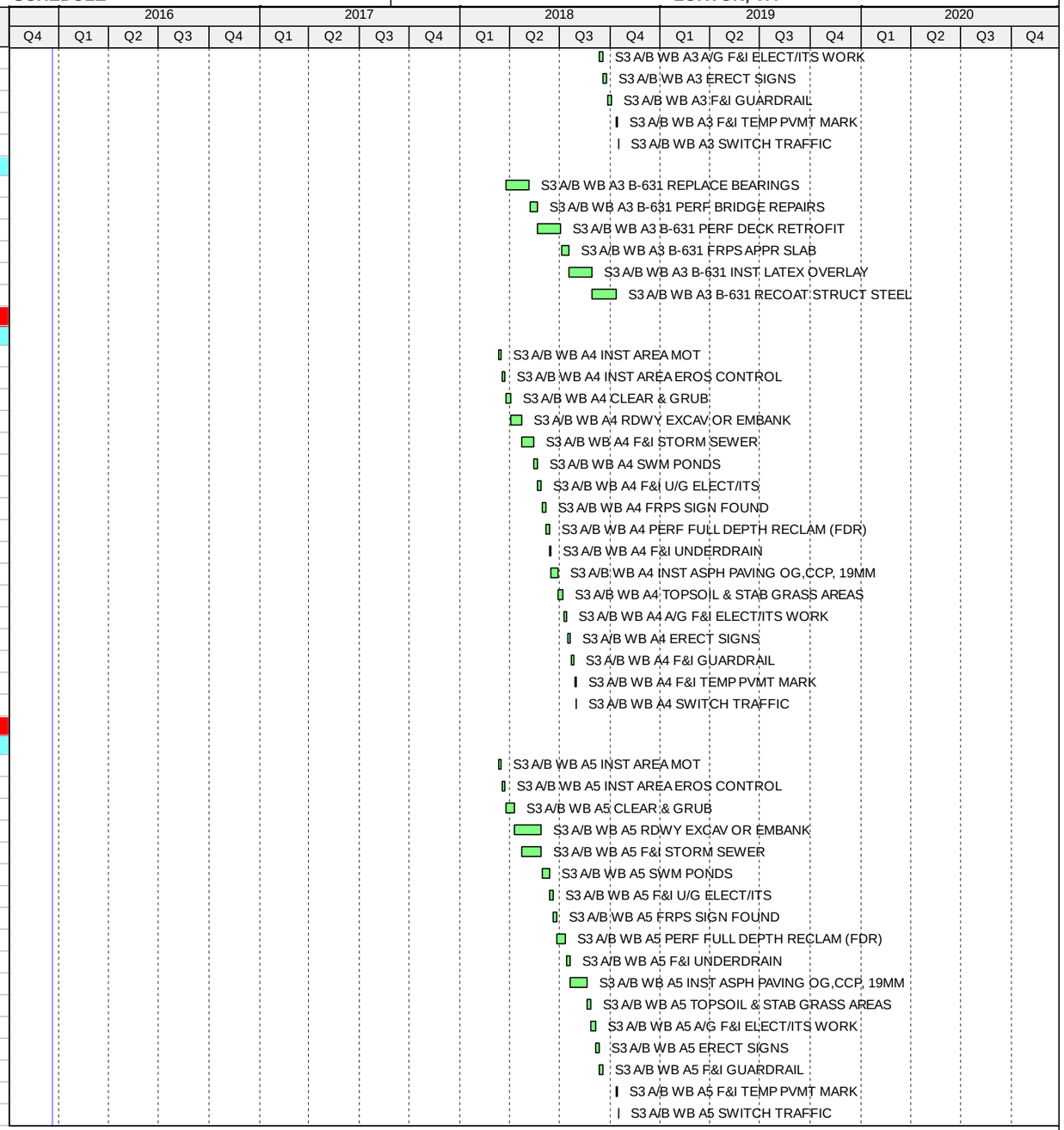
TECHNICAL PROPOSAL

SCHEDULE

SHIRLEY CONTRACTING COMPANY, LLC

LORTON, VA

Activity ID	Activity Name	Original Duration	Total Float	Start	Finish
C30860	S3 A/B WB A3 A/G F&I ELECT/ITS WORK	5	20	12-Sep-18	18-Sep-18
C30870	S3 A/B WB A3 ERECT SIGNS	5	20	19-Sep-18	25-Sep-18
C30880	S3 A/B WB A3 F&I GUARDRAIL	5	20	26-Sep-18	02-Oct-18
C30890	S3 A/B WB A3 F&I TEMP PVMT MARK	2	13	12-Oct-18	15-Oct-18
C40280	S3 A/B WB A3 SWITCH TRAFFIC	1	13	16-Oct-18	16-Oct-18
BRIDGE B-631		144	13	26-Mar-18	11-Oct-18
C30900	S3 A/B WB A3 B-631 REPLACE BEARINGS	30	14	26-Mar-18	07-May-18
C30910	S3 A/B WB A3 B-631 PERF BRIDGE REPAIRS	10	14	08-May-18	21-May-18
C30920	S3 A/B WB A3 B-631 PERF DECK RETROFIT	30	14	22-May-18	03-Jul-18
C30930	S3 A/B WB A3 B-631 FRPS APPR SLAB	10	14	05-Jul-18	18-Jul-18
C30940	S3 A/B WB A3 B-631 INST LATEX OVERLAY	30	14	19-Jul-18	29-Aug-18
C30950	S3 A/B WB A3 B-631 RECOAT STRUCT STEEL	30	13	30-Aug-18	11-Oct-18
STAGE 3 A/B WBL AREA 4 STA 2358-2402		103	67	12-Mar-18	01-Aug-18
ROADWAY		103	67	12-Mar-18	01-Aug-18
C32150	S3 A/B WB A4 INST AREA MOT	5	66	12-Mar-18	16-Mar-18
C32160	S3 A/B WB A4 INST AREA EROS CONTROL	5	66	19-Mar-18	23-Mar-18
C32170	S3 A/B WB A4 CLEAR & GRUB	5	66	26-Mar-18	02-Apr-18
C32180	S3 A/B WB A4 RDWY EXCAV OR EMBANK	15	66	03-Apr-18	23-Apr-18
C32190	S3 A/B WB A4 F&I STORM SEWER	15	66	24-Apr-18	14-May-18
C32200	S3 A/B WB A4 SWM PONDS	5	66	15-May-18	21-May-18
C32210	S3 A/B WB A4 F&I U/G ELECT/ITS	5	66	22-May-18	29-May-18
C32220	S3 A/B WB A4 FRPS SIGN FOUND	5	66	30-May-18	05-Jun-18
C32230	S3 A/B WB A4 PERF FULL DEPTH RECLAM (FDR)	5	66	06-Jun-18	12-Jun-18
C32240	S3 A/B WB A4 F&I UNDERDRAIN	2	66	13-Jun-18	14-Jun-18
C32250	S3 A/B WB A4 INST ASPH PAVING OG,CCP, 19MM	10	66	15-Jun-18	28-Jun-18
C32260	S3 A/B WB A4 TOPSOIL & STAB GRASS AREAS	5	66	29-Jun-18	06-Jul-18
C32270	S3 A/B WB A4 A/G F&I ELECT/ITS WORK	5	66	09-Jul-18	13-Jul-18
C32280	S3 A/B WB A4 ERECT SIGNS	5	66	16-Jul-18	20-Jul-18
C32290	S3 A/B WB A4 F&I GUARDRAIL	5	66	23-Jul-18	27-Jul-18
C32300	S3 A/B WB A4 F&I TEMP PVMT MARK	2	66	30-Jul-18	31-Jul-18
C40320	S3 A/B WB A4 SWITCH TRAFFIC	1	66	01-Aug-18	01-Aug-18
STAGE 3 A/B WBL AREA 5 STA 2402-2502		157	13	12-Mar-18	16-Oct-18
ROADWAY		157	13	12-Mar-18	16-Oct-18
C31250	S3 A/B WB A5 INST AREA MOT	5	14	12-Mar-18	16-Mar-18
C31260	S3 A/B WB A5 INST AREA EROS CONTROL	5	14	19-Mar-18	23-Mar-18
C31270	S3 A/B WB A5 CLEAR & GRUB	10	30	26-Mar-18	09-Apr-18
C31280	S3 A/B WB A5 RDWY EXCAV OR EMBANK	35	30	10-Apr-18	29-May-18
C31290	S3 A/B WB A5 F&I STORM SEWER	25	30	24-Apr-18	29-May-18
C31300	S3 A/B WB A5 SWM PONDS	10	30	30-May-18	12-Jun-18
C31310	S3 A/B WB A5 F&I U/G ELECT/ITS	5	30	13-Jun-18	19-Jun-18
C31320	S3 A/B WB A5 FRPS SIGN FOUND	5	30	20-Jun-18	26-Jun-18
C31330	S3 A/B WB A5 PERF FULL DEPTH RECLAM (FDR)	11	30	27-Jun-18	12-Jul-18
C31340	S3 A/B WB A5 F&I UNDERDRAIN	5	30	13-Jul-18	19-Jul-18
C31350	S3 A/B WB A5 INST ASPH PAVING OG,CCP, 19MM	22	30	20-Jul-18	20-Aug-18
C31360	S3 A/B WB A5 TOPSOIL & STAB GRASS AREAS	5	30	21-Aug-18	27-Aug-18
C31370	S3 A/B WB A5 A/G F&I ELECT/ITS WORK	5	30	28-Aug-18	04-Sep-18
C31380	S3 A/B WB A5 ERECT SIGNS	5	30	05-Sep-18	11-Sep-18
C31390	S3 A/B WB A5 F&I GUARDRAIL	5	30	12-Sep-18	18-Sep-18
C31400	S3 A/B WB A5 F&I TEMP PVMT MARK	2	13	12-Oct-18	15-Oct-18
C40360	S3 A/B WB A5 SWITCH TRAFFIC	1	13	16-Oct-18	16-Oct-18



Actual Work — Critical Remaining Work

Remaining Work — Milestone

I-64 CAPACITY IMPROVEMENT - SEGMENT II

CONTRACT NO C00106665DB82

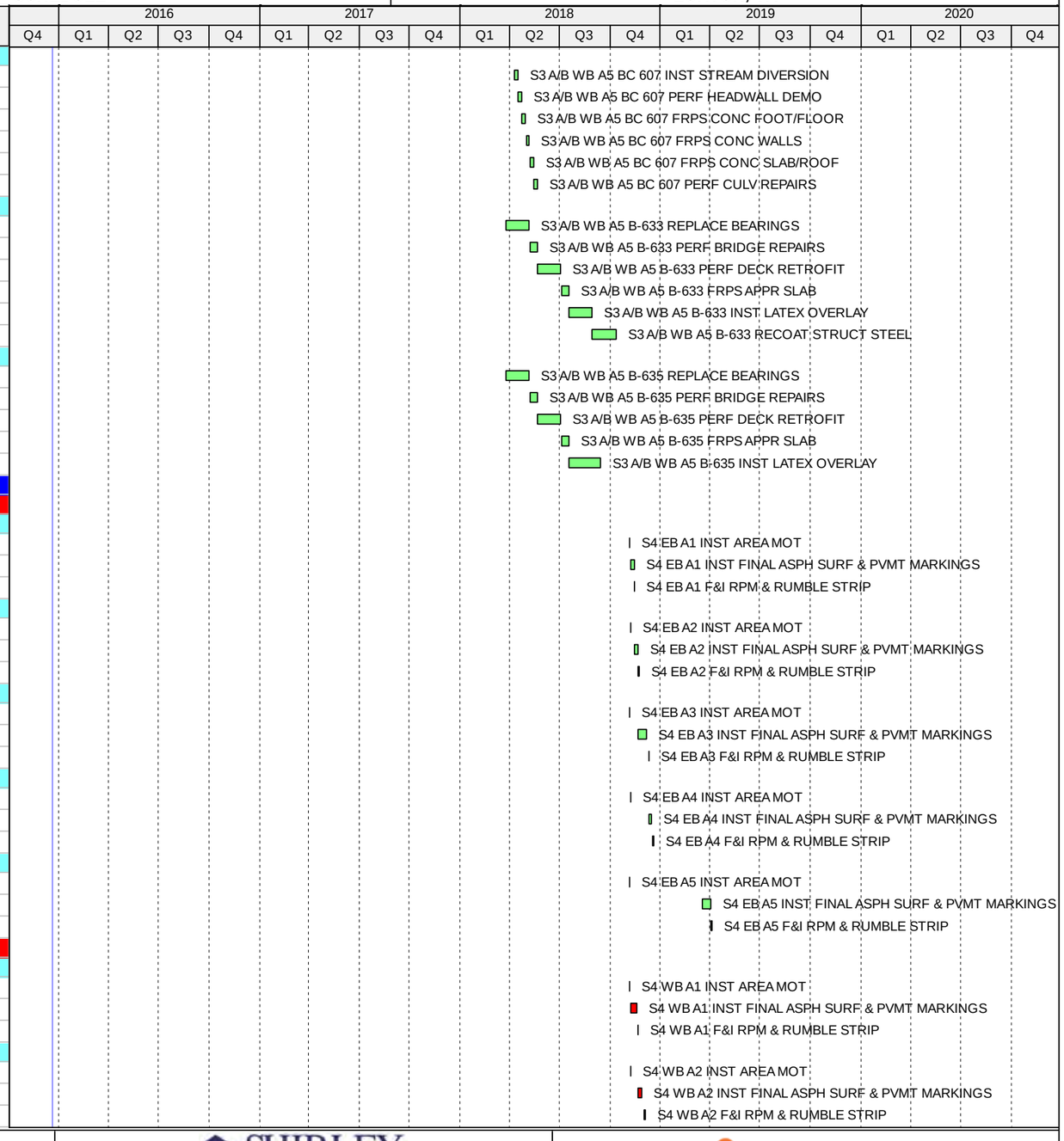
TECHNICAL PROPOSAL

SCHEDULE

SHIRLEY CONTRACTING COMPANY, LLC

LORTON, VA

Activity ID	Activity Name	Original Duration	Total Float	Start	Finish
BOX CULV 607		30	55	10-Apr-18	21-May-18
C31520	S3 A/B WB A5 BC 607 INST STREAM DIVERSION	5	55	10-Apr-18	16-Apr-18
C31530	S3 A/B WB A5 BC 607 PERF HEADWALL DEMO	5	55	17-Apr-18	23-Apr-18
C31540	S3 A/B WB A5 BC 607 FRPS CONC FOOT/FLOOR	5	55	24-Apr-18	30-Apr-18
C31550	S3 A/B WB A5 BC 607 FRPS CONC WALLS	5	55	01-May-18	07-May-18
C31560	S3 A/B WB A5 BC 607 FRPS CONC SLAB/ROOF	5	55	08-May-18	14-May-18
C31570	S3 A/B WB A5 BC 607 PERF CULV REPAIRS	5	55	15-May-18	21-May-18
BRIDGE B-633		144	13	26-Mar-18	11-Oct-18
C31410	S3 A/B WB A5 B-633 REPLACE BEARINGS	30	14	26-Mar-18	07-May-18
C31420	S3 A/B WB A5 B-633 PERF BRIDGE REPAIRS	10	14	08-May-18	21-May-18
C31430	S3 A/B WB A5 B-633 PERF DECK RETROFIT	30	14	22-May-18	03-Jul-18
C31440	S3 A/B WB A5 B-633 FRPS APPR SLAB	10	14	05-Jul-18	18-Jul-18
C31450	S3 A/B WB A5 B-633 INST LATEX OVERLAY	30	14	19-Jul-18	29-Aug-18
C31460	S3 A/B WB A5 B-633 RECOAT STRUCT STEEL	30	13	30-Aug-18	11-Oct-18
BRIDGE B-635		124	33	26-Mar-18	13-Sep-18
C31470	S3 A/B WB A5 B-635 REPLACE BEARINGS	30	33	26-Mar-18	07-May-18
C31480	S3 A/B WB A5 B-635 PERF BRIDGE REPAIRS	10	33	08-May-18	21-May-18
C31490	S3 A/B WB A5 B-635 PERF DECK RETROFIT	30	33	22-May-18	03-Jul-18
C31500	S3 A/B WB A5 B-635 FRPS APPR SLAB	10	33	05-Jul-18	18-Jul-18
C31510	S3 A/B WB A5 B-635 INST LATEX OVERLAY	40	33	19-Jul-18	13-Sep-18
STAGE 4 CONSTRUCTION		113	0	05-Nov-18	10-Apr-19
STAGE 4 EBL CONSTRUCTION		109	4	05-Nov-18	04-Apr-19
STAGE 4 EBL AREA 1 STA 1128-1213		9	104	05-Nov-18	15-Nov-18
C40010	S4 EB A1 INST AREA MOT	2	4	05-Nov-18	06-Nov-18
C40020	S4 EB A1 INST FINAL ASPH SURF & PVMT MARKINGS	5	4	07-Nov-18	13-Nov-18
C40030	S4 EB A1 F&I RPM & RUMBLE STRIP	2	100	14-Nov-18	15-Nov-18
STAGE 4 EBL AREA 2 STA 1213-1258		12	99	07-Nov-18	22-Nov-18
C40050	S4 EB A2 INST AREA MOT	2	7	07-Nov-18	08-Nov-18
C40060	S4 EB A2 INST FINAL ASPH SURF & PVMT MARKINGS	5	4	14-Nov-18	20-Nov-18
C40070	S4 EB A2 F&I RPM & RUMBLE STRIP	2	95	21-Nov-18	22-Nov-18
STAGE 4 EBL AREA 3 STA 1258-1358		27	86	05-Nov-18	11-Dec-18
C40090	S4 EB A3 INST AREA MOT	2	16	05-Nov-18	06-Nov-18
C40100	S4 EB A3 INST FINAL ASPH SURF & PVMT MARKINGS	11	4	21-Nov-18	07-Dec-18
C40110	S4 EB A3 F&I RPM & RUMBLE STRIP	2	84	10-Dec-18	11-Dec-18
STAGE 4 EBL AREA 4 STA 1358-1402		31	80	07-Nov-18	19-Dec-18
C40130	S4 EB A4 INST AREA MOT	2	23	07-Nov-18	08-Nov-18
C40140	S4 EB A4 INST FINAL ASPH SURF & PVMT MARKINGS	5	4	10-Dec-18	14-Dec-18
C40150	S4 EB A4 F&I RPM & RUMBLE STRIP	3	78	17-Dec-18	19-Dec-18
STAGE 4 EBL AREA 5 STA 1402-1502		109	4	05-Nov-18	04-Apr-19
C40170	S4 EB A5 INST AREA MOT	2	93	05-Nov-18	06-Nov-18
C40180	S4 EB A5 INST FINAL ASPH SURF & PVMT MARKINGS	11	4	18-Mar-19	01-Apr-19
C40190	S4 EB A5 F&I RPM & RUMBLE STRIP	3	4	02-Apr-19	04-Apr-19
STAGE 4 WBL CONSTRUCTION		113	0	05-Nov-18	10-Apr-19
STAGE 4 WBL AREA 1 2128-2213		13	100	05-Nov-18	21-Nov-18
C40210	S4 WB A1 INST AREA MOT	2	0	05-Nov-18	06-Nov-18
C40220	S4 WB A1 INST FINAL ASPH SURF & PVMT MARKINGS	9	0	07-Nov-18	19-Nov-18
C40230	S4 WB A1 F&I RPM & RUMBLE STRIP	2	96	20-Nov-18	21-Nov-18
STAGE 4 WBL AREA 2 2213-2258		20	91	07-Nov-18	04-Dec-18
C40250	S4 WB A2 INST AREA MOT	2	7	07-Nov-18	08-Nov-18
C40260	S4 WB A2 INST FINAL ASPH SURF & PVMT MARKINGS	5	0	20-Nov-18	28-Nov-18
C40270	S4 WB A2 F&I RPM & RUMBLE STRIP	2	89	03-Dec-18	04-Dec-18



Actual Work
Remaining Work
Critical Remaining Work
Milestone

I-64 CAPACITY IMPROVEMENT - SEGMENT II

CONTRACT NO C00106665DB82

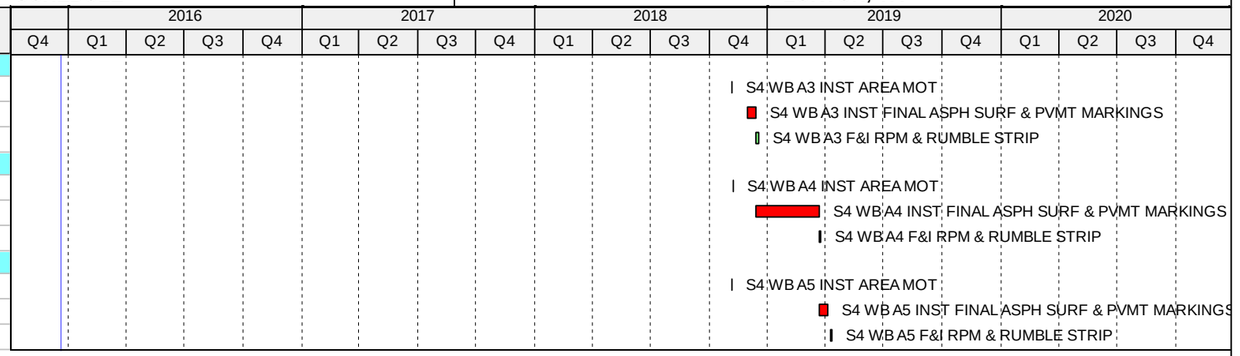
TECHNICAL PROPOSAL

SCHEDULE

SHIRLEY CONTRACTING COMPANY, LLC

LORTON, VA

Activity ID	Activity Name	Original Duration	Total Float	Start	Finish
STAGE 4 WBL AREA 3 2258-2358		32	81	05-Nov-18	18-Dec-18
C40290	S4 WB A3 INST AREA MOT	2	16	05-Nov-18	06-Nov-18
C40300	S4 WB A3 INST FINAL ASPH SURF & PVMT MARKINGS	11	0	29-Nov-18	13-Dec-18
C40310	S4 WB A3 F&I RPM & RUMBLE STRIP	3	79	14-Dec-18	18-Dec-18
STAGE 4 WBL AREA 4 2358-2402		99	12	07-Nov-18	25-Mar-19
C40330	S4 WB A4 INST AREA MOT	2	23	07-Nov-18	08-Nov-18
C40340	S4 WB A4 INST FINAL ASPH SURF & PVMT MARKINGS	5	0	14-Dec-18	21-Mar-19
C40350	S4 WB A4 F&I RPM & RUMBLE STRIP	2	12	22-Mar-19	25-Mar-19
STAGE 4 WBL AREA 5 2402-2502		113	0	05-Nov-18	10-Apr-19
C40370	S4 WB A5 INST AREA MOT	2	93	05-Nov-18	06-Nov-18
C40380	S4 WB A5 INST FINAL ASPH SURF & PVMT MARKINGS	11	0	22-Mar-19	05-Apr-19
C40390	S4 WB A5 F&I RPM & RUMBLE STRIP	3	0	08-Apr-19	10-Apr-19



Actual Work
Remaining Work
Critical Remaining Work
Milestone

I-64 CAPACITY IMPROVEMENT - SEGMENT II

CONTRACT NO C00106665DB82

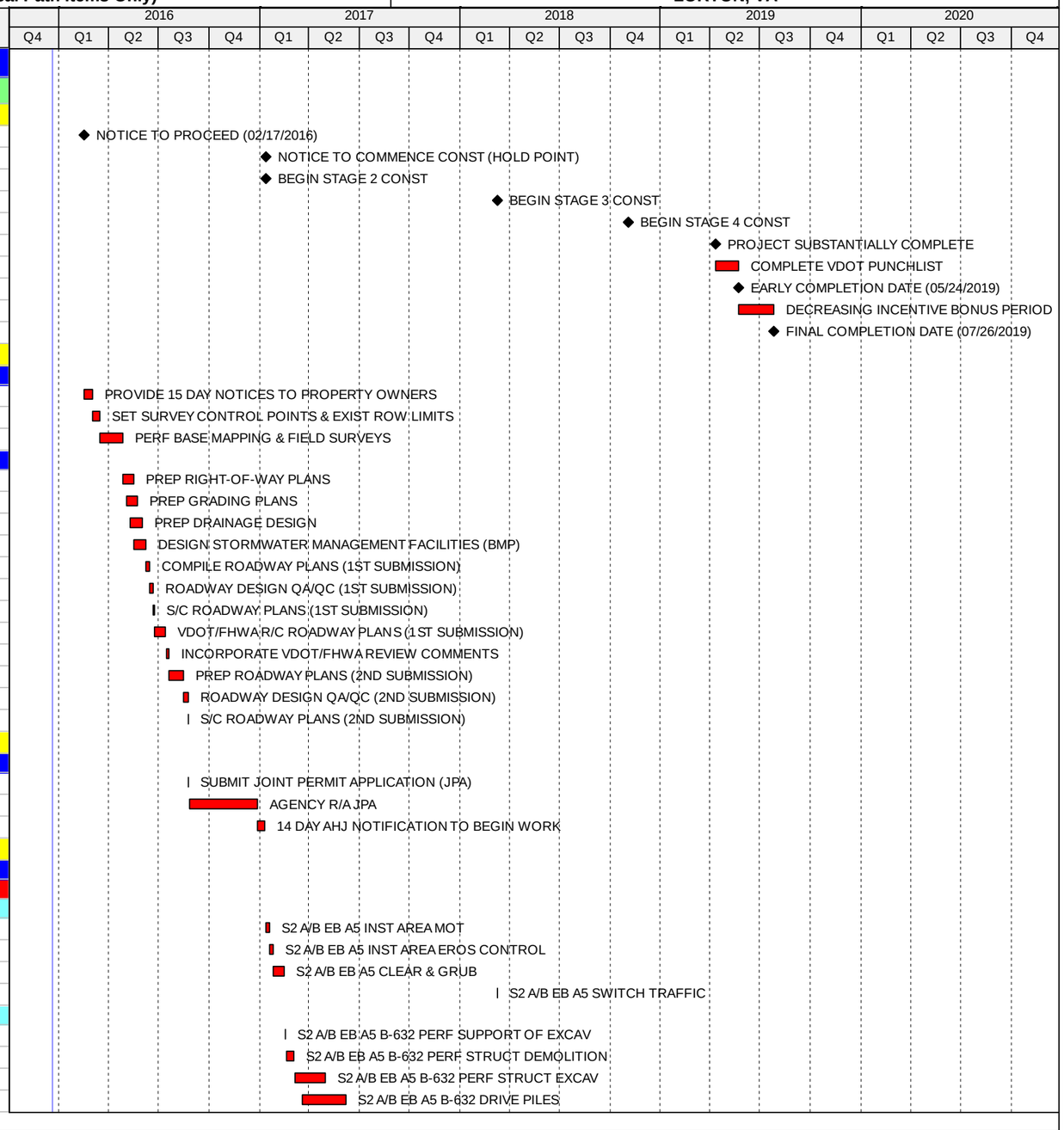
TECHNICAL PROPOSAL SCHEDULE

(Critical Path Items Only)

SHIRLEY CONTRACTING COMPANY, LLC

LORTON, VA

Activity ID	Activity Name	Original Duration	Total Float	Start	Finish
I-64 SEG II		898	0	17-Feb-16	26-Jul-19
I-64 CAPACITY IMPROVEMENTS SEGMENT II Contract C00106665DB8		898	0	17-Feb-16	26-Jul-19
SCHEDULE MILESTONES/SCOPE VALIDATION PERIOD		898	0	17-Feb-16	26-Jul-19
MS1030	NOTICE TO PROCEED (02/17/2016)	0	0	17-Feb-16*	
MS1110	NOTICE TO COMMENCE CONST (HOLD POINT)	0	0	12-Jan-17	
MS1115	BEGIN STAGE 2 CONST	0	0	12-Jan-17	
MS1140	BEGIN STAGE 3 CONST	0	0	10-Mar-18	
MS1150	BEGIN STAGE 4 CONST	0	0	03-Nov-18	
MS1170	PROJECT SUBSTANTIALLY COMPLETE	0	0		11-Apr-19
MS1180	COMPLETE VDOT PUNCHLIST	30	0	11-Apr-19	23-May-19
MS1190	EARLY COMPLETION DATE (05/24/2019)	0	0		24-May-19
MS1195	DECREASING INCENTIVE BONUS PERIOD	64	0	24-May-19	26-Jul-19
MS1200	FINAL COMPLETION DATE (07/26/2019)	0	0		26-Jul-19*
DESIGN PHASE		136	0	17-Feb-16	24-Aug-16
PRELIMINARY DESIGN		50	0	17-Feb-16	26-Apr-16
DES10140	PROVIDE 15 DAY NOTICES TO PROPERTY OWNERS	15	0	17-Feb-16	02-Mar-16
DES10150	SET SURVEY CONTROL POINTS & EXIST ROW LIMITS	10	0	02-Mar-16	16-Mar-16
DES10160	PERF BASE MAPPING & FIELD SURVEYS	28	0	16-Mar-16	26-Apr-16
ROADWAY DESIGN		86	0	26-Apr-16	24-Aug-16
DES10390	PREP RIGHT-OF-WAY PLANS	15	0	26-Apr-16	17-May-16
DES10400	PREP GRADING PLANS	15	0	03-May-16	24-May-16
DES10410	PREP DRAINAGE DESIGN	15	0	10-May-16	01-Jun-16
DES10420	DESIGN STORMWATER MANAGEMENT FACILITIES (BMP)	15	0	17-May-16	08-Jun-16
DES10440	COMPILE ROADWAY PLANS (1ST SUBMISSION)	5	0	08-Jun-16	15-Jun-16
DES10450	ROADWAY DESIGN QA/QC (1ST SUBMISSION)	5	0	15-Jun-16	22-Jun-16
DES10460	S/C ROADWAY PLANS (1ST SUBMISSION)	1	0	22-Jun-16	23-Jun-16
DES10470	VDOT/FHWA R/C ROADWAY PLANS (1ST SUBMISSION)	21	0	24-Jun-16	14-Jul-16
DES10480	INCORPORATE VDOT/FHWA REVIEW COMMENTS	5	0	15-Jul-16	19-Jul-16
DES10490	PREP ROADWAY PLANS (2ND SUBMISSION)	20	0	19-Jul-16	16-Aug-16
DES10500	ROADWAY DESIGN QA/QC (2ND SUBMISSION)	5	0	16-Aug-16	23-Aug-16
DES10510	S/C ROADWAY PLANS (2ND SUBMISSION)	1	0	23-Aug-16	24-Aug-16
ENVIRONMENTAL PERMITTING PHASE		100	0	24-Aug-16	11-Jan-17
JOINT WETLANDS AND WATERS PERMITTING		100	0	24-Aug-16	11-Jan-17
ENV1050	SUBMIT JOINT PERMIT APPLICATION (JPA)	1	0	24-Aug-16	25-Aug-16
ENV1060	AGENCY R/A JPA	125	0	26-Aug-16	28-Dec-16
ENV1065	14 DAY AHJ NOTIFICATION TO BEGIN WORK	14	0	29-Dec-16	11-Jan-17
CONSTRUCTION PHASE INCL PROJECT MANAGEMENT		585	0	12-Jan-17	10-Apr-19
STAGE 2 A/B CONSTRUCTION		302	0	12-Jan-17	09-Mar-18
STAGE 2 A/B EBL AREA 5 STA 1402-1502		302	0	12-Jan-17	09-Mar-18
ROADWAY		294	0	12-Jan-17	09-Mar-18
C21600	S2 A/B EB A5 INST AREA MOT	5	0	12-Jan-17	18-Jan-17
C21610	S2 A/B EB A5 INST AREA EROS CONTROL	5	0	19-Jan-17	25-Jan-17
C21620	S2 A/B EB A5 CLEAR & GRUB	15	0	26-Jan-17	15-Feb-17
C30960	S2 A/B EB A5 SWITCH TRAFFIC	1	0	09-Mar-18	09-Mar-18
BRIDGE B-632		276	0	16-Feb-17	08-Mar-18
C21770	S2 A/B EB A5 B-632 PERF SUPPORT OF EXCAV	2	0	16-Feb-17	17-Feb-17
C21780	S2 A/B EB A5 B-632 PERF STRUCT DEMOLITION	10	0	20-Feb-17	03-Mar-17
C21790	S2 A/B EB A5 B-632 PERF STRUCT EXCAV	40	0	06-Mar-17	01-May-17
C21800	S2 A/B EB A5 B-632 DRIVE PILES	55	0	20-Mar-17	06-Jun-17



Actual Work | Critical Remaining Work | Remaining Work | Milestone

I-64 CAPACITY IMPROVEMENT - SEGMENT II

CONTRACT NO C00106665DB82

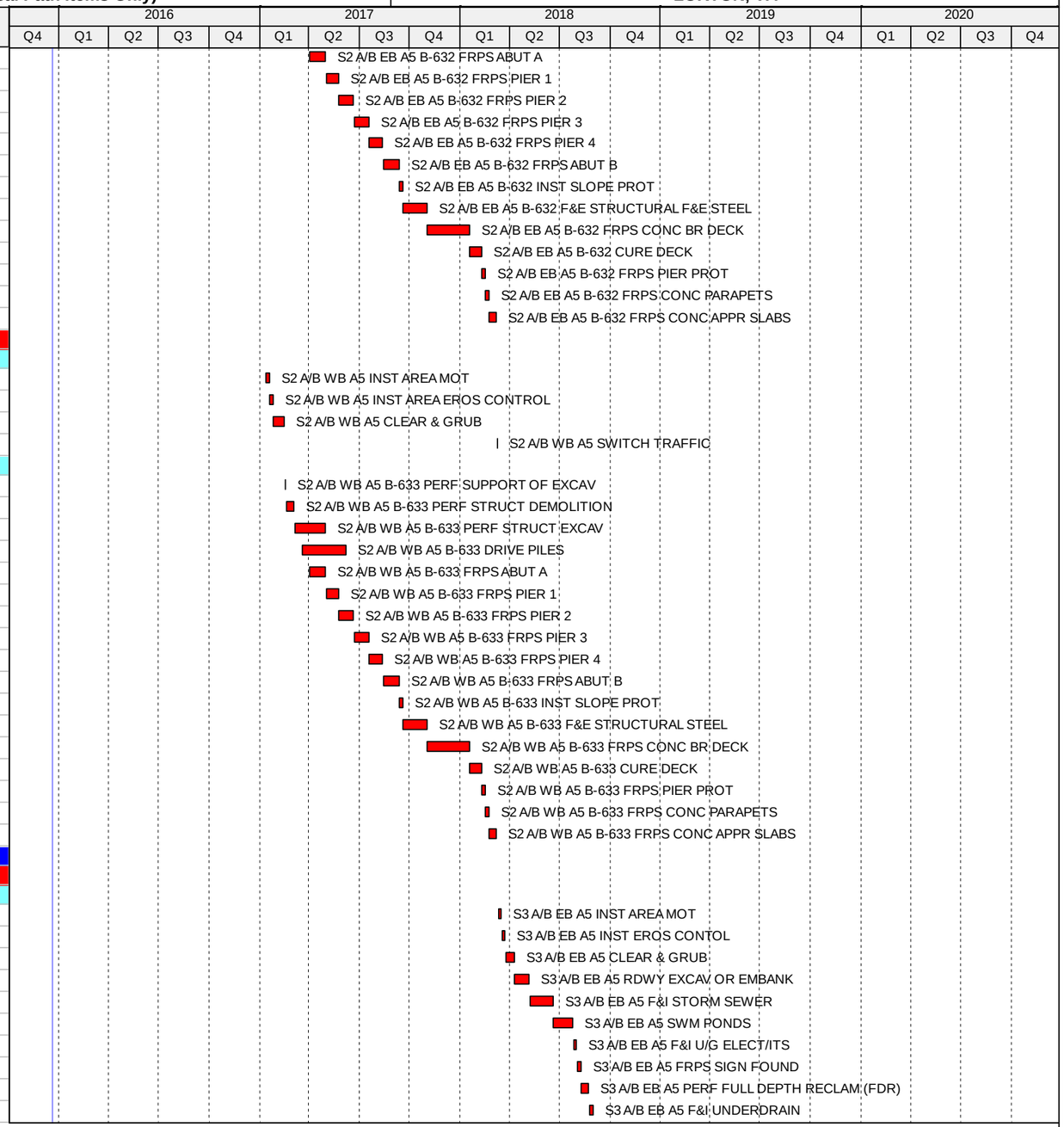
TECHNICAL PROPOSAL SCHEDULE

(Critical Path Items Only)

SHIRLEY CONTRACTING COMPANY, LLC

LORTON, VA

Activity ID	Activity Name	Original Duration	Total Float	Start	Finish
C21810	S2 A/B EB A5 B-632 FRPS ABUT A	20	0	03-Apr-17	01-May-17
C21820	S2 A/B EB A5 B-632 FRPS PIER 1	18	0	02-May-17	25-May-17
C21830	S2 A/B EB A5 B-632 FRPS PIER 2	18	0	26-May-17	21-Jun-17
C21840	S2 A/B EB A5 B-632 FRPS PIER 3	18	0	22-Jun-17	18-Jul-17
C21850	S2 A/B EB A5 B-632 FRPS PIER 4	18	0	19-Jul-17	11-Aug-17
C21860	S2 A/B EB A5 B-632 FRPS ABUT B	20	0	14-Aug-17	11-Sep-17
C21870	S2 A/B EB A5 B-632 INST SLOPE PROT	5	0	12-Sep-17	18-Sep-17
C21880	S2 A/B EB A5 B-632 F&E STRUCTURAL F&E STEEL	33	0	19-Sep-17	02-Nov-17
C21890	S2 A/B EB A5 B-632 FRPS CONC BR DECK	45	0	03-Nov-17	18-Jan-18
C21900	S2 A/B EB A5 B-632 CURE DECK	15	0	19-Jan-18	08-Feb-18
C21910	S2 A/B EB A5 B-632 FRPS PIER PROT	5	0	09-Feb-18	15-Feb-18
C21920	S2 A/B EB A5 B-632 FRPS CONC PARAPETS	5	0	16-Feb-18	22-Feb-18
C22570	S2 A/B EB A5 B-632 FRPS CONC APPR SLABS	10	0	23-Feb-18	08-Mar-18
STAGE 2 A/B WBL AREA 5 STA 2402-2502		302	0	12-Jan-17	09-Mar-18
ROADWAY		294	0	12-Jan-17	09-Mar-18
C22090	S2 A/B WB A5 INST AREA MOT	5	0	12-Jan-17	18-Jan-17
C22100	S2 A/B WB A5 INST AREA EROS CONTROL	5	0	19-Jan-17	25-Jan-17
C22110	S2 A/B WB A5 CLEAR & GRUB	15	0	26-Jan-17	15-Feb-17
C31240	S2 A/B WB A5 SWITCH TRAFFIC	1	0	09-Mar-18	09-Mar-18
BRIDGE B-633		276	0	16-Feb-17	08-Mar-18
C22260	S2 A/B WB A5 B-633 PERF SUPPORT OF EXCAV	2	0	16-Feb-17	17-Feb-17
C22270	S2 A/B WB A5 B-633 PERF STRUCT DEMOLITION	10	0	20-Feb-17	03-Mar-17
C22280	S2 A/B WB A5 B-633 PERF STRUCT EXCAV	40	0	06-Mar-17	01-May-17
C22290	S2 A/B WB A5 B-633 DRIVE PILES	55	0	20-Mar-17	06-Jun-17
C22300	S2 A/B WB A5 B-633 FRPS ABUT A	20	0	03-Apr-17	01-May-17
C22310	S2 A/B WB A5 B-633 FRPS PIER 1	18	0	02-May-17	25-May-17
C22320	S2 A/B WB A5 B-633 FRPS PIER 2	18	0	26-May-17	21-Jun-17
C22330	S2 A/B WB A5 B-633 FRPS PIER 3	18	0	22-Jun-17	18-Jul-17
C22340	S2 A/B WB A5 B-633 FRPS PIER 4	18	0	19-Jul-17	11-Aug-17
C22350	S2 A/B WB A5 B-633 FRPS ABUT B	20	0	14-Aug-17	11-Sep-17
C22360	S2 A/B WB A5 B-633 INST SLOPE PROT	5	0	12-Sep-17	18-Sep-17
C22370	S2 A/B WB A5 B-633 F&E STRUCTURAL STEEL	33	0	19-Sep-17	02-Nov-17
C22380	S2 A/B WB A5 B-633 FRPS CONC BR DECK	45	0	03-Nov-17	18-Jan-18
C22390	S2 A/B WB A5 B-633 CURE DECK	15	0	19-Jan-18	08-Feb-18
C22400	S2 A/B WB A5 B-633 FRPS PIER PROT	5	0	09-Feb-18	15-Feb-18
C22410	S2 A/B WB A5 B-633 FRPS CONC PARAPETS	5	0	16-Feb-18	22-Feb-18
C22411	S2 A/B WB A5 B-633 FRPS CONC APPR SLABS	10	0	23-Feb-18	08-Mar-18
STAGE 3 A/B CONSTRUCTION		170	0	12-Mar-18	02-Nov-18
STAGE 3 A/B EBL AREA 5 STA 1402-1502		170	0	12-Mar-18	02-Nov-18
ROADWAY		170	0	12-Mar-18	02-Nov-18
C30970	S3 A/B EB A5 INST AREA MOT	5	0	12-Mar-18	16-Mar-18
C30980	S3 A/B EB A5 INST EROS CONTOL	5	0	19-Mar-18	23-Mar-18
C30990	S3 A/B EB A5 CLEAR & GRUB	10	0	26-Mar-18	09-Apr-18
C31000	S3 A/B EB A5 RDWY EXCAV OR EMBANK	20	0	10-Apr-18	07-May-18
C31010	S3 A/B EB A5 F&I STORM SEWER	30	0	08-May-18	19-Jun-18
C31020	S3 A/B EB A5 SWM PONDS	25	0	20-Jun-18	25-Jul-18
C31030	S3 A/B EB A5 F&I U/G ELECT/ITS	5	0	26-Jul-18	01-Aug-18
C31040	S3 A/B EB A5 FRPS SIGN FOUND	5	0	02-Aug-18	08-Aug-18
C31050	S3 A/B EB A5 PERF FULL DEPTH RECLAM (FDR)	11	0	09-Aug-18	23-Aug-18
C31060	S3 A/B EB A5 F&I UNDERDRAIN	5	0	24-Aug-18	30-Aug-18



Actual Work — Critical Remaining Work

Remaining Work — Milestone

I-64 CAPACITY IMPROVEMENT - SEGMENT II

CONTRACT NO C00106665DB82

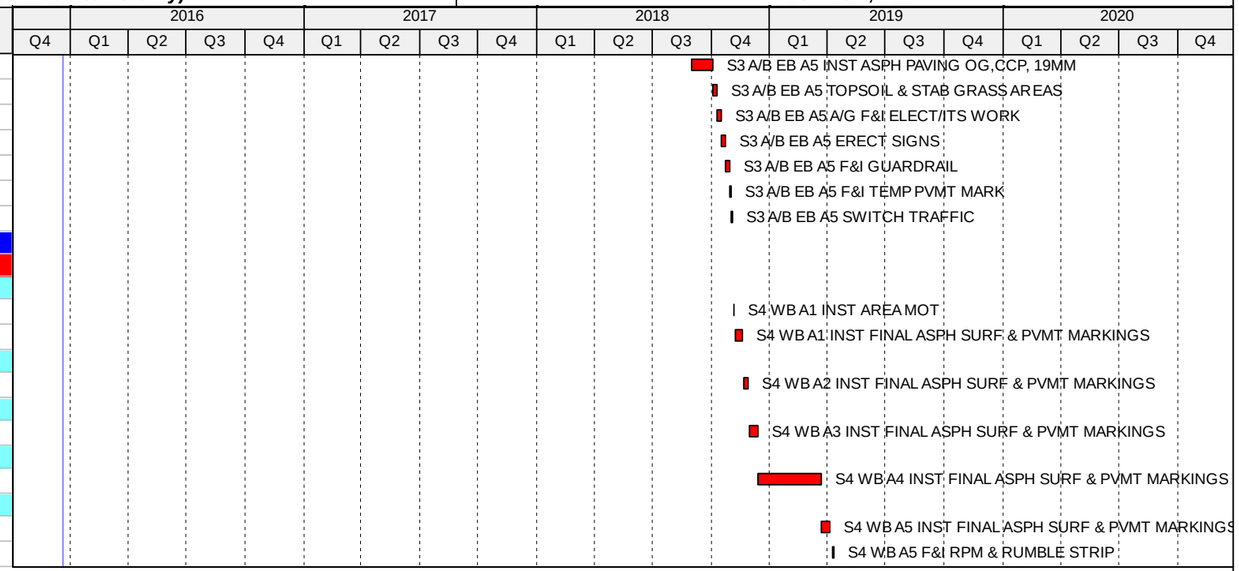
TECHNICAL PROPOSAL SCHEDULE

(Critical Path Items Only)

SHIRLEY CONTRACTING COMPANY, LLC

LORTON, VA

Activity ID	Activity Name	Original Duration	Total Float	Start	Finish
C31070	S3 A/B EB A5 INST ASPH PAVING OG,CCP, 19MM	22	0	31-Aug-18	02-Oct-18
C31080	S3 A/B EB A5 TOPSOIL & STAB GRASS AREAS	5	0	03-Oct-18	09-Oct-18
C31090	S3 A/B EB A5 A/G F&I ELECT/ITS WORK	5	0	10-Oct-18	16-Oct-18
C31100	S3 A/B EB A5 ERECT SIGNS	5	0	17-Oct-18	23-Oct-18
C31110	S3 A/B EB A5 F&I GUARDRAIL	5	0	24-Oct-18	30-Oct-18
C31120	S3 A/B EB A5 F&I TEMP PVMT MARK	2	0	31-Oct-18	01-Nov-18
C40160	S3 A/B EB A5 SWITCH TRAFFIC	1	0	02-Nov-18	02-Nov-18
STAGE 4 CONSTRUCTION		113	0	05-Nov-18	10-Apr-19
STAGE 4 WBL CONSTRUCTION		113	0	05-Nov-18	10-Apr-19
STAGE 4 WBL AREA 1 2128-2213		11	0	05-Nov-18	19-Nov-18
C40210	S4 WB A1 INST AREA MOT	2	0	05-Nov-18	06-Nov-18
C40220	S4 WB A1 INST FINAL ASPH SURF & PVMT MARKINGS	9	0	07-Nov-18	19-Nov-18
STAGE 4 WBL AREA 2 2213-2258		5	0	20-Nov-18	28-Nov-18
C40260	S4 WB A2 INST FINAL ASPH SURF & PVMT MARKINGS	5	0	20-Nov-18	28-Nov-18
STAGE 4 WBL AREA 3 2258-2358		11	0	29-Nov-18	13-Dec-18
C40300	S4 WB A3 INST FINAL ASPH SURF & PVMT MARKINGS	11	0	29-Nov-18	13-Dec-18
STAGE 4 WBL AREA 4 2358-2402		5	0	14-Dec-18	21-Mar-19
C40340	S4 WB A4 INST FINAL ASPH SURF & PVMT MARKINGS	5	0	14-Dec-18	21-Mar-19
STAGE 4 WBL AREA 5 2402-2502		14	0	22-Mar-19	10-Apr-19
C40380	S4 WB A5 INST FINAL ASPH SURF & PVMT MARKINGS	11	0	22-Mar-19	05-Apr-19
C40390	S4 WB A5 F&I RPM & RUMBLE STRIP	3	0	08-Apr-19	10-Apr-19



Actual Work
Remaining Work
Critical Remaining Work
Milestone