ORIGINAL

Technical Proposal: Volume I

INTERSTATE 64 CAPACITY IMPROVEMENTS – SEGMENT I

Newport News, Virginia

State Project No.: 0064-965-264, P101, R201, C501, B616, B617, B618, B619, B620, B621, D601, D602
Federal Project No.: NHS-064-3
Contract ID Number: C00104905DB75

SUBMITTED BY:

WAGMAN
BRIDGING GENERATIONS · SINCE 1902

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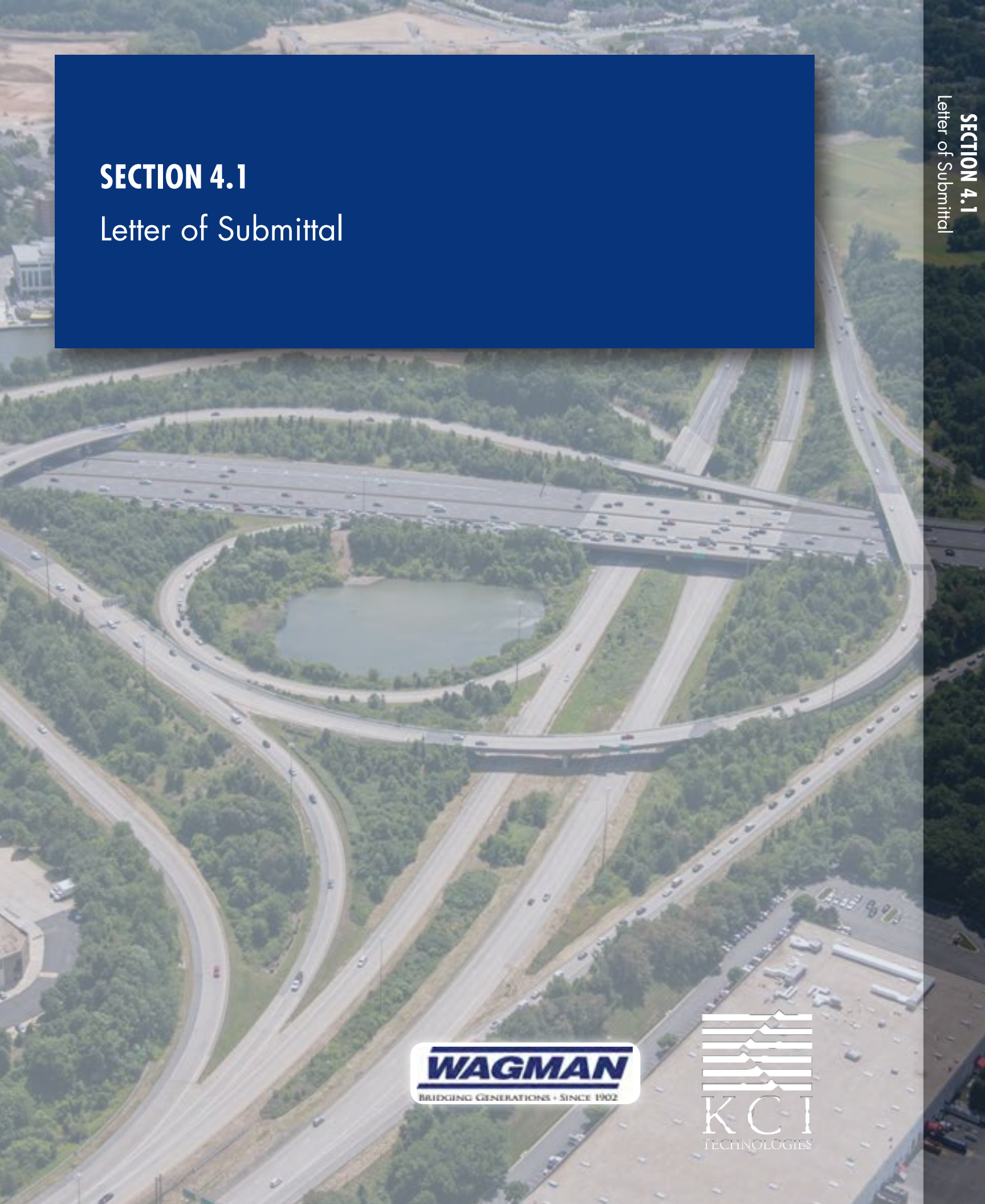
SECTION 4.1

Letter of Submittal



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

December 2, 2014

TECHNICAL PROPOSAL
I-64 CAPACITY IMPROVEMENTS – SEGMENT I, NEWPORT NEWS, VA

Dear Mr. Clarke,

G.A. & F.C. Wagman, Inc. (Wagman), teamed with KCI Technologies, Inc. (KCI), herein after referred to as The Wagman Team, is pleased to submit our technical proposal for the I-64 Capacity Improvements – Segment I Project. Enclosed please find one original, 10 identical paper copies, and one CD-ROM containing the entire proposal in a single cohesive PDF file. Wagman carefully reviewed the Request for Proposals (RFP), the Questions and Answers dated 11/14/14, and Addendums 1-4. In accordance with instructions received with Addendum 3, we have incorporated all changes from our original submittal, dated September 22, 2014.

4.1.1 FULL LEGAL NAME AND ADDRESS OF OFFEROR | G.A. & F.C. Wagman Inc. will be the legal entity who will execute the Contract with VDOT. The address for their headquarters is as follows:
3290 N. Susquehanna Trail, York, PA 17406-9754

4.1.2 DECLARATION OF OFFEROR'S INTENT | Wagman, if selected, will enter into a contract with VDOT for the I-64 Capacity Improvements – Segment I project in accordance with the terms of the RFP.

4.1.3 DECLARATION OF TECHNICAL AND PRICE PROPOSAL DATES | Pursuant to Part 1, Section 8.2, Wagman declares that the offer represented by our technical and price proposals will remain in full force and effect for 120 days after the date the Technical Proposal is actually submitted to VDOT (December 2, 2014).

4.1.4 OFFEROR'S POINT OF CONTACT
Anthony Bednarik, DBIA, VP of Design-Build and Estimating
3290 N. Susquehanna Trail, York, PA 17406-9754
717-764-8521 x8201 (Phone), 717-767-5457 (Fax)
awbednarik@wagman.com

4.1.5 OFFEROR'S PRINCIPAL OFFICER
David Lyle, Vice President, Division Manager
5911 Nena Grove Lane, Chester, VA 23831-3715
804-778-4444 (Phone), 804-778-4929 (Fax)
dwlyle@wagman.com

4.1.6 FINAL COMPLETION DATE | November 17, 2017

4.1.7 PROPOSAL PAYMENT AGREEMENT | An executed Proposal Payment Agreement, Attachment 9.3.1, is included in the Appendix.

4.1.8 CERTIFICATION REGARDING DEBARMENT FORMS | Signed Certification Regarding Debarment Forms, Attachments 11.8.6(a) and 11.8.6(b), for all team members are included in the Appendix.

The Wagman Team is committed to achieving a twelve percent (12%) DBE participation goal for the entire value of the contract. Additionally, we understand the Governor's Executive Order Number 20 (July 2014) related to opportunities for SWaM firm participation and we will employ good faith efforts to maximize the use of SWaMs.

We greatly appreciate this opportunity and your consideration during the evaluation and selection process of the I-64 Capacity Improvements – Segment I Project. If you have any questions in your review, please contact me at 804-778-4444.

Respectfully,
G.A. & F.C. WAGMAN, INC.

David W. Lyle
Vice President, Division Manager

<u>Summary of Modifications to Original Technical Proposal (September 22, 2014)</u>
I-64 Capacity Improvements – Segment I, Newport News, Virginia
State Project No.: 0064-965-264, P101, R201, C501, B616, B617, B618, B619, B620, B621, D601, D602
Federal Project No.: NHS-064-3 (479); Contract ID Number: C00104905DB75
December 2, 2014

In accordance with the instructions received with Addendum 3, The Wagman Team has endeavored to track all changes made to the original document and are indicated herein. In addition, all inserted changes within the document have been designated by the color red.

VOLUME I

- **4.2 OFFEROR'S QUALIFICATIONS**
  - Page 4 – 4.2.1: Added statements about replacing our QAM
  - Page 4 – 4.2.2: Modified "Executive Committee" paragraph; replaced QAM and all pronouns associated with the replacement; modified "CM" paragraph
  - Page 5 – 4.2.2: Deleted "retaining walls,"; modified "Public Relations Manager" paragraph
  - Page 6 – 4.2.2: Replaced QAM on organizational chart
- **4.3 DESIGN CONCEPT**
  - Page 7 – 4.3 first two paragraphs: Added addenda 3 and 4; made other minor changes
  - Page 7 – 4.3: Modified "Design Enhancements to the RFP Concept" chart
  - Page 7 – 4.3: Deleted "and retaining wall"
  - Page 9 – 4.3.1: Made minor changes
  - Page 10 – 4.3.1: Made minor changes
  - Page 11 – 4.3.1: Modified "Hydraulics" Paragraph
  - Page 12 – 4.3.1: Modified "Erosion and Sediment Control" paragraph
  - Page 12 – 4.3.1: Replaced "Proposed Right of Way Impacts" chart
  - Page 12 – 4.3.1: Added "Proposed Utility Impacts"
  - Page 13 – 4.3.2: Made minor changes
  - Page 14 – 4.3.2 first two paragraphs: Made minor changes
  - Page 14 – 4.3.2: Replaced "Retaining Wall" paragraph
  - Page 14 – 4.3.2: Added text to "Sound Walls" paragraph
- **4.4 PROJECT APPROACH**
  - Page 15 – 4.4.1: Made minor changes
  - Page 16 – 4.4.1: Replaced "Threatened and Endangered (T&E) Species" paragraph
  - Page 17 – 4.4.2 first paragraph: Relocated from end of section and made minor changes
  - Page 18-21 – 4.4.2: Replaced "Conflict Matrix" chart in its entirety
  - Page 21 – 4.4.2: Modified "Mitigation Strategies" paragraph; added new utility paragraph
  - Page 22 – 4.4.2: Added new utility paragraphs; made minor changes
  - Page 23 – 4.4.3: Modified "Potentially Unsuitable Soils" paragraph; Minor change to "Soft/Loose Soils for Deep Foundations at Bridges" paragraph
  - Page 24 – 4.4.4: Made minor changes
  - Page 24 – 4.4.4: Deleted "retaining walls,"
  - Page 25 – 4.4.4: Added text to "Design QA/QC Staffing Plan" paragraph
  - Page 26 – 4.4.4: Made minor changes to "Final Review and Submittal to VDOT" paragraph
  - Page 26 – 4.4.4: Made minor changes to "Records" paragraph
  - Page 26 – 4.4.4: Deleted text from "QA/QC Procedure for One Unique Design Element" paragraph

- Page 27 – 4.4.4: Added text to “Construction Approach to QA/QC” paragraph
- Page 28 – 4.4.4: Made minor changes to “Subgrade Preparation” bullet
- Page 29 – 4.4.4: Changed QAM
- Page 32 – 4.4.4: Made minor changes

- **4.5 CONSTRUCTION OF THE PROJECT**
  - Page 33 – 4.5.1: Replaced first paragraph;
  - Page 33-34 – 4.5.1: Replaced “Approach to Construction Phasing” section in its entirety
  - Page 34-36 – 4.5.1: Replaced “Sequence of Construction” section in its entirety
  - Page 36 – 4.5.1: Replaced “Earthwork Optimization” section in its entirety
  - Page 37 – 4.5.1: Made minor change to “Safety and Operations” paragraph
  - Page 37 – 4.5.1: Modified “Railroad Coordination” section
  - Page 39 – 4.5.1: Made minor change to “Geotechnical Constrains” paragraph
  - Page 39-40 – 4.5.1: Replaced “Right of Way Acquisition” section in its entirety
  - Page 40 – 4.5.1: Made minor changes to “Staging and Storage Areas” paragraph
  - Page 40 – 4.5.1: Replaced “Public Involvement/Stakeholder Coordination” section in its entirety
  - Page 41 – 4.5.1: Made major change to the final completion date; added text
  - Page 41 – 4.5.2: Modified paragraph
  - Page 42 – 4.5.2: Modified “Maintenance of Traffic and Construction Impacts” paragraphs
  - Page 43 – 4.5.2: Modified “Traffic Impacts” paragraph
  - Page 43-45 – 4.5.2: Replaced “Stakeholders Impacts and Public Acceptance” section in its entirety
  - Page 45-46 – 4.5.2: Added “Coordination with Adjacent Projects” section
- **4.6 DISADVANTAGED BUSINESS ENTERPRISES (DBE)**
  - Page 47 – 4.6: Added text to last paragraph
- **4.7 PROPOSAL SCHEDULE**
  - Replaced “Proposal Schedule” in its entirety
  - Replaced “Proposal Schedule Narrative” in its entirety

VOLUME II

- All Pages – Adjusted date on RFP Plan box to say “December 2, 2014” per addendum #4
- Page 49 – Adjusted location of underdrain and added a “typical” note to address all sections
- Page 49 – Added pavement legend for proposed shoulder strengthening
- Page 49 – Revised typical of ponds “K & L” to show the proposed grading and the elimination of the retaining wall
- Page 49-52 – Added proposed shoulder strengthening to all typicals
- Page 54 – Eliminated outfall and added storm sewer trunk line in median
- Page 58 – Eliminated outfall and added storm sewer trunk line in median
- Page 60 – Eliminated outfall and added storm sewer trunk line in median
- Page 61-75 – Added stippling and shading to depict shoulder strengthening
- Page 64 – Eliminated outfall and added storm sewer trunk line in median
- Page 67 – Adjusted location of pipe run at station 2679+00
- Page 73-75 – Adjusted grading of ponds “K & L” to eliminate need for retaining wall
- Page 84 – Combined reservoir plans “Transverse Section” and “End Bent & Interior Bent” sheets
- Page 85 – Replaced “Retaining Wall Details” (eliminated from the project) sheet with new sheet: “Precast Sound Wall Steel Post Details at Utility Locations”

SECTION 4.2

Offeror's Qualifications

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4.2 OFFEROR'S QUALIFICATIONS

4.2.1 CONFIRMATION | Wagman confirms that the information contained in our SOQ remains true and accurate in accordance with Part 1, Section 11.4, with the exception of replacing our Quality Assurance Manager (QAM) and adding firms to our organizational chart in order to meet the requirements of the RFP. The request to replace the QAM has been submitted to and approved by VDOT. The organizational chart has been updated (as designated by the yellow highlights) to include the substitution of the QAM, the addition of an Executive Committee to support the Design-Build Project Manager (DBPM), a Utility Coordination Manager (UCM), a Concrete Patching Contractor, a Thin Hot Mix Asphalt Concrete Overlay (THMACO) Contractor, and three DBE firms to assist in achieving the twelve percent (12%) DBE participation goal.

4.2.2 ORGANIZATIONAL CHART | Our organizational chart, on page 4, shows the "chain of command" and identifies major functions to be performed and their reporting relationships with solid lines representing reporting relationships and dashed lines representing the coordination and communication between the design disciplines, VDOT, and other stakeholders. The chart also shows a clear separation exists between QA and QC inspection and field/laboratory testing.

Executive Committee | The executive committee will establish a resolution hierarchy to ensure that innovative solutions are developed and implemented by leveraging lessons learned and knowledge of our combined companies. Issues will be tracked through the use of a resolution matrix and will be reported to the DBPM for his acceptance and implementation. The fast-track schedule will be continually tracked, and if more resources are needed, these executives will assure that the required resources are allocated to the Project.

Design-Build Project Manager (DBPM) – Anthony Bednarik, DBIA (Wagman) | Mr. Bednarik will be the primary point of contact for this Project, with full authority over The Wagman Team. The Design Manager (DM), Construction Manager (CM), Quality Assurance Manager (QAM), Public Relations Manager, Safety Manager, and Utility Coordination Manager will all report directly to Mr. Bednarik. He will proactively identify and mitigate project risks to safely deliver a quality Project within the allowable schedule and budget.

Quality Assurance Manager (QAM) – Ben Lineberry, PE (Volkert) | Mr. Lineberry will report to the DBPM, with independent oversight by VDOT. He will be located on the project site full-time for the duration of the construction operations. He will remain independent from the construction QC team to oversee QA matters, including QA testing. He will be responsible for the QA inspection and testing of all materials used and work performed on the project, including the monitoring of Wagman's QC program. He will verify that all work and materials, testing, and sampling are performed in conformance with the contract requirements. He also will confirm the "approved for construction" plans and specifications, and he has the authority to stop work and withhold payment on the Project in the event of any non-compliance until the deficiency is resolved.

Design Manager (DM) – Stephen Drumm, PE (KCI) | Mr. Drumm will report to the DBPM and coordinate with both the DBPM and CM to develop a cost effective, efficient, and constructible design. He will manage the design team and will be responsible for coordinating the individual design disciplines and ensuring the overall project design is in conformance with the Contract Documents. He will coordinate with the CM during construction to confirm field conditions meet design assumptions and reevaluate these assumptions, if necessary. He will also be responsible for establishing and overseeing a QA/QC program for all pertinent disciplines, including review of design, working plans, shop drawings, specifications, and constructability for the Project.

Construction Manager (CM) – David Passmore (Wagman) | Mr. Passmore will report directly to the DBPM and will communicate with the DM during both design and construction phases to perform constructability reviews and ensure construction is consistent with the project design. He will oversee the entire construction team, including the Bridge Superintendent, Roadway Superintendent, Scheduler, and all subcontractors. He will also manage all construction QC activities to ensure the materials used and work performed meet contract requirements and the "approved for construction" plans and specifications. Mr. Passmore will be located on the project site full-time for the duration of construction operations.

Lead Structural Engineer – Eric Burgess, PE (KCI) | Mr. Burgess will be responsible for structural design of the bridges, ~~retaining walls,~~ and other structures. He will report directly to the DM. He will lead an experienced team of structural engineers and technicians for the design and plan preparation of all structures.

Lead Roadway Engineer – Rick DeLong, PE (McCormick Taylor) | Mr. DeLong will also report to the DM and will be responsible for roadway, drainage, and TMP design. He will review designs and verify and modify designs, if necessary, based on field conditions and construction activities.

Public Relations Manager – Patsy Napier (McCormick Taylor) | Ms. Napier will report directly to the DBPM and will coordinate with VDOT and all third party stakeholders. In collaboration with VDOT Communications staff, she will develop a public relations plan in accordance with the RFP technical requirements and manage all external project communication with project stakeholders, the media, and the general public during the design and construction of the project. All expenditures related to paid advertising and marketing, as well as external communications, will be approved by VDOT prior to release to the public.

Utility Coordination Manager – Jason Hershey, DBIA (Wagman) | Mr. Hershey has over 15 years of DB experience, most recently serving as a deputy DBPM and Lead Utility Coordination Manager on the $71M DB Route 1 Improvements at Fort Belvoir, VA. Mr. Hershey will report directly to the DBPM and will collaborate with Scott Riddle, Design Utility Manager, in the management and coordination of all utility interactions during design and construction. This will include maintaining the utility tracking logs (VDOT RUMS).

Concrete Patching Contractor – Denton Concrete Services (Denton) | Denton (Formerly Denton Construction) has been performing concrete paving on major interstate projects for over sixty years. Denton currently specializes in concrete paving restoration and rehabilitation. Operating out of their Lanexa, VA office, Denton has performed concrete roadway repairs to major interstate roadways in Virginia, North Carolina and Georgia. Denton is highly qualified to manage all aspects of repairing concrete roadways with high ADT and MOT needs and has a proven track record of performing concrete repairs on interstate roadways. Examples of previously completed VDOT work repairing or rehabilitating major interstate roadways include:

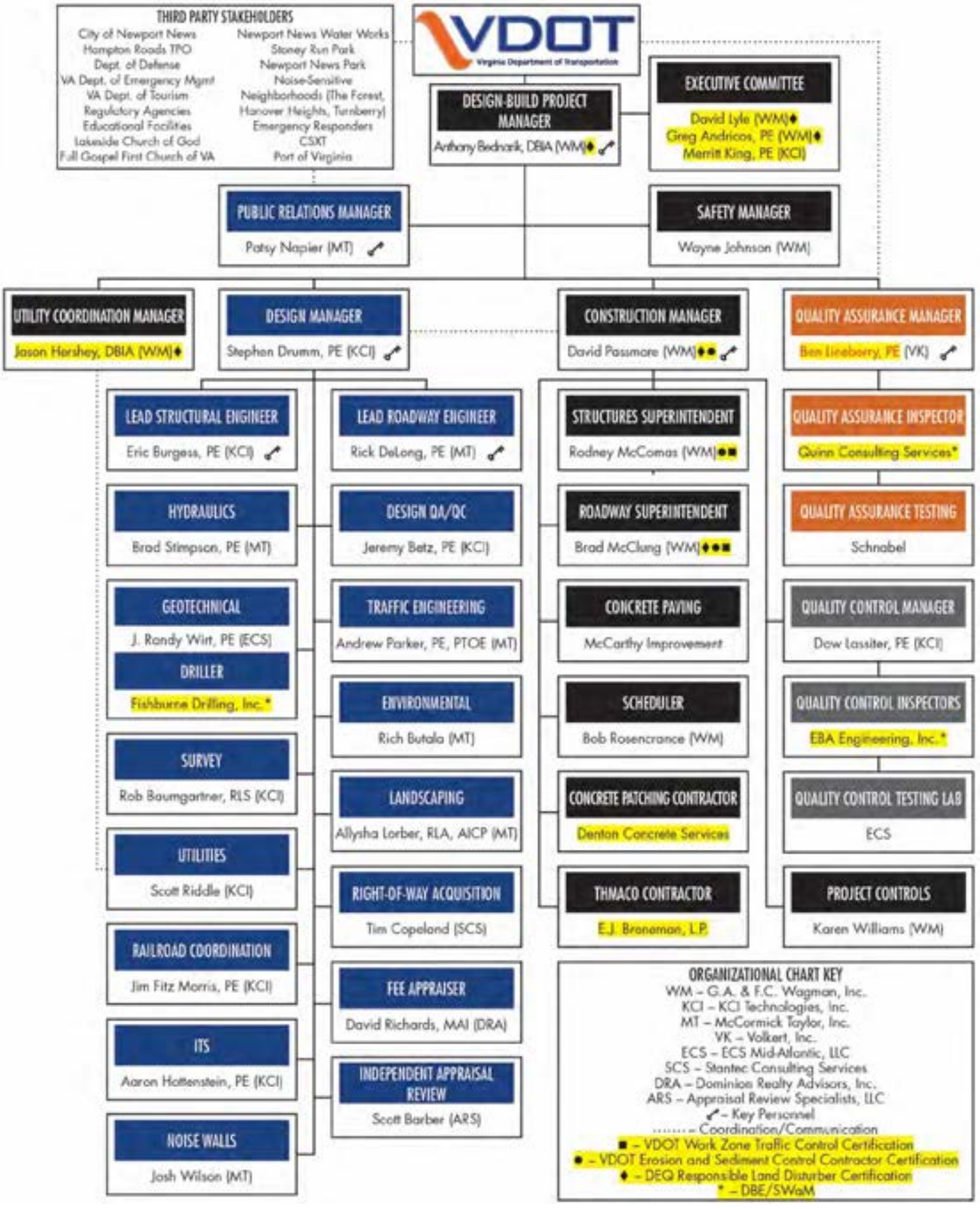
Project Name	Description	Owner	Completion Date	Value
I-64 Patching MM 237.2 and 253.5	63,000 SY of concrete pavement patching for 16.3 Miles in James City & York Counties and Newport News, VA	VDOT	08/2008	$27,443,312
I-664 Pavement Rehabilitation*	Pavement rehabilitation of I-664 between Marshall Ave. and Powhatan Parkway in the Hampton and Newport News, VA	VDOT	03/2011	$13,620,805
Rt. 195 Patch and Asphalt Overlay*	74,800 SY of PCCP patching and asphalt overlay in Richmond, VA	VDOT	11/2012	$11,538,748

*Both of these projects received the National Award of Excellence from the American Concrete Pavement Association, Gold Level, in the category of Concrete Pavement Restoration for 2011. Please refer to the work history form (Attachment 4.2.2) in the appendix for more information on the I-664 project.

Thin Hot Mix Asphalt Concrete Overlay (THMACO) Contractor – E.J. Breneman, L.P. (Breneman) | Breneman has been a leader in the road construction industry since 1942. Headquartered near Reading, PA, Breneman specializes in the maintenance and construction of highways along the entire East Coast, including projects for VDOT. Breneman has extensive experience installing THMACO on interstate pavements and shoulders. Examples of previously completed VDOT work installing THMACO on interstate roadways include:

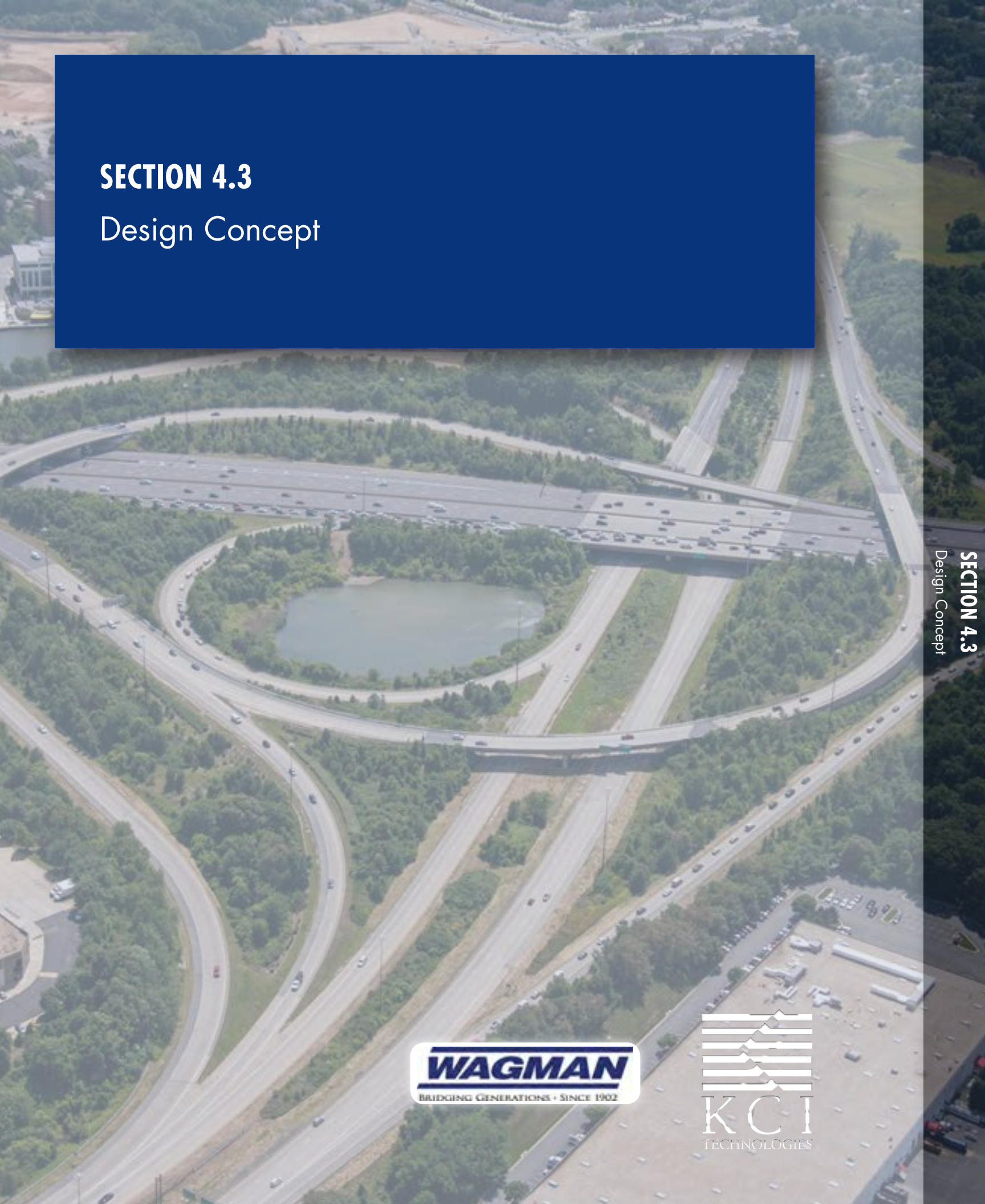
Project Name & Description	Owner	Completion Date	Overlay Value
I-64 Design-Build – THMACO	VDOT	June, 2014	$329,681
I-264 Order #D17T – THMACO	VDOT	October, 2013	$372,298
Rt. I-664 – THMACO	VDOT	December, 2012	$470,266

In addition to the projects referenced above, Breneman regularly performs maintenance and restoration work. Breneman was awarded the Asphalt Pavement Maintenance Award, Hampton Roads District "Outstanding Pavement of 2008" award by VDOT for a project located on I-95 in Greenville County, VA.


THIRD PARTY STAKEHOLDERS
City of Newport News
Hampton Roads TPO
Dept. of Defense
VA Dept. of Emergency Mgmt
VA Dept. of Tourism
Regulatory Agencies
Educational Facilities
Lakeside Church of God
Full Gospel First Church of VA
Newport News Water Works
Stoney Run Park
Newport News Park
Noise-Sensitive
Neighborhoods (The Forest, Hanover Heights, Turnberry)
Emergency Responders
CSXT
Port of Virginia
VDOT
Virginia Department of Transportation
DESIGN-BUILD PROJECT MANAGER
Anthony Bednarik, DBIA (WM)♦
EXECUTIVE COMMITTEE
David Lyle (WM)♦
Greg Andricos, PE (WM)♦
Merritt King, PE (KCI)
PUBLIC RELATIONS MANAGER
Patsy Napier (MT)
SAFETY MANAGER
Wayne Johnson (WM)
UTILITY COORDINATION MANAGER
Jason Hershey, DBIA (WM)♦
DESIGN MANAGER
Stephen Drumm, PE (KCI)
CONSTRUCTION MANAGER
David Passmore (WM)♦●
QUALITY ASSURANCE MANAGER
Ben Lineberry, PE (VK)
LEAD STRUCTURAL ENGINEER
Eric Burgess, PE (KCI)
HYDRAULICS
Brad Stimpson, PE (MT)
GEOTECHNICAL
J. Randy Wirt, PE (ECS)
DRILLER
Fishburne Drilling, Inc.*
SURVEY
Rob Baumgartner, RLS (KCI)
UTILITIES
Scott Riddle (KCI)
RAILROAD COORDINATION
Jim Fitz Morris, PE (KCI)
ITS
Aaron Hattenstein, PE (KCI)
NOISE WALLS
Josh Wilson (MT)
LEAD ROADWAY ENGINEER
Rick DeLong, PE (MT)
DESIGN QA/QC
Jeremy Betz, PE (KCI)
TRAFFIC ENGINEERING
Andrew Parker, PE, PTOE (MT)
ENVIRONMENTAL
Rich Butala (MT)
LANDSCAPING
Allysha Lorber, RLA, AICP (MT)
RIGHT-OF-WAY ACQUISITION
Tim Copeland (SCS)
FEE APPRAISER
David Richards, MAI (DRA)
INDEPENDENT APPRAISAL REVIEW
Scott Barber (ARS)
STRUCTURES SUPERINTENDENT
Rodney McComas (WM)●■
ROADWAY SUPERINTENDENT
Brad McClung (WM)♦●■
CONCRETE PAVING
McCarthy Improvement
SCHEDULER
Bob Rosencrance (WM)
CONCRETE PATCHING CONTRACTOR
Denton Concrete Services
THMACO CONTRACTOR
E.J. Breneman, L.P.
QUALITY ASSURANCE INSPECTOR
Quinn Consulting Services*
QUALITY ASSURANCE TESTING
Schnabel
QUALITY CONTROL MANAGER
Dow Lassiter, PE (KCI)
QUALITY CONTROL INSPECTORS
EBA Engineering, Inc.*
QUALITY CONTROL TESTING LAB
ECS
PROJECT CONTROLS
Karen Williams (WM)
ORGANIZATIONAL CHART KEY
WM – G.A. & F.C. Wagman, Inc.
KCI – KCI Technologies, Inc.
MT – McCormick Taylor, Inc.
VK – Volkert, Inc.
ECS – ECS Mid-Atlantic, LLC
SCS – Stantec Consulting Services
DRA – Dominion Realty Advisors, Inc.
ARS – Appraisal Review Specialists, LLC
– Key Personnel
– Coordination/Communication
■ – VDOT Work Zone Traffic Control Certification
● – VDOT Erosion and Sediment Control Contractor Certification
♦ – DEQ Responsible Land Disturber Certification
* – DBE/SWaM

SECTION 4.3

Design Concept



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SECTION 4.3
Design Concept

4.3 DESIGN CONCEPT

Through careful review of the RFP (inclusive of Addenda 1, 2, 3, and 4), participation in the Proprietary Meeting, numerous site visits, and investigations, The Wagman Team has developed our technical proposal and conceptual design to meet or exceed all of the technical requirements outlined in the RFP. The Wagman Team acknowledges the intent of the Base Bid is to design and construct one additional 12' travel lane and one 12' shoulder in both the eastbound and westbound directions. Also, as part of the Base Bid, ¾" THMACO will be placed on all existing and proposed travel lanes as well as the strengthened existing and proposed shoulders. In addition to the Base Bid, The Wagman Team understands Option 1 of the RFP to be a 2" asphalt overlay of all proposed and existing travel lanes and shoulders. Lastly, we acknowledge Option 2 of the RFP to be the extension of the Fort Eustis Interchange acceleration and deceleration ramps to the lengths specified in the RFP.

Our design will be performed and submitted in logical packages to expedite The Wagman Team's ability to obtain the approvals required to begin physical construction in critical areas of the Project. Design packages have been developed to consider a combination of limiting factors, including physical drainage areas, accessibility to crossovers, providing temporary acceleration and deceleration lanes permitting work space access, environmental permitting, critical utility relocations, and right of way (ROW) acquisition. Throughout the remainder of this technical proposal, references will be made to segments and/or phases which are graphically depicted by Figure 4.5.1.

In addition, our approach to design gave careful consideration to balancing the multiple goals of the project, including improving long-term maintenance, as well as reducing impacts to existing utilities, adjacent properties, traveling public, environment, and cost. Through this analysis, we have identified several opportunities for enhancing the concept design that was presented in the RFP. Some of our suggested enhancements are:

DESIGN ENHANCEMENTS TO THE RFP CONCEPT		
Description	Location	Benefits of Enhancement
Use of alternative stormwater management methods, such as bioretention swales in addition to traditional SWM ponds	Various locations along the corridor	✓ Better facilitates meeting the applicable requirements of the stormwater management regulations, Part IIB ✓ Allows for reductions in locations and/or size of several SWM basins resulting in reduced costs and ROW impacts ✓ Design considerations given to reducing maintenance
Reduction of proposed ROW	Various locations along the corridor	✓ Lowers ROW costs ✓ Reduces ROW acquisition schedule
Elimination of retaining wall	I-64 EB Station 1771+93 to 1786+44 Rt.	✓ Shortens construction duration ✓ Reduces construction cost ✓ Reduces foundation excavation and railroad impacts
Optimization of noise wall design at utility conflicts	Span segments at utility conflicts at Stations 2633+50, 2655+00, and 2688+50	✓ Avoids relocation of major utilities, including gas, water, and sanitary force main
Alignment shift of proposed noise walls	Stations 2733+00 to 2748+00	✓ Reduces design height of noise wall ✓ Eliminates two stream crossings ✓ Reduces the required ROW take
Access to BMP sites along the outside of I-64 without requiring ingress/egress to/from I-64	Various BMPs throughout the Project accessible through the City of Newport News access trails within LOD	✓ Reduces traffic impacts to I-64 ✓ Extends allowable work schedules ✓ Facilitates more efficient earthwork operations

In Volume II of this Technical Proposal, we have included 11" x 17" graphics depicting our Design Concept Plans, that include typical sections, roadway plans, and bridge ~~and retaining wall~~ structure plans.

In developing these design concept plans, we ensure that the following conditions have been met:

1. All requirements outlined in the Design Criteria Table provided in the RFP have been met or exceeded.
2. Limits of construction have been established and presented to ensure that all proposed improvements, including stormwater management facilities, are within the existing/proposed ROW limits established in the

RFP Conceptual Design, with the exception of permanent and temporary easements and locations within the City of Newport News property as defined in the RFP.

3. Our proposed Design Concept does not require any additional Design Exceptions or Waivers beyond those that have already been identified in the RFP or Addenda.

4.3.1 CONCEPTUAL ROADWAY PLANS |

General Geometry: With regard to geometry, the RFP designates the geometric design criteria that shall be met for this Project. Please see *Table 4.3.1 Design Criteria* for the geometric standards as required by the RFP that will be used for the proposed improvements to I-64.

TABLE 4.3.1 DESIGN CRITERIA

Description	Design Criteria	Critical Source	Comments
Roadway Classification	Urban Interstate	RDM, App. A, GS-5, P. A-11	
Terrain	Level		
Design Speed	70 mph		
ADT (2014)	100,000	VDOT Traffic Study	
ADT (2036)	136,000	Design Year 2036	
Horizontal Alignment			
Stopping Sight Distance	730'	RDM, App. A, GS-5, P. A-11	If grade greater than 3%, see AASHTO P. 3-5, Table 3-2.
Radius			
Min. Radius	1821'	RDM, App. A, GS-5, P. A-11	Minimum Radius from GS-1.
Min. Curvature with NC	14,500'	RBS, 803.42 (TC-5.11R)	
Superelevation	8% emax	RDM, App. A, GS-5, P. A-11	
Superelevation Transition Slope Rate	1:250	AASTHO P. 3-61, Table 3-15	
Superelevation Transition Treatment	2/3 Runoff on Tangent		
Vertical Alignment			
Maximum Grade	N/A	AASHTO P. 7-4, Table 7-2	Match Existing
Min. grade	N/A	AASHTO P. 3-119	Match Existing
Crest Curve K-Value	247	AASHTO P. 3-155, Table 3-34	
Sag Curve K-Value	181	AASHTO P. 3-161, Table 3-36	
Cross Sectional Elements			
Lane Width	12'	RDM, App. A, GS-5, P. A-11	
Full Shoulder Width			
Left	12'	RDM, App. A, GS-5, P. A-11	2' Offset Required from 12' Paved shoulder to face of guardrail or barrier.
Right	N/A	RDM, App. A, GS-5, P. A-11	
Paved Shoulder Width			
Left	12'		
Right	Match Existing		
Medians			
Ditch	6:1 slope to ditch bottom desired, 2:1 max slope.	RBS, 702.04, GS-13	See Design Waiver for Ditch Front Slope Deviations.
Travel Lane Cross Slope (NC, Lane)	2%		
Travel Lane Cross Slope (Break, max)	7%	RBS, 702.02, GS-11	
Shoulder Cross Slope	5%	RDM, App. A, GS-11, P. A-18	
Side Slopes	2:1/6:1		2:1 with GR
Clear Zone Width	30'	RDM, P. A-23, Table A-2-1	
Preferred Barrier Type	GR-2 with GR-9 terminals		Preference is to not use barrier whenever possible. GR-2, MB-3 and Concrete Barriers are to be used as required. Contractor may elect to use other barrier types or systems, subject to VDOT approval.

Horizontal and Vertical Alignments: The I-64 improvements will be built in accordance with the requirements of the RFP, including horizontal alignment. The horizontal alignment is being matched for the proposed widening and existing curve radii are at or above the minimum radii identified in *Table 4.3.1 Design Criteria*. As noted in the RFP, design exceptions have been approved for substandard superelevation cross slope on the existing mainline pavement. As shown on the typical roadway sections included in Volume II on Pages 2-2D, the proposed inside pavement widening will meet the minimum superelevation cross slope identified in *Table 4.3.1 Design Criteria*, while both the existing travel lanes, as well as the outside acceleration/deceleration widening for Option 2 will match existing cross slopes. In all cases, adherence to maximum shoulder rollover cross slopes will be maintained.

Likewise, for the majority of the project limits, the existing vertical profile of the existing inside travel lane in both directions will be matched when constructing the proposed widening. However, it is noted by The Wagman Team that some areas of localized settlement of the existing pavement occur within the project limits. The Wagman Team will analyze and correct any localized settlement of the existing roadway profile with deviations in excess of 2" prior to beginning any of the proposed widening construction. This will ensure that no ponding of water will occur between the existing and proposed pavement during construction, and that the proposed widening is built to proper final profile elevation. Additionally, should Option 1 be accepted by the Department, The Wagman Team will adjust the profile grade in order to tie in to the existing grade of all structures.

Maximum Grades for All Segments: This Project will be built in accordance with the requirements of the RFP, including roadway grades. The proposed grades for the eastbound and westbound mainline roadways are at or below the maximum allowable grades shown in *Table 4.3.1 Design Criteria*.

Typical Sections of the Roadway Segments: The typical roadway sections included in Volume II on pages 2-2D reflect constructing one 12' travel lane and one 12' shoulder to the median in each direction. Varying median slopes and barrier treatments have been identified. Additionally, the typical sections depict the varying cross slopes between the proposed inside travel lanes, the existing travel lanes, areas of outside shoulder strengthening, as well as the outside acceleration and deceleration lanes required for Option 2. Typical section details for representative noise wall ~~and retaining wall~~ locations have also been provided.

Stormwater Management: The Wagman Team is committed to implementing stormwater strategies that limit site disturbance, meet the Virginia Department of Environmental Quality (DEQ)'s stormwater management requirements, can be easily maintained by VDOT, and protect Virginia's water resources. Application of Part IIB of the Stormwater Regulations, use of the Runoff Reduction Method for Water Quality Compliance, and use of the Energy Balance to determine Channel Protection Requirements represent a change in the way stormwater management is approached on VDOT projects. The Wagman Team has already begun working with the DEQ to discuss the application and adaptation of Virginia's stormwater regulations and design standards to highway projects and will facilitate continued coordination and communication between DEQ and VDOT as new policies are developed.

Approach: The Wagman Team proposes a range of management practices that meet the specific stormwater management needs of each drainage area and is sensitive to existing land uses along the highway. In accordance with Virginia's stormwater regulations, our first priority is to limit disturbance and restore any landscaped areas. Therefore, our design places a high priority on stormwater management and landscape development in the median. This median area will be disturbed as part of the highway expansion, so inclusion of stormwater management practices in this area minimize unnecessary disturbance of the wooded areas along the outside of the highway. Meadow restoration of the median areas that are not suitable for stormwater management reduces the pollutant load from the median and reduces the overall management requirements.

Since the median receives runoff from a significant impervious area, stormwater treatment must be balanced with stormwater conveyance and grass channels with compost amendment as the best management strategy in this location where there is sufficient space. The Wagman Team looked at the median width and adjacent highway

elevations along the entire length of the project and identified the areas that would be suitable for stormwater management. Cross sections were developed that meet all of the slope and safety requirements of the highway project in accordance with DEQ's stormwater management design standards for grass channels. Grass channels along approximately 7,700 LF of the project will provide pollutant removal and runoff reduction to reduce the size of the Best Management Practices (BMPs) needed to satisfy water quality and channel protection requirements. The remainder of the median, that is not adequate for a water quality swale, will be planted with native grasses that require minimal mowing. Grasses will slow stormwater runoff to allow some filtration through the soil. Inlets will be placed as necessary to ensure that the channel provides adequate conveyance. Median areas within barriers will be landscaped with trees and shrubs to create aesthetic open space areas and maintain the current aesthetic of the highway, as directed by VDOT.

The Wagman Team has identified five major drainage areas: Warwick River, Lee Hall Reservoir, Jones Creek, Stony Creek, and Unnamed Tributary to Lukas Creek.

Warwick River: Warwick River is a tributary to the Newport News Reservoir. The site area is slightly greater than 1% of the entire drainage area to the discharge point, so it is likely that BMPs will need to satisfy both water quality and channel protection requirements. However, The Wagman Team will work with DEQ to see if this area could receive an exemption, since it is so close to the 1% threshold. Median drainage from this portion of the project area will be collected in a single stormwater pipe that will cross the eastbound lanes to Level 2 bioretention areas on the shelf of a dry extended detention pond. The bioretention area provides more pollutant reduction than required for this drainage area and will offset shortfalls in other drainage areas. If not required by final design, we will eliminate the extended detention portion of this basin from the design.

Lee Hall Reservoir: This drainage area discharges directly to Lee Hall Reservoir at multiple locations. We have added pipes and redirected runoff to direct as much as possible to the basin locations identified in the conceptual design; however, due to the topography in this area, there will be some untreated discharges. While water quality treatment is a priority to meet the regulations and protect the city's water resources, channel protection is not required for the discharges in this drainage area. All of the BMPs have been designed as Level 2 wetlands to achieve maximum pollutant removal to offset the direct discharge points. Although the wetlands are not designed to provide extended detention for channel protection or flooding, they will attenuate flow to avoid erosive velocities at the discharge points. In addition to the wetlands proposed at the BMP locations identified in the conceptual analysis, we are proposing a small bioretention area in an existing turf triangle at the Fort Eustis interchange. This bioretention area provides an opportunity for upland runoff reduction and additional water quality treatment in an otherwise low-lying drainage area.

Approximately one half of the Fort Eustis interchange lies within this drainage area, and a large portion of the runoff from the interchange flows to the wooded infield of the ramps. According to the requirements of DEQ's standard for stormwater management in conserved open space, the slopes are too steep to achieve credit, however, The Wagman Team will work with DEQ to see if there can be some additional water quality credit obtained for the existing stormwater management function provided by the wooded areas.

Jones Creek: This drainage area discharges to Jones Creek, a tributary to Lee Hall Reservoir. By adding pipes and redirecting some runoff, as well as adding an upland bioretention area and a median grass channel, the two BMPs proposed in the conceptual design will provide water quality treatment and channel protection for this drainage area. The upland bioretention area will be added to an existing turf triangle at the interchange. The grass channel will begin at WB Station 2711+00, and will extend upstation for the remainder of this drainage area. Both BMPs will be designed as Level 2 wet ponds, with forebay, deep pool, and shallow wetland areas. Extended detention for channel protection will be provided above the elevation of the permanent pool.

The other half of the Fort Eustis interchange lies within this drainage area, and like the portion described above, much of the runoff sheet flows to existing wooded areas. The Wagman Team will work with DEQ to obtain additional pollutant reduction credits for this area as well.

Stony Creek: This drainage area discharges to Stony Creek and its tributaries at several points. Stormwater

management will be provided by a grass channel in the median, a large wet pond and two bioretention areas. A 3000' grass channel in the median will provide runoff reduction and water quality treatment prior to treatment by a large wet pond at EB Station 1700+00. The wet pond will provide water quality treatment and will attenuate flow to meet the channel protection requirement. The proposed BMP at WB Station 2727+00 will be designed as a bioretention area close to the edge of shoulder. The system will be maintained from the shoulder and the system's underdrain/overflow pipe will daylight into the floodplain of the receiving water within the ROW. The bioretention basin will require some additional ROW, but will require much less than shown originally in the conceptual plans. During the design process, every effort will be made to offset the water quality treatment provided in this BMP with others in an effort to confine this BMP entirely within the existing ROW. There will also be an online bioretention area added at EB Station 1752+00. In addition to providing pollutant removal, these BMPs will provide pollutant removal and runoff reduction to reduce channel protection requirements.

Stormwater Pipe Network to Headwaters of Lukas Creek: The final drainage area discharges to a piped stormwater conveyance system between the highway and the CSX ROW that ultimately discharges to the headwaters of Lukas Creek. Until more information is obtained about this drainage network, it is assumed that runoff from this drainage area will need to meet the water quality, channel protection, and flood protection requirements. A Level 2 dry swale/linear bioretention area will provide water quality treatment and runoff reduction for runoff from the east bound side of the highway. A linear stormwater wetland will provide the remainder of the water quality treatment and peak rate control.

Hydraulics: A significant portion of the existing storm sewer/culvert system has been previously inspected and is noted as "requiring replacement" (ie. less than good rating). As required by the RFP, The Wagman Team will replace existing pipes rated as less than good or any pipes not evaluated by VDOT in their Pipe Inspection Report. All existing and proposed pipes will be checked for capacity for the proposed six-lane and median shoulder configuration. Pipes crossing I-64 will be jacked and bored so as not to require road closure. Replacement pipes will be located as close as possible to the existing pipes in order to maintain off-site drainage patterns whenever possible. However, post award, The Wagman Team will evaluate the existing pipe crossings to see where rehabilitation may be appropriate in lieu of jacking and boring new facilities and present a proposal for VDOT's review and acceptance.

There are three box culvert locations along the corridor. The double 8' x 8' box at the west end of the project extends the full width of the eastbound and westbound lanes and will be checked for adequate capacity with a relocated median inlet connecting into it. The double 7' x 8' box at Station 1626+00 extends the full width of both sides of the roadway and will be checked for capacity with its median inlet configuration adjusted. The triple 8' x 8' box at Station 1742+00 (Stony Run) is open along the median portion so that will require an extension of the boxes to create a continuous box from side to side. A hydrologic and hydraulic analysis will be completed for all structures with 100-year discharges greater than 500 cfs. It is anticipated that existing HEC-2 analysis will be utilized to verify capacity. Scour analysis will also be performed for the bridges crossing Lee Hall Reservoir (B-620 and B-621).

New inlets will be required along the median to accommodate the interior stormwater management outfalls and to drain the portion where there will be median barriers. These inlets will be connected by a longitudinal storm sewer with outlets occurring at existing locations where possible. Open ditches will be also be utilized where possible. Project outfalls will be coordinated with stormwater management design to ensure adequate capacity and stability of the systems.

Underdrain systems will be designed for new pavement sections and outfall into either new or existing stormwater conveyance systems.

The outfall channel that discharges water from Skiffs Creek Reservoir to the Newport News Reservoir will be analyzed to ensure adequate capacity is maintained. Any changes to this channel will be coordinated with The City of Newport News Waterworks.

Erosion and Sediment Control: Erosion and Sediment Control will be provided in multiple phases. Phasing will be adapted as necessary to ensure that appropriate erosion and sediment controls and temporary stormwater management facilities have been designed, permitted, installed, and accepted for any individual drainage area prior to any land disturbance occurring within that individual drainage area. In accordance with I&IM LD-242.5, VDOT considers localized settlement repairs and shoulder strengthening to be maintenance activities. As such, these activities will be performed prior to the receipt of the VSMP. Cross pipes will then be jacked and bored or rehabilitated as previously stated so that interior sediment traps in combination with the exterior basins can be utilized for median construction. There will be some interior check dams that will be incorporated into the permanent facility to provide energy dissipation as required for the median BMPs. Silt fence and drop inlet silt traps will also be utilized where appropriate.

Additional measures will be utilized at the crossing of Lee Hall Reservoir. These will include turbidity curtains within the reservoir and a separate, observable trap/basin for each outfall that discharges into the reservoir and dewatering basins for each side of the bridge.

Proposed Right of Way Impacts: The Wagman Team understands VDOT's desire to minimize proposed fee ROW, where feasible, along the Project corridor. Our design engineers have worked closely with our Environmental and Construction Team Members, to not only ensure that the proposed improvements can be constructed within the proposed fee ROW provided in the VDOT RFP Concept Design, but also identify opportunities where the proposed fee ROW can either be eliminated or reduced. As requested in the RFP, the Conceptual Roadway Plans provided in Volume II show both the proposed fee ROW per VDOT's RFP Concept Design overlayed with The Wagman Team's anticipated adjustments to the proposed fee ROW. A comparison between the VDOT RFP Concept Design and The Wagman Team Design for both the number of parcels and acreage requiring fee ROW acquisition for the City of Newport News (City of NN), Newport News Water Works (NNWW), and private properties has been provided in the table below.

	VDOT RFP Concept Design						The Wagman Team Design					
	Parcels Requiring Fee Taking						Parcels Requiring Fee Taking					
	City of NN		NNWW		Private		City of NN		NNWW		Private	
	#	Acreage	#	Acreage	#	Acreage	#	Acreage	#	Acreage	#	Acreage
Totals	4	18.17	2	2.34	9	2.91	3	8.7	1	0.94	4	1.16

As can be seen on our Conceptual Roadway Plans, we have been able to reduce and/or eliminate the proposed ROW along portions of the project corridor through a variety of methods, including, but not limited to, reduction of SWM locations and footprint due to detailed hydraulic analysis and grading to better determine the required size and footprint of the required SWM ponds; use of alternate stormwater management methods, such as bioretention swales in the median to minimize pond sizes and impacts to the outside; and adjustments to noise wall horizontal alignment. As shown in the table, The Wagman Team has provided a significant reduction in proposed fee ROW along the project corridor. ***Of significant note is our reduction in fee ROW required for privately owned parcels, including the elimination of two total takes identified in the VDOT Concept Design.***

Proposed Utility Impacts: The Wagman Team has successfully de-conflicted numerous utilities as described in detail in Section 4.4.2.

Noise Wall Locations: Based on the preliminary noise analysis prepared for VDOT, three areas warranted noise mitigation consideration and met all the FHWA/VDOT criteria. Two of these areas were combined into one in the conceptual phase. The entire project area, with specific focus on these areas, will be initiated, while utilizing refined engineering. The two noise barrier specific areas are detailed below. As part of the Final Design Noise Analysis (FDNA), a detailed re-evaluation and subsequent noise barrier optimization of these areas will occur. The Wagman Team will work together to ensure that proposed noise mitigation measures are acoustically effective, meet FHWA/VDOT policies, and are aesthetically pleasing and fit into the existing landscape.

	From	To	Description
Barrier 1 (EIS Barrier 46)	2611+00	2655+40	North of Westbound lanes, East of Fort Eustis Interchange – shielding residences along Woodbridge Dr., Clearbrook Rd., and Mason Dr.
Barrier 2 (EIS Barrier 47 and 48)	2684+15	2764+10	North of Westbound lanes, West of Denbigh Blvd. – shielding residences along Charter Oak Dr., Chinkapin Trl. and Dartmoor Dr.

Landscaping: Our Design Team acknowledges that per Addendum 1, landscaping will now be addressed as a work order once the project is awarded; however, we still understand the need for an aesthetically appealing project. Attractive roadways are a community asset, and integrating landscaping with transportation facilities involves design creativity, horticultural expertise, and coordination with multiple partners and stakeholders. Landscaping can also be used to soften the visual impacts from new highway development and enhance aesthetics in this visually-sensitive corridor. Our landscape architects will work closely with the local community, regulatory agencies, and coordinate with Wagman's other Design Team members to enhance the rustic, forested viewsheds.

Context-sensitive considerations will be integrated throughout the project design, and thematic design elements to unify the corridor aesthetics. Reforestation and ornamental plantings will be incorporated to expand upon the existing forested surroundings and buffer views. Finishes may be applied to bridges and other road structures to establish a visual theme. Grading along roadsides and for stormwater management can be tailored to reduce impacts to existing vegetation and ROW, but also incorporate areas for diverse plantings and habitats.

Construction documents, including the plans, details, special provisions and a cost estimate, will be prepared in accordance with VDOT standard practices and incorporated into the construction documents package.

4.3.2 CONCEPTUAL STRUCTURAL PLANS | Based on our review of the RFP and supporting documents, we have a full understanding of the design requirements and additional factors affecting the design and rehabilitation of these bridges. Our understanding includes all loading requirements within the 6th Edition of the AASHTO LRFD Bridge Design and Specifications, as well as additional loads to account for future wearing surface and construction tolerances, in accordance with VDOT I&IM S&B-80.4. In addition to the design of the new superstructure and substructure widening, we understand the need to repair/rehab portions of the existing structure. This includes replacement of all existing bearings, as well as retrofitting the existing structures to be continuous at the pier locations and extending the bridge decks over the abutment backwalls. Structural steel will be repaired and re-coated in accordance with VDOT requirements. The Wagman Team's proposal is based on performing the substructure patching repairs to the level and quantity outlined in the RFP documents. Our design includes modification of the substructure to maintain minimum vertical clearance required by the RFP.

I-64 over Industrial Drive & CSXT Railroad: We propose to widen and modify the existing abutments and piers in order to provide the additional width required following the Additional Foundation Criteria found in the RFP. Widening and repairing the existing structure will have the least impact on the traveling public by reducing the total construction time. For this reason, we feel this is the best solution for increasing the capacity on I-64. Total structure replacement and full superstructure replacement were also considered. Repair of the existing decks will include removal of existing overlays and removal of existing deck concrete to 1" below the top mat of reinforcing steel. This will be accomplished using milling and hydro demolition. The existing decks will be patched in accordance with VDOT requirements where needed. The new concrete placed on the existing deck will be Class A4 with ½" max aggregate. Once the widened portion of the deck has been cast, the whole deck will be overlayed with epoxy waterproofing. In order to provide a lower maintenance structure to VDOT, the decks will be modified to be continuous over the piers and extended over the abutment backwalls to eliminate joints. Superstructure depth will be designed to match the existing in order to not encroach on the vertical clearance requirements over Industrial Drive and CSX Railroad. Design will also be in accordance with CSX Transportations Criteria for Overhead Bridges. The Wagman Team's Lead Railroad Coordinator will work closely with CSXT during both the design and construction phase. We have experience with completing pre-existing track surveys and monitoring during construction to confirm that CSXT facilities are not

impacted. Construction staging will be in accordance with the RFP and maintain two thru lanes for each bridge. The Wagman Team will coordinate all construction related correspondence with CSXT's Construction Monitoring representative URS Corporation.

I-64 over Fort Eustis Boulevard: We propose to widen and modify the existing abutments and piers in order to provide the required additional width. The new superstructure portion will consist of simple span structural steel beams and a composite cast-in- place concrete deck. New beam depths will match the existing beam depths. Removal of the latex overlay and top inch of concrete will be done on the existing bridge deck using milling and hydro demolition. Any areas requiring patching will be repaired in advance of the deck being overlayed with Very Early Strength Latex Modified Concrete or Latex Modified Concrete based on the final approved MOT Plan. In order to provide a lower maintenance structure to VDOT, the decks will be modified to be continuous over the piers and extended over the abutment backwalls to eliminate joints. Overall, we feel the solution provided in the RFP documents and preliminary drawings is the best option for these structures in order to create the increased capacity on I-64. It is our understanding from VDOT that interchange work may happen at this site in the near future. Construction staging will be in accordance with the RFP and maintain two thru lanes and one ramp lane for each bridge.

I-64 over Lee Hall Reservoir: We propose to widen and modify the existing abutments and pier in order to provide the required additional width. The new superstructure portion will consist of simple span prestressed concrete beams and a composite cast-in-place concrete deck. New beam depths will match the existing beam depths. Removal of the epoxy overlay and top inch of concrete will be done on the existing bridge deck using milling and hydrodemolition. Any areas identified to need patching will be repaired and the deck will be overlayed with Latex Modified Concrete. In order to provide a lower maintenance structure to VDOT, the decks will be modified to be continuous over the piers and extended over the abutment backwalls to eliminate joints.

We feel the solution provided in the RFP and preliminary drawings is the best option for these structures in order to create the increased capacity on I-64. Construction staging will be in accordance with the RFP and maintain two thru lanes for each bridge.

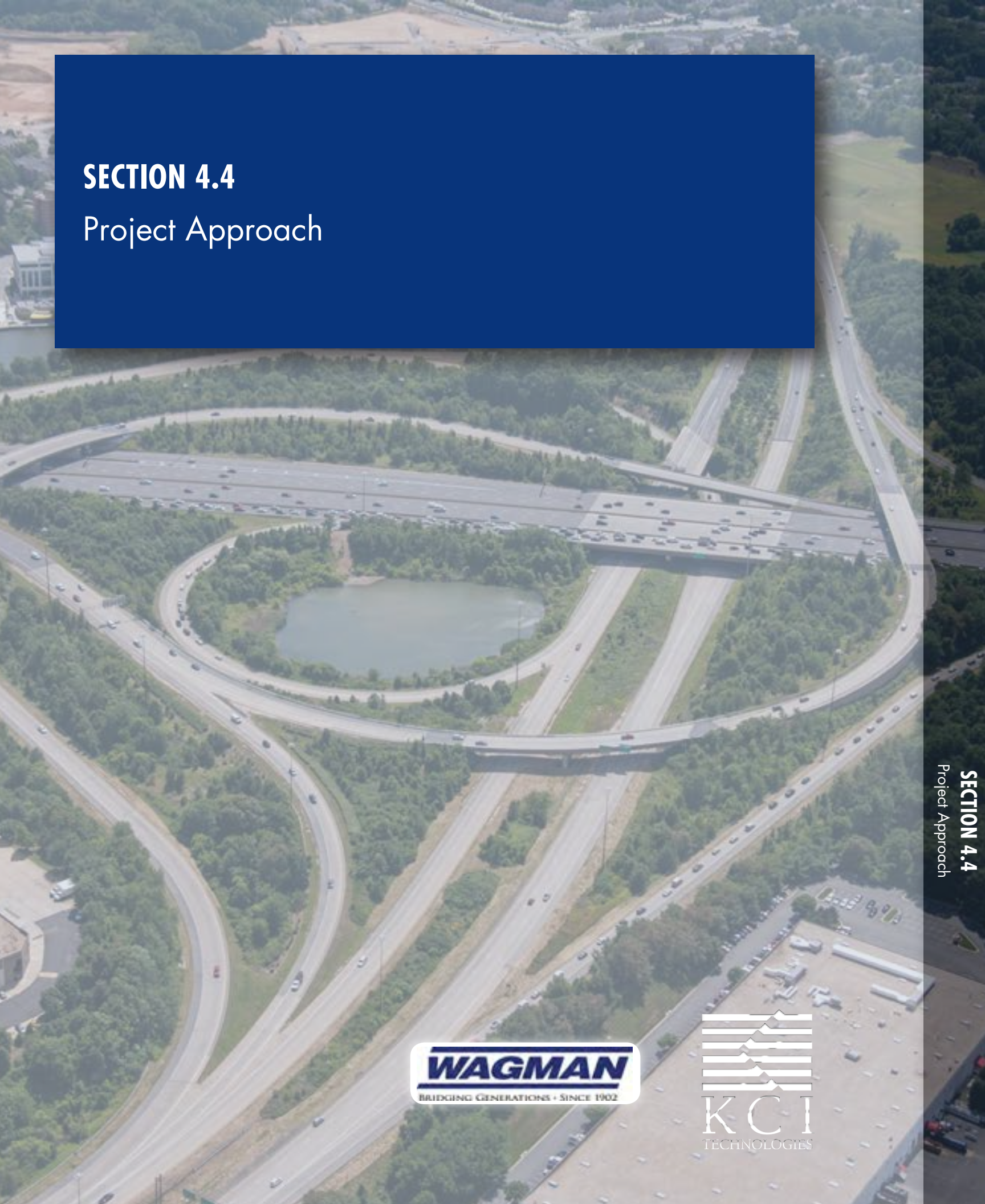
Culvert Extensions: The existing concrete box culverts along I-64 will be extended toward the median in order to allow for the additional roadway width due to the capacity improvements. Headwalls and wing walls will be modified accordingly. The new portions of the structures will be connected to the existing portions using guidelines set forth in the VDOT Road and Bridge Specifications.

Retaining Wall: VDOT conceptual plans showed a retaining wall located approximately from Station 1771+93 to 1786+44. By elongating Stormwater Management Ponds K and L, we have eliminated the need for this retaining wall. Furthermore, by partitioning the stormwater management facility, we have been able to provide access to Dominion Power facilities that is equivalent to existing access.

Sound Walls: It was determined by VDOT during preliminary noise evaluations that noise barrier walls are required on this project per the RFP documents. The Wagman Team will conduct a Final Design Noise Analysis to determine the size, location and wall envelopes. Using the wall envelopes, the structural engineers will work with the geotechnical engineers to determine pile size, spacing and embedment. Design of panels and posts will be in accordance with VDOT's sound wall policy, guidance, or special provisions. This includes designing in accordance with AASHTO Guide Specifications for Structural Design of Sound Barriers. The Wagman Team's design concept utilizes framed noise wall bays that will span over top of existing utilities. Sound wall design and construction will take into account loading and clearance requirements of existing utilities in close proximity of the walls. Relocation of the water mains at Station 2633+50, gas main at 2655+00, and the sanitary force main at Station 2688+50 will not be required due to the sound wall construction.

SECTION 4.4

Project Approach



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4.4 PROJECT APPROACH

4.4.1 ENVIRONMENTAL MANAGEMENT

The Wagman Team is committed to widening I-64 using an approach that achieves contract compliance and also embraces the philosophies of environmental stewardship. In particular, our environmental lead, McCormick Taylor, has built a solid reputation with VDOT and the key environmental and permitting agencies based on trust and shepherding many environmentally-sensitive projects through completion. Overall, The Wagman Team has the knowledge and the expertise in place to achieve the goals of compliance and environmental stewardship for this project while maintaining budget and schedule.

A key component to the success of this project is the implementation of processes that will result in the timely permitting of all aspects of the project. The Wagman Team understands that challenges related to permitting can result in project delays. Our Environmental Manager, Rich Butala, has been involved in this project since its inception, serving as the Project Manager for the recently completed I-64 Environmental Impact Statement (EIS). Rich Butala will maintain focus on this project as it moves into the permitting phase and will serve as our advocate for environmental compliance. Rich and McCormick Taylor's staff successfully performed and delivered numerous detailed environmental studies for the I-64 EIS, including wetland delineations, along this section of the I-64 corridor. During the final design phase of this project, The Wagman Team will continue these efforts. This work will include obtaining the Jurisdictional Determination for water resources and submitting the Joint Permit Application (JPA) to the permitting agencies. The JPA will be accompanied by detailed Avoidance and Minimization analyses specifying the efforts to avoid and minimize effects on wetlands and waterways, which will be conducted to the greatest extent possible in order to minimize the permitting requirements for this project. It is anticipated that the permits for this project may include a CWA Section 404 permit from the USACE, a VWP Permit from the DEQ, and a Subaqueous Bottomlands Permit from the VMRC. As part of this permitting process, the Coastal Zone Management Area Program checklist will also be completed. Local permits are anticipated as well, including the Runoff Control Permit from the City of Newport News.

The Wagman Team has demonstrated experience working with Virginia's permitting agencies and has established key working relationships with the reviewers which will help streamline the review process. The Wagman Team will coordinate and involve the agencies as early as possible and continue this practice throughout the permitting process to ensure issues are identified, addressed, and resolved as timely as possible. This trust resulting from prior open communication will go a long way towards promoting a smooth, streamlined permitting process, both during design and in the event of modifications during construction.

Throughout the Project process, attention to detail during design and before and during construction is critical to ensure compliance with the regulatory requirements associated with the identified environmental elements, including NEPA compliance, natural resources, historic resources, noise, and hazardous materials. The Wagman Team's construction and independent environmental monitoring experience has taught them the value of preparing a comprehensive Environmental Compliance Plan. The development of an Environmental Compliance Plan will be initiated at the very beginning of the project and will continue to be refined and updated throughout the project to ensure that the project is in compliance with the latest applicable approvals and laws related to environmental resources, including strict adherence to the E&S control measures and plans. The Environmental Compliance Plan details the processes that will be implemented during the construction phase; however, in order to be successful, compliance does not just begin during construction. The goals and requirements must be established early on and followed through during all phases of the project (design, construction and post construction). The basis of the plan will be the Compliance Checklist, a comprehensive list of permitting and project commitments that will be utilized by The Wagman Team to ensure that all commitments made by VDOT are implemented during all phases of the project and each component of the project remains in compliance with the applicable approvals and laws. The Wagman Team will work directly with the construction staff in order to implement a proactive approach to compliance, rather than being reactive

to issues as they arise. This proven approach will help ensure the Project schedule is met and delays are avoided. The Environmental Compliance Plan will also detail critical elements that are key to a successful project, such as thoroughly reviewing the work area limits of disturbance prior to starting work and also throughout the construction process. This important and continuous check will ensure resources in the field are accurately shown on the plan and that the areas of disturbance are within the established boundaries shown on the permits. Open coordination will be held with VDOT and the relevant agencies when there is a discrepancy in field conditions. We will take a proactive approach to questions regarding environmental impacts, anticipating questions that a compliance inspector may have and approaching the agencies for clarification prior to initiating any new unavoidable impacts.

In addition, as part of the Environmental Compliance Plan, The Wagman Team will also implement Environmental Awareness Training for construction and inspection staff. This training will be geared toward the specifics of the project, including permit conditions or special conditions, and focus on the key environmental features that need to be protected. The training will include direct and indirect elements that can possibly result in adverse effects on resources, such as, but not limited to, stream closure periods, dewatering operations, maintenance of perimeter controls, and compliance with the limits of disturbance.

Approach and Solutions to Areas of Concern

Based on our direct hands-on knowledge of the project area, we have identified the following key items that will be addressed in our Environmental Compliance Plan:

- *Permitting Coordination, particularly at the Lee Hall Reservoir area* – Permitting will be a key aspect of the project, and agency coordination will be crucial to ensure this Project moves forward smoothly and on schedule. In addition to coordination with the USACE, DEQ, and VMRC, the City of Newport News and Newport News Waterworks will also be made aware of Project progress and design efforts. This is particularly important at the Lee Hall Reservoir, which is surrounded by the Newport News Park, an identified public recreational area and designated Section 4(f) property. In particular, during the EIS process, Newport News Waterworks asked for close coordination through both the design and construction process to minimize potential impacts, including, but not limited to, sedimentation. The Wagman Team will maintain close contact with these agencies and perform the necessary coordination needed to ensure their questions and concerns are addressed and the schedule is not affected.
- *Threatened and Endangered (T&E) Species* – Although the RFP states that the project will have no adverse effect on T&E species, a new species may be identified and/or listed during the design or construction period. Based on our studies for the Environmental Impact Statement and current Threatened and Endangered Species Database searches, we understand the species of concern within the Project area are the Small Whorled Pogonia, Mabee's Salamander, Canebrake Rattlesnake, Peregrine Falcon, or the Northern Long-Eared Bat. The Wagman Team will ensure the approved T&E lists are monitored and any suitable habitats for these species are avoided to any extent possible.
- *Maintaining the Limits of Disturbance* – In order to avoid schedule delays resulting from the need to perform additional NEPA, cultural resources, and permitting coordination and documentation, it will be important to keep the design and construction limits, as well as proposed access, stockpile, laydown, and waste areas within the areas evaluated in the EIS and supplemental environmental studies. The Wagman Team will work closely with Design and Construction Team Members as plans are finalized and construction occurs to ensure that the limits of disturbance are within these established boundaries so that no additional time is added to the schedule for further studies and coordination efforts.
- *Noise Walls* – The Wagman Team will begin the Final Design Noise Analysis (FDNA) by analyzing the noise environment using the most current design and traffic information. Design Year noise impacts and associated abatement will be determined. The locations of final noise barriers will be established through coordinating multiple facets including the predicted noise impacts and engineering details. Public acceptability of the qualifying abatement will be determined through soliciting the benefited residents and owners following

VDOT and FHWA approval of the FDNA. Having completed the preliminary noise analysis for VDOT, The Wagman Team has the project familiarity and direct hands-on experience in preparing the noise models and studies for this section of I-64 and fully understands the communities in this area along with this specific noise environment. The Wagman Team's proven Noise Team will work quickly and efficiently to complete this effort and ensure the project progresses swiftly into construction.

4.4.2 UTILITIES

The Wagman Team is familiar with how much of an impact utilities can have on the project, budget, and schedule if not properly coordinated, and as such has assigned Jason Hershey, DBIA, to the role of Utility Coordination Manager (UCM). Mr. Hershey has extensive experience in the design and process management of utility relocations for transportation projects in Virginia and Maryland. Mr. Hershey is successfully managing the utility relocations for the $71M Route 1 DB Improvement Project at Ft. Belvoir, VA, where he coordinated the relocation efforts of 11 major utility companies, some of which are present on this I-64 Project, including Verizon, Cox, AT&T, and Dominion Virginia Power. He will complete his duties on Route 1 Project prior to NTP of this I-64 Improvements Project. A utility task force, led by Mr. Hershey will be established during design and continue through construction in order to define potential impacts, evaluate solutions for minimizing impacts, and facilitate relocations. The utility task force will also work diligently with the ROW acquisition teams to ensure proper ROW and easements for the relocated utilities. Finally, we will locate and designate the precise locations of existing utilities using supplemental utility surveys with a subcontractor with SUE capabilities, followed by the implementation of a robust SUE Level A test hole program to confirm the depth of utilities with respect to proposed roadway grades and potential conflicts. Our early and aggressive coordination efforts will occur well before actual construction, allowing for minimal impacts to the Project schedule and to all affected parties.

The Wagman Team has expended considerable effort to date in preparation of this proposal. We have contacted each utility company within the Project limits, received various as-built plans, and discussed Project approaches and resolutions for conflict areas. The Wagman Team is establishing an excellent working relationship with affected utility owners, so obtaining the required paperwork, such as utility agreements and marked-up utility relocation plans, will be a seamless process.

The Wagman Team will conduct weekly meetings with utility owners and disciplines to make sure that everyone has the latest information possible to avoid costly delays. The Wagman Team knows the importance of utility coordination and will work with all parties to eliminate potential utility conflicts during the design phase. Although this will be our highest priority, we realize that sometimes conflicts are unavoidable. The Wagman Team is prepared to address conflicts which cannot be avoided with each affected utility. Utility relocations will be a last resort pursued for this Project. The Wagman Team will be following the VDOT Utility Relocation Policies and Procedures Manual with regard to the utility scope of work. As discussed above, we have already begun activities to ensure the success of the utility relocation process. The following is a general outline of the activities to be performed once the Project is underway:

1. The Utility Coordination Manager (UCM) will work closely with the design engineer(s) to obtain utility designations and locations of existing easements.
2. Detailed feedback will be provided to the Design Team and utility owners to provide solutions for additional avoidance and/or minimization of utility relocations.
3. The UCM will provide close coordination services with each utility company to review utility relocation plans, avoidance methods, and Project schedule and will oversee proper recordation in RUMS.
4. The UCM will hold UFI meetings weekly at first then re-evaluate and determine future meeting times and dates with all utilities and principals.
5. The UCM will work closely with each utility owner to develop individual relocation schedules, as needed. This information will be integrated into the overall Project schedule and coordinated with other disciplines.
6. The UCM will perform a thorough review of each private utility's prior rights in the early stages of the

process. UT-9 forms will be prepared and pro-rata share budgets and relocation schedules will be finalized.

7. With regard to public utility relocations, the UCM will meet with the utilities and our design team to identify the necessary scope for avoidance and/or relocations. This information will then be designed and submitted to the utility owner for review and approval. Construction activities will be coordinated and scheduled as needed.
8. Upon receipt of relocation plans and estimates, they will be submitted for approval by VDOT. Each utility will be notified in writing so that relocations can begin. Approved plans and schedules will be communicated and coordinated with design, construction, and Project disciplines.
9. In the event that unforeseen utility conflicts arise, the UCM will immediately consult with the construction team and the utility owner to determine the nature of the conflict and its impact on the construction activities. A relocation strategy will then be developed and integrated into the Project schedule.
10. Mr. Bednarik, in his role as DBPM, will monitor the utility coordination efforts performed by the UCM to ensure proper interaction between the design and construction disciplines.

Specific Project Utility Impacts

At this stage, The Wagman Team has identified several existing utilities that potentially conflict with the design and construction of the Project. These utilities and their potential conflicts are summarized in the following conflict matrix. (This conflict matrix is to be used solely as a beginning means and is not all inclusive.)

CONFLICT MATRIX

Utility Size & Type	Utility Owner	Approximate Station Location	Potential Impact Description	Conflict with proposed design?	Mitigation Measures/Notes
Transmission 115kv line	Dominion Power / Jacob Heisey	1551 - 1552	NO Horizontal & vertical conflict. Currently 23.5' clearance. Must have 12' clearance under line and not accessible to pedestrians	No	Currently 23.5' of clearance
Transmission 230 kv line	Dominion Power / Jacob Heisey	1653 - 1658	Currently 25.5' clearance. Must have 12' clearance under line and not accessible to pedestrians	No	Poles are not in conflict. Aerial lines will be de-energized during installation of bridge pilings
Distribution	Dominion Power / Donald O'Beirne	1548 +/-	Distribution crossing sign	No	Adjust service line for new sign
Distribution	Dominion Power / Donald O'Beirne	1587 +/-	Three-phase crossing, possible impact with construction, grade and sound wall	No	Design avoids impact
Distribution 34.5 kv	Dominion Power / Donald O'Beirne	Industrial Park Dr. & I-64	Underground three-phase crossing	Improbable	Pending field investigation –verify actual depth and location
Distribution 34.5 kv	Dominion Power	1740 +/-	Three-phase crossing on west side of Denbigh Blvd.	No	BMPs have been revised to allow poles to remain
Distribution	Dominion Power / Donald O'Beirne	1763 +/-	Three-phase crossing on west side of Denbigh Blvd.	No	BMPs have been revised to allow poles to remain

Utility Size & Type	Utility Owner	Approximate Station Location	Potential Impact Description	Conflict with proposed design?	Mitigation Measures/Notes
Distribution / Double circuit three-phase line 34.5kv	Dominion Power / Donald O'Beirne	1765 +/-	Three-phase crossing east side of Denbigh Blvd.	No	BMPs have been revised to allow poles to remain
Distribution	Dominion Power / Donald O'Beirne	1788 +/-	Overhead Three-phase crossing on North Side of I-64	No	BMPs have been revised to allow poles to remain
Distribution	Dominion Power / Donald O'Beirne	Denbigh Blvd. to project end	Running line, ponds and sound walls	No	BMPs have been revised to allow poles to remain
Communications	AT&T / Gary Wigfield	Denbigh Blvd.	4" conduits within existing man hole system crossing Denbigh Blvd.	Improbable	Facilities are currently outside of L/A ROW crossing Denbigh
Communications / 126 ct	COX / Anthony Crish	Denbigh Blvd.	Underground crossing of Denbigh Blvd.	Improbable	Pending field investigation
Communications / 18 ct	COX / Anthony Crish	Denbigh Blvd.	Underground crossing west side of Denbigh Blvd. under I-64	Improbable	Pending field investigation
Communications 90 ct fiber	COX / Anthony Crish	Yorktown Rd.	Underground crossing	Improbable	Pending field investigation
Communications	COX / Anthony Crish	Hubbard Ln.	Underground crossing	Improbable	Pending field investigation
Communications	COX / Anthony Crish	West past Camp Perry Exit	Aerial crossing	Improbable	Pending field investigation
Communications 54 ct fiber & 88 ct fiber	COX / Anthony Crish	Industrial Park Dr. & I-64	Underground crossing	Improbable	Pending field investigation
Communications 24 ct & 120 ct fiber	COX / Anthony Crish	Jefferson Ave.	Underground crossing	Improbable	Pending field investigation
Communications 120 ct	COX / Anthony Crish	Jefferson Ave.	Underground crossing	Improbable	Pending field investigation
Communications Coax cable	COX / Anthony Crish	Lakeshead Dr.	Underground crossing	Improbable	Pending field investigation
Communications Coax cable	COX / Anthony Crish	Penniman Rd.	Underground facilities	Improbable	Pending field investigation
Communications 12 ct & 20 ct fiber	COX / Anthony Crish	Penniman Rd.	Underground crossing	Improbable	Pending field investigation
Communications Coax cable	COX / Anthony Crish	Penniman Rd.	Underground crossing	Improbable	Pending field investigation
Communications 16 ct fiber	COX / Anthony Crish	Yorktown Rd.	Underground facilities	Improbable	Pending field investigation
Communications 126 ct	COX / Anthony Crish	Denbigh Blvd.	Underground crossing west side of Denbigh Blvd. under I-64	Improbable	Pending field investigation

Utility Size & Type	Utility Owner	Approximate Station Location	Potential Impact Description	Conflict with proposed design?	Mitigation Measures/Notes
Communications Coax cable	COX / Anthony Crish	Denbigh Blvd.	Overhead crossing of Denbigh Blvd. & I-64	Improbable	Pending field investigation
Gas Refined Petroleum pipeline	Colonial Pipeline / Tim Gross	Industrial Park Dr. & I-64	10" Refined Petroleum Pipeline crosses just before intersection. Potential impact with bridge replacement.	No	Sound walls are being designed to equally span gas line allowing it to remain in place
Gas Refined Petroleum pipeline	Colonial Pipeline / Tim Gross	Denbigh Blvd.	16" Refined Petroleum Pipeline running parallel with Denbigh Blvd.	No	Within rail ROW
6” steel encased gas main	Virginia Natural Gas / Jonathan Blackwell	South side of Denbigh Blvd.	6” Gas Main crossing I-64 on the south side of Denbigh Blvd. Line is approximately 10 feet deep and is encased	Improbable	Pending field investigation
Communications	Level 3 / Nickey Worthington	Fort Eustis Blvd.	1 1/4" lines attached to current bridge	No	Carries military lines – bridge design has been changed to accommodate these lines
Communications	Level 3 / Nickey Worthington	Fort Eustis Blvd. Deceleration lane	Vault system lids	Improbable	Pending field investigation – vaults cannot be relocated since they carry military lines. Verify design plans and protect facilities
Fiber	NNPS / William Chambers	West side of Industrial Park Dr.	Fiber conduit system running under Industrial Park Dr.	Improbable	Pending field investigation
Communications	Sprint / Wesley Carpenter	Northeast side of CSX ROW throughout project limits	Remains on North East side of tracks from North of SR238 to South of Denbigh Blvd.	Improbable	Pending field investigation
Communications	Verizon / Jim Fulton	1555. East side of Industrial Park Dr.	Buried crossing @ I-64 & Industrial Park Dr.	Improbable	Pending field investigation – verify locations
Communications 15 - 3” MTD conduit system & 27 - 4” PVC conduits	Verizon / Jim Fulton	1765. East side of Denbigh Ave.	Conduit system including man holes (204, 205, 206 & 206A)	No	Verify locations and avoid this area of utilities – design will avoid conduit system
Fiber 4” PVC conduit system	Verizon / Jim Fulton	2750 - 2780. Richneck Rd. to Denbigh Blvd.	Fiber Optic Line running down Richneck Rd.	Improbable	Pending field investigation

Utility Size & Type	Utility Owner	Approximate Station Location	Potential Impact Description	Conflict with proposed design?	Mitigation Measures/Notes
Force Main 30”	Hampton Roads / Gary Hart	Force Main crossing I-64 from Newport Market place	Sounds walls and roadway design	No	Redesigned sound wall plans – sound wall will span line and allow it to remain in place. Within easement w/ 36" depth of cover
Force Main 36”	Hampton Roads / Gary Hart	Northwest of Route 238 Yorktown Road	36" crossing within 48" casing. Potentially impacted with roadway design	No	Span line as needed – team will design to avoid any relocations
Water 16”	Newport News Waterworks	16" Crossing @ Denbigh South Side	16" crossing potentially impacted with bridge design	No	Line crosses on south side of Denbigh and outside of bridge limits – may have to extend casing to provide protection to line
Water 48” Transmission Main	Newport News Waterworks	Industrial Park Dr. & I-64 to Woorkbridge Dr. & Bellfield Dr. Station 41 on Industrial	48" crossing potentially impacted with sound walls	No	Redesigned sound wall plans – sound wall will span line and allow it to remain in place
Water 27”	Newport News Waterworks	Industrial Park Dr. & I-64 to Woorkbridge Dr. & Bellfield Dr. Station 41 on Industrial	27" crossing potentially impacted with sound wall design	No	Redesigned sound wall plans – sound wall will span line and allow it to remain in place
Water 6” CIP	Newport News Waterworks	Jefferson Ave. & Pagewood Dr.	6" CIP pipe in conflict with proposed ponds	No	Conflict with proposed ponds – abandoned line; remove as necessary

Mitigation Strategies: The Wagman Team is aware of schedule and cost impacts associated with the utility conflicts and has demonstrated our ability to successfully manage utility relocation efforts on large urban highway projects, including the $71M US Route 1 Improvement Project. To mitigate impacts to the Project, The Wagman Team intends to provide early and continuous coordination with affected utility companies commencing during the proposal phase and continuing throughout design development and construction. The Wagman Team will implement design and construction strategies to aid in the management of the utility relocation process through partnering and open communication. Our Team will investigate alternative designs to avoid or minimize impacts to existing utilities.

Newport News Public Schools (NNPS) has a 30’ easement that contains a 27” and a 48” water main crossing of I-64. NNPS also has a sanitary force main crossing near Station 2688. Both of these areas will be impacted by the current design of this project. Due to the complexity of relocating these lines, extensive redesign efforts have been made to avoid all utility crossings of I-64 and proposed sound walls. Sound wall designs have been developed to span impacted utilities allowing them to remain in place (see plan sheet 85 for

spanning details). These designs have been developed through close communication with NNPS representatives.

Colonial Pipeline owns and maintains a 10" gas transmission crossing of I-64 near Denbigh Blvd. Close communication and design efforts have been made to accommodate this line and allow the sound wall to span the gas main permitting it to remain in place (See plan sheet 85 for spanning details).

Dominion owns and maintains power distribution lines on the south side of Denbigh Blvd., which extend to the end of project limits. These lines were being impacted by BMPs K and L in the VDOT RFP concept design. With close communication and design efforts, these ponds have been revised to allow Dominion's distribution lines to remain in place and not be impacted with the ponds. The Wagman Team's design for BMPs K and L will not adversely affect current utility pole access provided to Dominion.

Coordination efforts will begin with the project kickoff meeting following award, and the agenda for the kickoff meeting will include an item for utility relocations. Representatives from the affected utilities, as well as VDOT utility personnel, will be invited to the kickoff meeting to participate in utility discussions. Follow-up task force meetings will be held as necessary with the utility companies and VDOT to develop our relocation designs.

The utility task force will work with the utility owners to explore methods to expedite utility-related plans and estimates to advance the project schedule and to generate the required UT-9 forms and arrange and coordinate the UFI meeting(s). The Wagman Team is familiar with the UFI processes and the preparation of the UT documents required by VDOT's Utility Manual of Instructions – Utility Relocation Policies and Procedures. In addition, we will monitor and provide oversight for the RUMS input for this project. We will diligently pursue the relocation effort in accordance with the Manual's and the RFP's requirements.

The Wagman Team has demonstrated through proper communication and partnering, that we are able to facilitate the successful utility relocation efforts required for a similar design-build roadway reconstruction project within schedule and on budget.

4.4.3 GEOTECHNICAL

The Wagman Team is comprised of geotechnical professionals with many years of experience in the design and construction of VDOT projects, with similar geologic aspects as this Project.

The Project is located in the Atlantic Coastal Plain Physiographic Province of Virginia. The Coastal Plain Province is characterized by a series of south-easterly dipping layers of relatively consolidated sandy clay deposits with lesser amounts of gravel. These Coastal Plain deposits are estimated to be approximately 250' thick and are underlain by the eastward continuation of the crystalline rock of the Piedmont Physiographic Province. Specifically, the roadway alignment passes through the Windsor Formation of Williamsburg, Virginia. This formation primarily includes alluvial and terrace deposits consisting of pebble to boulder sands overlain by fine to coarse sand interbedded with peat and clayey silt rich in organics.

Based on review of the Geotechnical Data Report prepared by GET Solutions dated October 23, 2013, the near surface soils (below topsoil layer) are generally anticipated to include existing Fill (typically CL and SC) ranging in thickness from 0 (no fill) to about 12.5' and transitioning to the alluvial and terrace deposit soils (SM, SC, and CL) to depths of about 50'. The near surface alluvial and terrace deposit soils may contain significantly thick deposits of soft, compressible highly plastic soils (CH, MH and OH). Ground water will likely be encountered at shallow depths (<10' below existing ground surface) given the proximity to the York River and James River. For this project, we see these existing subsurface conditions as comprising risk. The specific geotechnical risks we have identified are discussed below.

Potentially Unsuitable Soils: Based on the geographic location of the project alignment there is the likelihood that subgrade soils could be unsuitable for roadway embankment and pavement subgrades. Unsuitable soils per VDOT standards are typically identified by exhibiting natural moisture contents greater than 20 to 30 percent of the respective soils optimum moisture content. Also, subgrade soils classifying as highly-plastic

clays and silts (CH and MH) are unsuitable and must be modified in-place or removed entirely. The project RFP Addendum 1 also defines unsuitable soils as those which exhibit a California Bearing Ratio value of less than 10 in the uppermost 3'of pavement subgrade. These soils pose a risk to the project due to the additional time required to delineate the extent of these soils and the time required to modify or remove and replace these soils with suitable fill.

To mitigate the potential for unsuitable soils to negatively affect the project schedule, The Wagman Team will focus early phase geotechnical explorations around low-lying areas and the portion of the alignment that crosses the City Reservoir at Newport News Park. The early phase exploration will also focus on laboratory tests of the samples to include natural moisture contents, gradation, Atterberg Limits (VTM-7), Standard Proctor (VTM-1), and California Bearing Ratio (VTM-8) tests. The results of these tests will help delineate the lateral extent and depth of unsuitable soils to allow for proactive measures to be taken in early earthwork construction phases. In addition to laboratory testing, the Geotechnical Engineer will prepare a matrix indicating the location of potentially unsuitable soils through the full project alignment/corridor. The matrix will also display the specific criterion that indicates certain soils are potentially unsuitable and the recommended treatment/remediation alternatives to achieve VDOT compliant subgrade conditions prior to paving operations. Current remediation alternatives through the alignment, based on existing geotechnical data set to date, includes a combination of overexcavation and replacement, in-situ compaction effort, geotextiles, and cement stabilization of the existing subgrade soils. This matrix will be used in The Wagman Team's planning of its construction operations to ensure the physical remediation activities are addressed in the schedule.

Settlement of Embankment Fill: New embankment fills will be constructed within the existing median for structure approaches at Industrial Park Drive and CSX Railroad, Stony Run (box culvert), Fort Eustis Boulevard, and the City of Newport News Reservoir. In addition, substantial fills (>5') will be required at various locations to accommodate the new lanes and shoulder construction. Soft soil layers were identified in the soil test borings, therefore, fill induced settlement must be evaluated prior to construction. The risk of fill induced settlement, if not addressed during construction, could potentially lead to post-construction settlement of new pavements, affecting the levelness and "rideability" of the new lanes and approaches. Settlement monitoring of the deeper fill areas, if necessary, could impact the project schedule if not accounted for early-on in the construction process.

To help mitigate and plan for this risk, in-situ testing consisting of Cone Penetrometer Testing (CPT), including pore pressure dissipation testing, Dilatometer Testing (DMT), and/or Pressure Meter Testing (PMT) can be performed at deep fill (>5') locations to compliment traditional Standard Penetration Testing (SPT) and laboratory consolidation testing. The test results will be used to determine settlement rates, magnitudes and provide anticipated settlement monitoring durations (as needed) for inclusion in the project schedule. If the Geotechnical Team identifies locations of large settlement magnitudes, The Wagman Team may opt to use pre-fabricated vertical drains and/or pre-loading to reduce the duration of the settlement. The Geotechnical Team has considerable project experience in the vicinity of the project with settlement data from similar approach embankments on soft alluvial soils.

Soft/Loose Soils for Deep Foundations at Bridges: The bridge foundation design will be dependent on soil types and relative densities/consistencies. The borings presented in the Geotechnical Data Report (GDR) show some soft/loose soil profiles near the termination depth of the bridge borings.

Deep foundation systems developing most of their capacity from skin friction (such as large displacement piles, drilled shafts, or augered piles) will be considered in lieu of non-displacement deep foundation systems such as H-piles. Deeper borings will be drilled at the bridge locations to evaluate the depth and consistency of deeper soil strata that can also contribute to increased skin friction and end bearing capacity. In addition to deeper borings, undisturbed samples of fine-grained soil will be collected for laboratory testing of shear strength and the strength testing results incorporated into the foundation design models.

4.4.4 QUALITY ASSURANCE/QUALITY CONTROL (QA/QC)

The Wagman Team is committed to providing VDOT with an innovative finished high-quality project. By providing a comprehensive and transparent approach to both design and construction QA/QC, we will create an unmatched working relationship between VDOT and The Wagman Team. Our experienced and dedicated design, management, and inspection staff will work together seamlessly to anticipate potential quality-related issues and work hard to mitigate, document and correct those issues with minimal delay or VDOT intervention. Forming working relationships, along with a proactive, well-organized QA/QC design, construction inspection, and testing policy is key to a successful QA/QC Plan and well-executed Project.

The Wagman Team's experience on design-build projects has led to the development of a proven QA/QC Plan approach, complete with procedures which address quality from inception, to planning, to construction, to final acceptance. Our QA/QC Plan for this project will be customized to incorporate this Project's specific design and construction requirements for the Base Scope, Option 1 and Option 2; and will be developed and executed in compliance with VDOT's Minimum Requirements for *Quality Assurance and Quality Control on Design Build and Public-Private Transportation Act Projects*, dated January 2012. The Wagman Team's dedication to quality, transparency and creating an atmosphere of cooperation between all parties involved will minimize project delays, traffic interruptions and VDOT intervention.

Design Approach to QA/QC: The Wagman Team's goal of completing a project of the highest quality is equal in importance to ensuring the project is completed on-time. Both of those goals can be met with a comprehensive and transparent approach to our design processes which includes quality control and quality assurance reviews at every level and for every engineering discipline. The Wagman Team's approach to design quality management is built around a simple philosophy — "quality is each and every person's responsibility."

The Wagman Team will institute a Design QA/QC Plan for this project that supports VDOT's Minimum Requirements for *Quality Assurance and Quality Control on Design Build and Public-Private Transportation Act Projects*, dated January 2012. We will establish and maintain a QA/QC program for each aspect of the project and provide documented assurance to VDOT that functions are completed in accordance with the contract requirements. As a means to track and verify conformance, design checklists will be developed for each discipline and used throughout the design and QA/QC process. These checklists will meet or exceed those currently used by VDOT for each level of design and review, from initial calculations to final submittals, the checklists will provide transparency to our design process and produce a high-quality finished product.

This Project incorporates a wide variety of work packages, including bridges, pavements, ~~retaining walls,~~ sound walls, stormwater management, erosion and sediment control, permitting, ROW, and below- and above-ground utilities. Interaction and coordination between these various disciplines and the Construction Team is vital to a successful QA/QC program and a successful project. During the design phase, the DM will hold periodic interdisciplinary coordination meetings for each milestone of document development (such as 30%, 60% 90% and Final) to discuss the on-going design(s), identify potential conflicts, schedule review, and construction challenges. In addition, QC and QA engineering and constructability reviews will be conducted at each phase and for each design discipline, as warranted. Inter-discipline, constructability and QC/QA review coordination will be a primary focus of the DBPM and DM as the project progresses.

Design QA/QC Staffing Plan: The DM, Stephen Drumm, PE, will audit the design process for consistency in application, coverage, and integration of project elements and engineering disciplines and will be responsible for the production and overall quality of the Construction Documents through the implementation of our Design QA/QC Plan. Through the implementation of our Design QA/QC Plan, the DM will ensure:

- Appropriate quality standards are specified and included in the project documents
- Design solutions meet the contract requirements
- Suitability of the selected construction materials
- Safety of the completed design
- Constructability of the design to optimize benefits of design-build project delivery method

Analyses, drawings, specifications, and other contract documents will be reviewed on at least three levels prior to submission. QC and QA engineering reviews will be conducted by assigned personnel with experience equal to or greater than that of the originator and will perform reviews independent of the registered engineers who prepared a particular design element. This independence will ensure objectivity throughout the design process, while proper documentation and communication will enable continuous and complete control and verification of design elements. The Design QA/QC Plan will present specific actions members of the Design and QA/QC Team will take to provide complete and comprehensive document reviews and ensure conformance with the Contract Documents. This process will be clearly communicated to VDOT by attaching the appropriate QA/QC checklist in accordance with the *VDOT Minimum Requirement for QA and QC on Design-Build and PPTA Projects* accompanied by a formal certification by our Design QA/QC Manager, Jeremy Betz, PE, with each formal design submission. Additionally, completed Submittal Comments Resolution Sheets will be included with all subsequent design submissions to aid in VDOT's review. In addition to our design process, the QA/QC Plan will identify the following roles, responsibilities and procedures:

- Discipline Leads – Registered Professional Engineers in each engineering discipline will be responsible for providing documents prepared in accordance with the requirements of applicable design standards or codes. This includes performing necessary calculations and providing deliverables to be reviewed and checked by others. The Discipline Lead will coordinate with the DM, QC, and QA engineering review personnel and provide revisions to the documents as warranted.
- QC Engineering Reviews – QC reviews will be performed in the office where the design document(s) originate by peers of the Discipline Leads who have the appropriate level of design experience. QC reviews will be performed periodically to verify numerical accuracy and completeness of calculations, technical accuracy, content, spelling, and conformance to the contract requirements and assist with design coordination with other disciplines. QC review will provide marked-up documents to the DM and/or appropriate Discipline Lead who will review, comment on, and/or justify the corrections.
- QA Engineering Reviews – QA reviews will be performed by members of the Design Team who are independent of those performing QC reviews. The QA reviews will evaluate the design with respect to addressing the goal(s) of the project and the requirements of the contract at each phase of the design. This includes an evaluation of the specific design standards and methods used; engineering judgment applied to the design, safety of the finished work, and operational requirements; and determines if standard industry practices were followed. Design QA recommendations or comments will be provided to the DM and Discipline Leads for discussion, distribution and/or incorporation into the construction documents.
- Interdisciplinary Reviews – As previously discussed, the DM will organize the Discipline Leads to perform periodic reviews during the development of the design documents (such as the 30% 60% and 90% drawings). The DM and Discipline Leads will review, discuss, and make appropriate corrections or modifications to the documents and resubmit changes to the QC and QA review personnel, as warranted.
- Constructability Reviews – Concurrent to inter-discipline reviews, the CM and relevant members of the Construction Team will perform constructability reviews. If additional comments or revisions arise at this level, the affected portions of the documents will be returned to the DM for incorporation or further discussion. Planned changes to the proposed work or design will be discussed between the DBPM, CM, DM, and Discipline Leads to determine what, if any, changes to the plans will be implemented. Changes resulting from the constructability review will be sent back to the appropriate QA and/or QC personnel for further review.

Final Review and Submittal to VDOT: Prior to the release of the final drawings, specifications, or other design submittals, The Wagman Team will complete a final review by appropriate personnel of the individual disciplines. Each submission will be accompanied by a "certification" by Jeremy Betz stating that the submittal has been reviewed per the Design QA/QC Plan and is in conformance with the Contract. At this time, the project documents will be signed and sealed by the appropriate Discipline Lead. The DBPM will

submit the documents to VDOT for review and approval. V DOT then provides review to the design documents via VDOT's Submittal Comments Resolution Sheet and returns comments to DBPM to be addressed in the final plans issued for construction.

Design Changes During Construction: Field changes or other deviations to the approved construction documents will be subject to the same design QC and QA procedures applied to the original design. The requested change will be logged for tracking and will be sent to the Discipline Lead who sealed the original document. Once the change has been reviewed by the designer, the appropriate QC and/or QA review will be performed and any comments sent to the DM for approval. Once the DM has approved the change, it will be sent to the CM and ultimately to VDOT with a recommendation for approval. If there are no comments or revisions proposed by VDOT, then the field change will be incorporated into the as-built plans. If comments are received from VDOT, they will be forwarded back to the designer and the process will continue until the change is acceptable to VDOT and/or the appropriate entity.

Records: All incoming and outgoing project correspondence, including contracts, calculations, studies, reports, construction documents, contractor submittals, requests for information, design clarifications, electronic data, etc. will be maintained in an organized and controlled manner in accordance with established office and project procedures. Hard and electronic copies of the various project documents, including Subcontract Agreements, purchase orders, etc. will be maintained and archived at Wagman's Virginia office, with duplicate copies at the various design and construction offices. The DM oversees all document and data control for the design portion of the project. The QAM will verify that all quality control procedures were performed for the individual disciplines prior to submitting construction documents to VDOT. The Wagman Team is experienced in working with various document management systems, including Falcon, OutsideVDOT, and SharePoint, and will coordinate the electronic document management system used on this project in collaboration with VDOT. Copies of each submittal, including revisions, will be kept for the duration of the Project. Final design records of required forms and checklists will be maintained by the DM and QAM in the project files. Utilizing proven methods of document tracking, distribution, and storage will provide an easily-audited set of project records, minimizing the likelihood of needing to expand VDOT's contract administration efforts.

QA/QC Procedure for One Unique Design Element: The Wagman Team recognizes the significance of stormwater management on this project. Our Team's ability to effectively and efficiently meet all applicable requirements of the stormwater management regulations, Part IIB will have play a major factor in minimizing property impacts and reducing project costs and schedule. Our understanding and approach to meeting these requirements is described in detail in Section 4.3.1 under Conceptual Hydraulic and Stormwater Management Design. The Wagman Team's Professional Engineers and DEQ certified plan reviewers will ensure that both water quality and quantity requirements are being met and that appropriate BMP types applicable to the Runoff Reduction Method are being utilized. This project has been divided into five distinct watersheds and each will be reviewed on its own basis as well as for its contribution to the project wide SWM compliance.

Given the size and complexity of this project, along with the fact that we are dealing with relatively new and more stringent regulations, The Wagman Team recognizes the importance of having an established design QA/QC process for stormwater management in order to ensure that the stormwater requirements are being met. A conceptual ESC and Post Construction SWM plan will be developed for the entire project and reviewed to ensure that the project wide requirements are being met.

Our Design Team will perform hydraulic QA/QC design reviews at key milestone submittals during the design development. During the design process, we will ensure cross discipline communication not only between our roadway & structural engineers, but with our environmental permitting and construction team members as well. Our QA/QC review will be done in accordance with our Team's QA/QC manual, which outlines a checking process for all design calculations and plans.

Construction Approach to QA/QC: The Wagman Team's Construction QA and QC Procedures, which will be presented in our Construction QA/QC Plan, have been established to conform to VDOT's January 2012 *Minimum QA/QC Requirements for Design-Build Project*s. Our Plan will stipulate the specific requirements of the Project and implement appropriate "witness" and "hold points" for inspection of work at critical intervals, such as the video inspection of all underdrain facilities and structure foundation components. These hold and witness points allow the Construction QA/QC Team to review and identify inspection requirements of the design, Design Team, or VDOT prior to proceeding with the work activity. Having this level of involvement at critical stages of construction allows the Design Engineer to confirm construction conditions conform (or do not conform) to the parameters anticipated in the design.

The Wagman Team has the VDOT certified field personnel to carry out the necessary construction QC and QA inspections and testing needed for a large and complex project like this one. During construction, the QA and QC Teams will follow the established and approved QA/QC Plan. The QA/QC Plan will be structured to ensure that QC and QA functions are performed independently and that procedures and work products are regularly reviewed and cross-checked. Our experienced construction QA/QC team of registered engineers and certified inspectors will incorporate "lessons-learned" from previous design-build projects and provide well-organized, easily audited construction files and documents, which together, will minimize the likelihood of expanding VDOT's contract administration efforts. Key elements of our construction QA/QC approach are summarized in the following paragraphs.

Construction QC Staffing Plan: To assist The Wagman Team's CM, we propose to assign a Construction Quality Control (CQC) Manager, responsible for scheduling, reviewing, and organizing QC services during construction of the Project. Reporting to the CQC Manager, a full-time, senior-level, Lead QC Inspector will be assigned for the duration of the Project. The Lead QC Inspector will be supported by one or more QC inspectors or QC materials technicians during times of increased workload and/or during critical phases of the Project. The Lead QC Inspector will assist with daily coordination between the CQC Manager and/or CM regarding the necessary inspections and testing required for a particular work item. The CQC Manager and the QC Team are 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*.

Construction Quality Control (CQC) Manager: The CQC Manager, Dow Lasitter, PE (KCI), will lead The Wagman Team's QC function during construction. The CQC Manager will report directly to the CM and be responsible for directing QC personnel and implementing the QC program presented in the project's QA/QC Plan, which include the QC inspections and tests outlined in Appendices 3 and 4 of the January 2012 *QA/QC Minimum Requirements*. The CQC Manager will work with the CM and QAM to coordinate preparatory, intermediate, and completion inspections as well as help track punch-list items. The CQC Manager will attend preparatory and progress meetings as necessary to address construction quality-related issues or corrective action items. The CQC Manager will be responsible for the review and submission of QC-related reports, tests and other information to the CM and QAM, as required by the QA/QC Plan.

Lead CQC Inspector: Our Lead CQC Inspector will be fully certified in VDOT and DEQ inspection practices. The inspector will provide oversight and coordination of support QC inspectors and materials testing technicians. The inspector will report directly to the CQC Manager and will serve as the primary on-site contact for the QC Team. The inspector will assist the CQC Manager in the coordination of QC operations, Daily Inspection Reports, material certifications, material test reports, and staffing needs. The inspector will also be prepared to perform the required field QC inspections or materials testing services.

Support QC Inspectors: We will provide QC inspector(s), as needed, to provide the proper inspection oversight and testing support for on-going work activities. The QC inspector(s) will assist the Lead Inspector to provide the inspections and testing services required during times of increased workload and/or during critical phases of

the project. For this project, we propose to utilize EBA Engineering to support our QC inspection services. Our support inspectors will be VDOT certified and prepared to perform the necessary field inspections presented in the *QA/QC Design-Build Minimum Requirements Manual*, including, but not limited to:

- Maintenance of Traffic (MOT): Review and complete MOT work zone safety checklists daily including review of devices for compliance with MUTCD.
- Erosion and Sediment Control/Seeding: Our QC inspectors will be DEQ certified in erosion & sediment control (E&SC) and stormwater management. Our inspectors will be prepared to perform the required inspection to ensure implementation in accordance with the approved plans, the erosion and sediment control laws and regulations and standards approved by the Virginia DEQ. Our inspectors will monitor and report installation and maintenance on C-107 forms.
- Subgrade Preparation/Repair/Stabilization/Remediation: QC inspectors, in conjunction with the Geotechnical Engineer of Record, can perform subgrade evaluations, as well as test, monitor, and quantify repairs for proper Project as-built documentation.
- Embankment Fill/Aggregate Base Placement: Observe placement and compaction methods of embankment fill or aggregate base. In addition, observe or perform QC testing such as nuclear density and lift thickness checks for compliance.
- Construction Material Deliveries: Provide supplementary review of delivered materials (rebar, concrete, asphalt, aggregate, structural steel, metal decking, bolts, bearing pads, etc.) for approved source, material type, and proper supporting documentation, including review for "Buy America" compliance.
- Load-Bearing Piles: Monitor and/or document hammer blows for each driven pile foundation and perform center of gravity calculations for pile groups.
- Structural Steel: Assist the Contractor in performing bolt assembly testing, including using the Skidmore to confirm rotational capacity and adequate bolt tension after turn-of-the nut technique. Performance of torque-wrench evaluations of the bolts after tightening.
- Reinforcing Steel: Provide inspection of reinforcing steel for proper bar type, size, number, spacing, and configuration.
- Concrete Placement: Observe and document concrete placements are in accordance with approved plans and Road and Bridge Specifications, sample and test fresh concrete for air, slump, temperature and mold compressive strength or permeability cylinders.
- Asphalt Pavement: Observe and document asphalt placement is in accordance with approved plans and Road and Bridge Specifications and perform nuclear and core density testing.
- Below Grade Pipe Installation: Provide inspections for proper size, connection, adequate foundation, bedding material, and backfill density
- Guardrail: Verify that guardrail is installed per plan and specification at correct height.
- Sound Barriers: Verify foundation construction, materials and shop drawings
- Pavement Marking: Provide C-85 reports daily.

QC Laboratory Sampling and Testing: Laboratory sampling and testing shall be performed for each material type that meets the frequencies found in the approved Project QA/QC Plan and/or as specified in the Contract Documents. The Wagman Team proposes to sub-contract ECS Limited, an AASHTO certified Materials Testing Laboratory to provide needed laboratory testing such as Proctors (VTM-1), Atterberg Limits (VTM-7), Grain Size Analysis (VTM-8), Compressive Strength (ASTM C39), and Chloride Permeability (VTM 112) testing of concrete cylinders, grout testing, reinforcing steel (ASTM A615), or other required laboratory testing. In addition, ECS Limited will be asked to provide VDOT certified QC materials technicians to perform, or assist the QC inspectors with performing, the required quality control field sampling and testing of soils, aggregate, concrete, and asphalt.

Construction QA Staffing Plan: The Wagman Team has assigned Ben Lineberry, PE (Volkert) as the QAM for the Project. The QAM has the overall responsibility to observe the construction progress and confirm that

QA and QC inspections and testing are being performed in accordance with the approved QA/QC Plan and other Project documents. As such, the QAM will plan and conduct preparatory inspection meetings for identified work packages to review plans, provide coordination between the parties (DB production personnel, DB Design Team members, VDOT personnel, and QC and QA personnel), identify testing and inspection responsibilities, review any special details or other requirements for the work.

To assist the QAM, a full-time Lead QA Inspector will be assigned for the duration of the Project and will observe the construction activities as they are being performed, including the QC inspection and testing activities outlined in the sections above. The inspector will be fully VDOT and DEQ certified. One or more "support" QA inspectors or QA materials technicians may be assigned to the Project, depending on the number of concurrent work activities being performed, to assist the Lead QA Inspector. We propose to utilize Quinn Consulting Services to provide QA inspection support. The QAM will oversee and direct the QA inspection personnel, but will also review QC Inspector Daily Reports (IDRs) as well as all test results, to include QC, QA independent assurance, QA verification sampling and testing, owner independent assurance, and owner verification sampling and testing. The QAM will review, cross-reference, and track the various tests being performed. In the event of a discrepancy that cannot otherwise be identified, the QAM will work to resolve the discrepancy by use of referee samples with QC, QA, or VDOT laboratories, as directed by the QA/QC Plan. Copies of all test reports will be maintained and reported to The Wagman Team and VDOT, as appropriate.

In addition to tracking inspections and test results, the QAM will be responsible for properly documenting materials used on the project by maintaining the Materials Notebook. Proper documentation of materials includes assigning design-build tracking numbers, reviewing material sources (as listed on the VDOT C-25 form and/or approved supplier list) and confirming method of verification used to demonstrate material compliance with the Contract Documents. In the event that non-conforming materials or work are identified by QA or QC personnel, the QAM has the authority to stop work and/or withhold payment until the deficiency is resolved. Where the deficient item can be corrected (such as a failing aggregate moisture/density test or omission of adequate reinforcing steel), the QAM shall initiate and oversee such corrective action, as appropriate. In the event that the item is deficient in functional performance, physical characteristic, documentation, or installation (such as the delivery or installation of non-conforming rebar or damaged structural steel), the QAM will track the deficient item by issuing a non-conformance report, identified by a unique number, to the CM, DBPM, and VDOT within 24-hours of discovery. If the non-conforming item(s) will not be accepted by VDOT, the QAM and QA inspection team will be responsible for observing the corrective action(s) taken by the Contractor to replace the unacceptable materials or work items.

The QAM oversees the establishment of a comprehensive system for organizing and maintaining construction QA and QC information. The records will represent a factual representation of the work performed, materials used by the design-builder and provide a means to determine the Project was completed in accordance with the plans, specifications and other Contract Documents by the QAM and by VDOT. Hard copies of the QA/QC documents (IDRs, test reports, shipping tickets, C-25s, non-conformance reports, non-conformance log, etc.) will be kept in files on-site as well as in electronic form, as needed. The information will be organized by the QAM such that the documentation will be adequately identified and cross-referenced to support an audit by VDOT during the life of the Project, as well as final audit after project completion. In addition, the QAM will audit the testing and inspection records each month prior to certifying the monthly payment application.

Owner Independent Assurance and Independent Verification Testing: Prior to construction, the QAM will establish test quantities for each material and provide VDOT a total number of QC, QA independent assurance, QA verification sampling and testing, owner independent assurance, and owner verification sampling and testing samples and tests required by the QA/QC Plan and Table A-3 of the January 2012 *QA/QC Minimum Requirements*. In addition to providing VDOT a quantity of testing required for the project, VDOT will be notified of preparatory inspection meetings held by the QAM and/or The Wagman Team to allow for scheduling and planning of owner's independent assurance and verification sampling

and testing samples testing, as warranted. In addition, this will provide VDOT the opportunity to interact and coordinate efforts with the QA/ QC Team, review inspection checklists, test reports or other pertinent project documents. The QAM will be available to work with VDOT personnel in the event of a discrepancy with owner's independent assurance and verification sampling and testing.

Document Control and Non-Conforming Items: QC and QA inspections will be documented in writing. Each QA and QC inspector and technician will summarize their daily inspections, tests and material sampling activities in an IDR. In addition, the IDR will include pertinent daily activity, photographs of the work as well as the following key points of record: material deliveries and associated certifications or manifests, weather conditions, communications, delays encountered, Contractor's equipment and manpower, safety related issues, and potential quality issues including all non-conforming work and any corrective actions taken.

Signed hard copies of the QC IDRs will be submitted to the CQC Manager on a daily basis for review and approval. Signed copies of the IDRs and test reports will be forwarded to the CM, QAM and others of The Wagman Team for use and review. The original reports will be maintained in the project files located on-site. QA IDRs will be submitted directly to the QAM.

As previously discussed, for non-conforming or deficient items identified by the inspection staff which cannot be corrected, a non-conformance report will be issued by the QAM and recorded in the non-conformance log. For non-conforming work which requires corrective action, a Corrective Action Plan, initiated by the QAM, Contractor or DM will be provided to VDOT for review and approval. When the non-conformance work has been corrected per the Corrective Action Plan, re-inspected and the results are satisfactory, a Notice of Correction will be issued.

Innovative Reporting: The Wagman Team is fully prepared to implement innovative methods of QC document control which improve the efficiency of the IDR process through the use of hand-held technology. We have developed a Mobile Field Services (MFS) "app," which uses a surface tablet with Windows 8 to generate and transmit IDRs, progress photos, and sketches electronically. These electronic forms include drop down menus with specific quantities of contract pay items which are linked to a quantity tracking database. Our IDRs ensure that quantity tracking is accurate because it relies on data that is reviewed and approved by the Contractor, then verified by the project engineering staff before being uploaded to the project web-files. MFS technology results in improved efficiency, accuracy and ease in tracking required material quantities and construction documents. MFS provides a transparent view of field operations by providing real-time updates between field staff and project managers. It minimizes time required to create reports for our clients and provides historical records of field activities which are stored in a cloud-based central data repository for easy retrieval and document back-up. We have seen the advantages of improved record keeping and enhanced efficiency of using hand held tablets with touch screen controls for recording field information, especially IDRs, and filing them using a wireless connection on the office server.

QA/QC Procedure for One Unique Construction Element: The Wagman Team will provide comprehensive and thorough QA/QC services for every construction work package on this Project. Our QA/QC construction services will be accompanied by well-organized and complete documents, allowing for ease of VDOT oversight and audit, but minimize the need to expand VDOT's contract administration efforts.

After evaluation of several critical construction elements for this project, roadway embankment/pavement construction were selected to discuss because combined, they will create the greatest quality challenges, have the largest financial impact on the project, take place over the longest duration, and are directly related to other work elements such as MOT, erosion control, and stormwater management.

The QA/QC process for embankment fill or pavement construction starts before the removal of vegetation, topsoil stripping, or even the installation of sediment control measures. Potential borrow sources will be identified, thoroughly explored, evaluated and tested in accordance with VDOT's 2007 Road and Bridge Specifications Section 106.03 to confirm California Bearing Ratio value using VTM-8, Atterburg Limits

(VTM-7), Proctor (VTM-1), and general suitability of the materials. Our Geotechnical Engineer and/or VDOT will review and approve the final borrow source prior to exporting any fill to the site. In addition to exploring potential borrow sources, The Wagman Team will review the existing geotechnical report in conjunction with performing supplemental soil test borings evaluate the subgrade soils and identify areas of unsuitable materials. A preliminary plan for managing encountered unsuitable materials during construction will be prepared and discussed prior to the start of earthwork activities and reviewed by geotechnical, construction, and QA/QC personnel. Prior to placing aggregate base, asphalt or concrete pavements over subgrade soils, The Wagman Team will confirm through the QAM that all embankment fill testing and inspections have been completed. Construction inspections for embankment fill and pavement will follow the preparatory, intermediate, and completion stages discussed below.

Preparatory Inspection Meetings: The first step prior to starting a work activity is to hold a preparatory inspection meeting (hold point) with the Contractor's production forces, appropriate Design Team members, sub-contractors, QC/QA inspection teams and VDOT personnel. The embankment fill and pavement construction meetings will be similar in scope; therefore, some or all of the discussion points presented below will apply to both. As part of the preparatory meeting, the QAM will:

1. Confirm that all field personnel have the proper PPE and discuss potential safety hazards and precautions related to the work activity
2. Coordinate with other stakeholders, including city of Newport News, EMS responders, police, local schools, and transit agencies
3. Contact the VDOT 511 call center regarding construction activities, lane closures, or detours
4. Identify known utility conflicts and/or utility protection
5. Identify all applicable grading, paving or pavement marking plans, roadway specifications, and/or special provisions are current and are being utilized by all parties
6. Verify that all applicable permits are approved
7. Confirm all erosion and sediment control means have been installed per the Land Disturbance permit/E&SC plans for the area where ground cover will be disturbed and embankment fill will be placed
8. Check that the MOT plan for the work area(s) has been approved, and confirm responsibility for inspection of the MOT measures once in-place and prior to beginning work
9. Attest that sources of materials (embankment fill, aggregate base, asphalt pavement and/or concrete pavement) are listed on C-25 forms and have been submitted and approved
10. Discuss scope and sequence of the work to include QC, QA, independent assurance, and verification sampling and testing of embankment or pavement materials
11. Identify each QC, QA, and/or VDOT inspector; their responsibilities during performance of the work item(s); and identify each laboratory responsible for materials sampling and testing
12. Confirm the C-31 forms been reviewed and approved, if the work will be done by a sub-contractor
13. Identify of inspection checklists and other documentation requirements for the activity
14. Address specific concerns identified by the Design Team or Geotechnical Report, such as known work areas requiring subgrade repair, preliminary repair plans, areas of shallow groundwater, and method of subgrade acceptance prior to covering with fill, stone or pavement
15. Highlight witness points for VDOT inspection and oversight

Following the preparatory inspection meeting, the parties in attendance should have a full understanding of the work item, inspection/testing, and documentation requirements. The discussion points will be documented in detailed meeting minutes prepared and distributed to the Team and VDOT within two business days.

Intermediate Inspections: Once the borrow source has been determined, the preparatory meeting complete, E&SC and MOT measures erected and earthwork begins, QC and QA testing staff will follow the Virginia Test Method requirements for in-place moisture-density testing using form TL-124 for embankment fill or aggregate base. Critical elements related to embankment fill that will be monitored include grade preparation

for fill placement, lift thickness and uniformity, compaction methods, haul roads, construction entrances, and verification of approved material placement. Our QA and QC personnel will be prepared to monitor, measure, and properly document subgrade repair, remediation, and/or stabilization. In addition, QC and/or QA personnel can assist VDOT, if needed, during owner's independent assurance or verification sampling and testing or inspections on the embankment fill.

During paving, VDOT specifications require a minimum of two qualified QC certified Asphalt Field Technicians per paving operation. QC and QA testing staff will follow the Road and Bridge Specification requirements for checking asphalt mix design, temperature, thickness and use the appropriate Virginia Test Methods for roller pattern, control strip and test section density (VTM-76), as well as obtain asphalt cores for density and thickness. Prior to placing additional lifts of asphalt pavement, the QA/QC personnel will verify that the previous lifts meet VDOT and RFP requirements.

Work Zone Safety –Work zone safety is always a top priority. During embankment and paving operations, safe work practices will be specifically addressed in all work plan and pre-activity meetings with the Construction Team, QA/QC staff, and the Safety Manager routinely during the work. The QA/QC Inspection Team will be certified in Intermediate Work Zone Safety to carefully monitor adherence to the MOT plan. In addition, the Lead QC Inspector will work with The Wagman Team's designated Certified Work Zone Traffic Coordinator to confirm that the VDOT
511 Call Center and public stakeholders such as Fort Eustis, Newport News EMS, fire, and police are notified; back-up alarms are working, proper reflective tailgate signage is used, and flashing beacons are in place for trucks and other heavy equipment; personal protective equipment includes hard hats and appropriate vests for field personnel; proper maintenance of construction entrances; and temporary signage and signals are current and displayed properly.

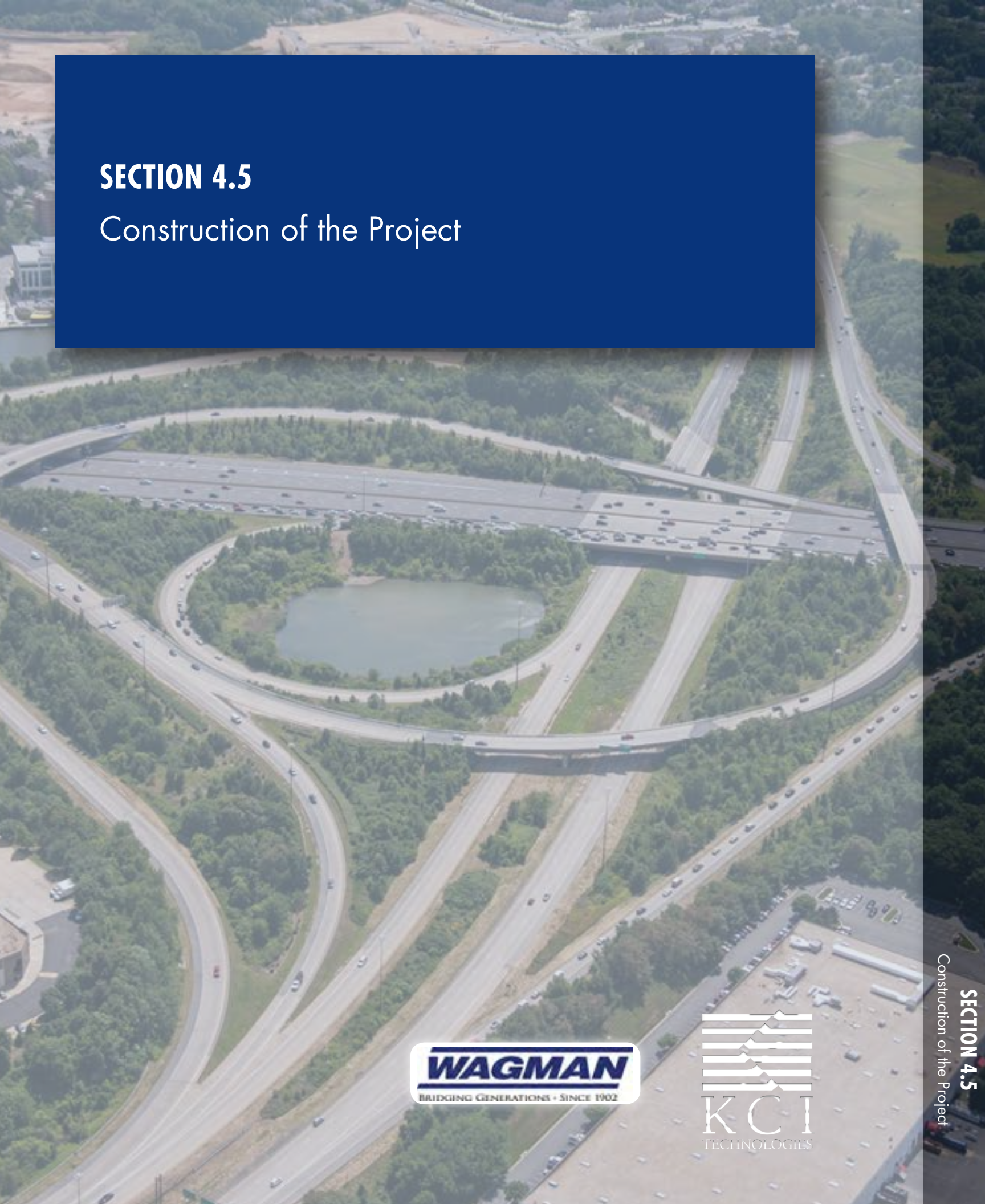
QC inspectors will regularly drive the work zone to confirm that the temporary traffic control devices are per plan and operating properly. These inspections will take place after temporary MOT devices are set up and at the end of each work day. Inspectors will also check to see that MOT devices are clean and have the proper reflectivity markings. There will be additional inspections when traffic patterns change or in the case of severe weather that may impact these devices. Our QC inspectors will utilize work-zone safety checklists to document their MOT reviews as well as to confirm the work zone has been installed per the approved plans.

Non-Conformance – Potential non-conformance issues will be discussed in the preparatory meeting to review the process for failing test results or other non-conforming work. Embankment or paving activities not meeting specification will be documented by both QA and QC inspectors in the field. This information will immediately be relayed to the CM and/or QAM for corrective action. The QA Inspector, at the direction of the QAM, will document any corrective actions taken and confirm that the final results are within specified tolerance. Discrepancies or non-conforming QA or QA items will be documented and distributed to VDOT to provide complete transparency in implementation of the QA/QC Plan related to these work items.

Completion Inspections and Records Management: The embankment fill test reports (TL-124) and roller pattern (TL-53), control strip (TL-54), and test section (TL-55) test reports for QC and QA will be reviewed by the CQC Manager and QAM during construction, but a final review will be performed during completion inspections. The QAM will provide written acceptance of each lift of asphalt pavement. QC and QA inspectors will confirm concrete pavements and test specimens are being cured according to the Road and Bridge Specifications. A complete file of test forms, inspection reports, inspection checklists, non-conformance reports, corrective action reports, material certifications, manifest tickets, etc. obtained during the earthwork and pavement operations will be maintained and kept on-site for audit or review by VDOT personnel. All material quantities, supplier information, and test results will be documented in the materials notebook by the QAM.

SECTION 4.5

Construction of the Project



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4.5 CONSTRUCTION OF THE PROJECT

4.5.1 SEQUENCE OF CONSTRUCTION

The Wagman Team's construction phasing and planning incorporates a system which will provide the most efficient controls to minimize overall construction duration and maximize schedule elasticity. Wagman prides ourselves in transparency and the realization that we all work for the project. With this mindset, we aggressively control the schedule while at the same time work with all stakeholders to produce a finished product of value to all. As seen in the ICC Contracts A and B, Wagman delivered award-winning construction projects, which had complex schedules. This same approach will benefit this Project. This success depends on an atmosphere of transparency, trust, and collaboration.

Approach to Construction Phasing

When preparing our approach to the construction phasing of this project, The Wagman Team worked to provide for and maximize the safety of the traveling public and the workers on the project delivering the Project by November 17, 2017. We also made it a priority to minimize the impacts of construction on the traveling public and the various stakeholders within the project limits. In order to accomplish these goals, The Wagman Team will provide a continuous 9' paved shoulder for the entire length of the work zone, except at the bridges and weave section at the Ft. Eustis Blvd. interchange, thus allowing median construction to take place throughout the whole corridor of the project. The ability to construct all of the median work at one time maximizes safety of the traveling public by minimizing the number of traffic shifts needed to complete the project while allowing The Wagman Team the opportunity to expedite the construction schedule. Expediting the schedule is also an additional benefit to the traveling public because of lessened time exposed to construction work zone activities. The Wagman Team will expedite the schedule by working in multiple locations along the length of the project. For clarity of operations during design and construction, we have divided the project into four segments (A, B, C, and D). The limits of each segment are defined by the natural division caused by bridge locations, i.e. Segment A goes from the beginning of the project to the Lee Hall Reservoir Bridge (including the Warwick River and partial Lee Hall Reservoir drainage areas), Segment B goes from the Lee Hall Reservoir Bridge to the Ft. Eustis Blvd. Bridge (including the remaining Lee Hall Reservoir drainage area), Segment C goes to Industrial Park Drive (including partial Jones Creek drainage area), and Segment D extends to the eastern limit of the project (including the remaining Jones Creek, Stony Creek, and headwaters of Lukas Creek drainage areas). The separation of the project into these segments can be seen in Figure 4.5.1.

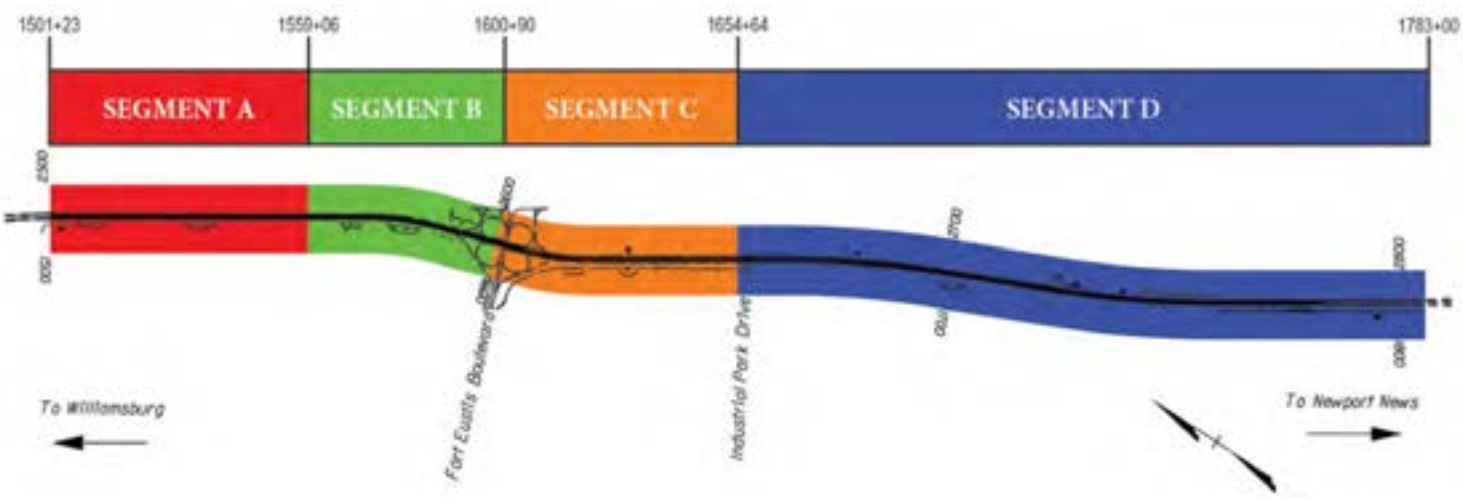

Figure 4.5.1 – Segments of the Project

Overall Keys to Success

- **Shoulder strengthening and localized settlement remediation performed as maintenance activities, temporary pavement markings, and traffic switches prior to acquiring the VSMP**
- **Construction of the BMPs concurrent with the median construction to allow the BMPs to serve as temporary sediment basins**
- **Working in multiple segments simultaneously in order to complete the Project by November 17, 2017**
- **Through our concurrent segment construction sequencing, we anticipate the major median widening construction (through Phase 3) to be complete for approximately 50% of the project corridor by the end of 2016. We feel this will substantially alleviate congestion along a significant portion of the corridor in advance of the 2017 tourist season**
- **Concerted effort to collaborate with permitting agencies to expedite the permitting and plan approval process**
- **Working in a safe and efficient manner to minimize downtime and impacts to the traveling public**
- **Access to BMP sites along the outside of I-64 without requiring ingress/egress to/from I-64 by utilizing existing City of Newport News access trails**
- **Elimination of retaining wall at BMP K and L by reconfiguration to allow for removal of the wall while still allowing for access for Dominion Power**
- **De-conflicting of utilities – The Wagman Team's design has significantly reduced utility impacts through proper research and avoidance techniques, in particular, the utilization of utility spanning segments for the noise walls**

Sequence of Construction

Phase 1: This phase will focus on the preparation of the Project to begin construction on the segments previously discussed. Construction will commence with the installation of signing and message boards that will alert the traveling public that construction is beginning. Following sign installation, outside shoulder rehabilitation of both the eastbound and westbound lanes for the entire length of the project will occur. Per Addendum 3 of the RFP, the entire width (10' approximate) of the existing outside shoulder will be strengthened between the eastern limits of the project and the bridges over Ft. Eustis Blvd. A typical section of this work can be seen below in Figure 4.5.2.

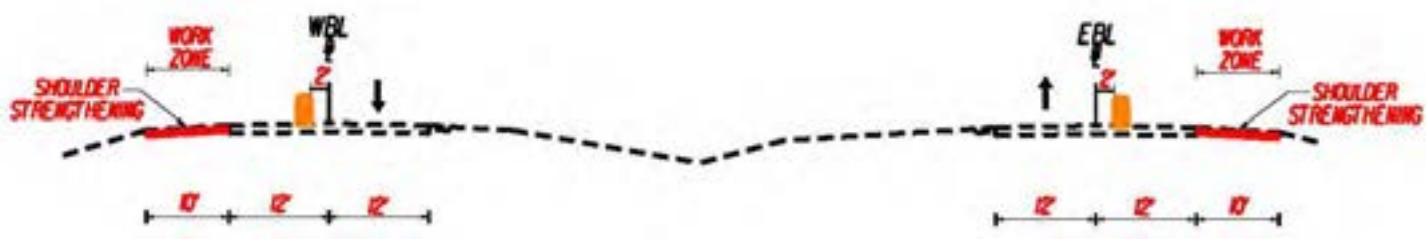

Figure 4.5.2 – Phase 1 Typical Section - East of Fort Eustis Blvd.

A minimum of 3' shoulder strengthening will be performed from the west end of the project limits to the bridges at Ft. Eustis Blvd. to assure that the existing rumble strips are completely removed prior to temporary traffic shift required for median construction. A typical section of this work can be seen below in Figure 4.5.3.

Figure 4.5.3 – Phase 1 Typical Section - West of Fort Eustis Blvd.

Localized settlement of the existing roadway predetermined during preliminary survey will be mitigated by roadway patching and/or asphalt overlay. Outside shoulder rehabilitation and localized settlement work will require lane closures, which will be done during non-peak times. When this work is complete, existing pavement markings will be eradicated as necessary; temporary pavement markings will be applied; traffic will be switched to allow commencement of Phase 2 construction; and temporary concrete barrier will be placed along the inside shoulder. A typical section of the shift can be seen below in Figure 4.5.4. Construction of the

noise walls and selective temporary sediment basins will occur contingent upon acquisition of appropriate permits.

Phase 2: All median widening construction will be completed in Phase 2. The first activity of Phase 2 will be the construction of the temporary acceleration/deceleration lanes required to provide access to and from work spaces. Each work segment, as described earlier, will include at least one combined acceleration/deceleration lane. To provide access to the median work without impacting the crossovers, the acceleration/deceleration lanes for each segment will be located approximately as follows: Segment A – EB station 1539 to 1557; Segment B - EB station 2278 to 2296; Segment C – EB station 1623 to 1641 and WB station 2623 to 2641; and Segment D – EB station 1701 to 1719 and WB station 2701 to 2719. To assure sight distance and length requirements are met, exact locations of these lanes will be determined during final design. Beginning at the inside of the existing edge of pavement, the acceleration/deceleration lane will be constructed at an approximate 12' width towards the median. These temporary lanes will be asphalt paved to accommodate safe ingress and egress at speed to and from the interstate, as well as assist in prevention of tracking conditions during construction.

Following installation of the acceleration and deceleration lanes and the acquisition of appropriate permits and plan approvals, median construction will commence. The general construction sequence for each segment will be installation of initial E&S measures, followed by clearing and grubbing activities. Simultaneously, construction of the segment's detention ponds will begin in order to serve as sediment basins until the segment reaches completion. These ponds can also be constructed separately and ahead of the start of any particular segment. This is possible because the majority of the ponds can be accessed from adjacent access roads and do not need to be accessed from I-64. After clearing and grubbing is complete, topsoil will be stripped and rough grading activities will commence. As the basins and rough grading activities are completed, storm sewer construction, inclusive of the pipe jack and bores/rehabilitations, will start. Roadway construction activities will follow sequentially to completion. These activities include, but are not limited to, soil rehabilitation/stabilization as necessary, underdrain, subbase, asphalt, topsoil replacement, seeding, and guardrail. All structure widening will be performed at the same time the roadway median work. Bridge construction will start following the completion of access preparations needed for each bridge site.

While the above describes the general sequence of construction for each segment, The Wagman Team plans to work in multiple segments simultaneously in order to complete the Project by November 17, 2017. Specifically, construction of Segments A and C will start first. As each task is completed in Segment A/C, then the specific group performing that task will move to Segment B/D and perform similar work. For example, upon completion of the clearing and grubbing in Segment A/C, the clearing and grubbing crew will move to Segment B/D; and as soon as the topsoil has been stripped and moved offsite and the segment has been rough graded in Segment A/C, then that crew will move to Segment B/D; and so forth through all the activities - storm drainage, fine grading, subbase placement, etc. Upon completion of a sufficient area within a segment that will allow an acceleration and deceleration lane to be incorporated onto newly constructed widened median pavement, then the initial temporary acceleration and deceleration lanes will be removed. After removal, the areas of these previous temporary acceleration and deceleration lanes will be built to permanent design requirements.

Ultimately, work in all segments will be ongoing simultaneously at different stages of completion. This concurrent staged construction plan will allow for maximum efficiency and schedule flexibility and will also allow optimization and completion of the Project by November 17, 2017. The flexibility created with the ability to independently construct each of these segments minimizes the potential delays to construction should one segment experience unexpected delays due to ROW, permitting, stakeholder/owner approval, or utility relocation issues.

Figure 4.5.4 – Phase 2 Typical Section - East of Fort Eustis Blvd.

Figure 4.5.5 – Phase 2 Typical Section - West of Fort Eustis Blvd.

Phase 3: Bridge rehab work for all of the existing bridge decks will be performed in Phase 3. Concrete pavement patching will also be performed during this phase. Some of this work may require lane closures and will be performed during non-peak hours. All work zones during Phase 3 construction will be coordinated and phased to meet the RFP documents and 2011 Virginia Work Area Protection Manual requirements. Should Option 2 be selected by VDOT, the extensions of the acceleration and deceleration lanes at the Fort Eustis Blvd. interchange will be completed during this phase.

Phase 4: The final phase of the project will consist of THMACO placement, permanent sign installation, final guardrail adjustments and/or replacements, permanent pavement markings installation, and final project cleanup. Should Option 1 be selected by VDOT, the 2" asphalt overlay will be completed during this phase.

Earthwork Optimization

Earthwork optimization and streamlining earthwork operations is an important factor to maintaining an efficient project schedule. We will move forward with a focus on efficiently moving and reusing suitable on-site material. Concurrently, identification and treatment or removal alternatives of unsuitable soils is necessary to maintain construction flow; to accomplish this, the Geotechnical Team, during the design phase, will prepare a matrix identifying the specific station ranges of anticipated unsuitable soils, type of unsuitable soil (i.e. highly plastic, wet, organic, etc.), and proposed remediation alternative(s) including a combination of overexcavation and replacement, in-situ compaction effort, geotextiles, and cement stabilization. With this information The Wagman Team can properly sequence and plan for optimal earthwork operations. We plan to utilize the excess cut material that meets RFP requirements from the construction of the SWM basins as our main source of on-site material. Any potential borrow materials that will be required will be carefully selected from multiple potential borrow sites, which will allow The Wagman Team to maintain the Project schedule when alternative sources are needed.

Safety and Operations

Safety is a core value at Wagman and a condition of employment. Project safety begins with well- designed plans that meet VDOT and FHWA Design Standards. The Wagman Team will continuously involve the appropriate design professionals, as well as both safety and construction professionals throughout the entire design process to deliver a well planned construction sequence and access plan using Hazard Analysis Planning. The construction sequence and access plan must consider both The Wagman Team and the traveling public while adhering to ATSSA and MUTCD standards. Project Work Plans will be developed before construction begins to be used in daily project briefings, morning huddles, employee training, and subcontractor training.

The Wagman Team realizes that this project is an accident-prone area of the I-64 corridor. Public outreach and public involvement will be critical to building a safe project. Successful communication and dialogue with

the community and traveling public, during all phases of the project, will help The Wagman Team provide the safest travel corridor possible. We will use a variety of communication tools including VDOT's ongoing work zone scheduling and alert systems, VDOT's 511 Traffic Alert system, and PCMSs to communicate pending work plans and planned traffic control. We will also utilize Virginia State Police services as necessary during temporary traffic control operations.

The Wagman Team takes very seriously the task of installing, maintaining, and removing work zones. All Work Zones will be managed by The Wagman Team's supervisors under the direction of our Roadway Superintendent, Mr. Brad McClung. Mr. McClung and the MOT Crew Leaders hold VDOT Intermediate Traffic Control Certifications. QC inspectors will also provide QC checks on work zones. The Wagman Team will also provide wrecker service for the project.

Railroad Coordination

Approach to Coordinating with CSXT to Ensure Safe and Efficient Construction of this Project: The Wagman Team is experienced and proficient in coordinating all aspects of design and construction with CSX Transportation, CSXT. Our immediate concerns are the safety of CSXT's staff and cargo and maintenance of their current schedules without interruption. Our overall approach to the design and construction of the project is based on these fundamental interests of the railroads. As required by CSXT, all of our work plans will incorporate a 150% factor of safety for all equipment lifts over CSXT ROW. The Wagman Team will effectively demonstrate to the railroads that their concerns are its number one priority.

Description of Overall Approach to Coordinating with CSXT: The Wagman Team approach to design and construction will be comprehensive in addressing specific criteria but also will be sensitive to local needs that may be unique for this project. CSXT Criteria for Overhead Bridges, and the *AREMA Manual for Railway Engineering* provide extensive written guidance. Through recent experience working with CSXT and obtaining approvals on other similar projects, The Wagman Team is aware of the preferences and expectations of CSXT. Through early coordination, communication and partnering, CSXT will develop an understanding of, and rely on The Wagman Team's standards and practices regarding construction within and around railroads. The development of this relationship will enable The Wagman Team to achieve more timely approvals of submissions without re-submissions.

Wagman has successfully coordinated with CSXT on numerous bridge projects, including the Intercounty Connector, Contract A (ICC-A) where Wagman successfully designed and constructed a bridge widening to carry a six-lane divided highway over CSXT rails.

The Wagman Team has developed a project specific plan to ensure that the project will be completed safely and on time. The plan is based on the CSXT coordination system developed by Wagman on the ICC-A project, a Maryland State Highway Administration (MSHA) project located in Montgomery County, MD. The ICC-A project involved the median widening of twin bridges that carried a six-lane divided highway over CSXT railway. Some key components of The Wagman Team's specific plan in dealing with the railroad are as follows:

- Railroad participation in the project partnership
- Development of a railroad-specific submittal schedule
- Site Specific Work Plan (SSWP)
- Critical Activity/Outage Schedule
- Outages updated with two week look ahead schedules
- Daily outage confirmations

CSXT will be made an integral part of The Wagman Team. Partnering has been proven to be extremely effective in allowing The Wagman Team to proactively address the railroad's concerns during all phases of the project, and The Wagman Team will actively pursue a Partnering Agreement for this project with CSXT.

The Wagman Team will provide CSXT with detailed plans and schedules. As one of the first orders of work,

we will provide CSXT with a specific submission schedule so that they can confirm which submittals they are interested in reviewing. This will also allow The Wagman Team to allot enough time for CSXT to complete their required review and permit incorporation of the railroad comments. Specific submittals that The Wagman Team will provide to the railroads include the following: Type, Size and Location (TS&L), Design Contract Drawings, Site Specific Work Plan (SSWP), Demolition and Shielding, Falsework, Temporary Crossing Plan and Girder Erection.

The SSWP will be one of the first railroad submittals, which will provide the location of material staging areas, temporary railroad crossings, type and location of heavy equipment, jobsite access, ballast protection details, and security measures. The Wagman Team has carefully developed a construction plan that will minimize the amount of equipment and materials that will be required to have access at grade to the railroad ROW. The Wagman Team will submit the TS&L and the Design Contract drawings to the railroads simultaneously with their submission to the owner. This will allow efficient incorporation of the railroads comments into the final design.

The Wagman Team will engineer and submit a shielding plan which will satisfy all required loading. The plan will include the shielding required for the select demolition of the existing bridge as well as the combination overhang/vertical protection shield brackets required during the new construction. These shields will be coordinated to provide the minimum temporary construction vertical clearances above top of rail. Upon field installation and prior to beginning the physical construction activities, the shield will be field inspected and approved by a Registered Professional Engineer from The Wagman Team. A Critical Activity/Outage schedule will be included with the shielding plan and will provide a detailed spreadsheet of all activities occurring over or adjacent to the railroad ROW.

The Wagman Team's Construction Manager will work with CSXT and their representatives to ensure that upon approval of the working plans, and subsequent execution of required agreements, that the postings for CSXT's flagmen/watchmen occur. This will be scheduled well in advance of the dates these individuals are required on the project site. Coordination between CSXT's employees and our project staff will occur no less than twice daily (at the beginning and completion of each shift). The Wagman Team understands the importance of coordinating with the railroads. While The Wagman Team has carefully planned the work to minimize the amount of required outages, only effective daily communication between the railroads and The Wagman Team will allow for efficient crew production. Using the approved Critical Activity/Outage Schedule, The Wagman Team's Superintendent will schedule outages two weeks in advance. This two-week outlook will then be reconfirmed with CSXT's site representatives daily, allowing us to reallocate and reschedule resources based on the actual outages obtained. By having numerous crews with the required special railroad safety training, we will be able to mobilize additional crews to the site as needed. This will allow us to work multiple crews in the same outage to make up for any railroad cancellations, while maintaining the overall job schedule.

In addition, the physical construction operations also introduce a risk of damage to CSXT facilities as a result of the overhead superstructure work as well as the operation of equipment outside of the CSXT ROW if that equipment (such as crane booms) would have the ability to foul CSXT's track in the event of mechanical failure or operator error. In order to perform the majority of the pier foundation/column construction adjacent to CSXT's facilities during operating hours, The Wagman Team will install mechanical swing stops in the cranes performing these operations. This system works by positioning the crane with the boom oriented parallel to the CSXT tracks and inserting the mechanical swing stops under the supervision of a CSXT inspector. Once installed, the crane boom is physically prevented from moving into an alignment which could foul the tracks (eliminating the possibility of operator error). This system will allow The Wagman Team to safely perform this pier work during normal working hours eliminating the risk to the project schedule for the construction of these significant elements while also drastically reducing the number of shutdowns required to CSXT's facilities.

Geotechnical Constraints

The geotechnical constraints on the project are closely tied to the geotechnical risk factors presented in Section 4.4.3. The identification of potential unsuitable soils is a geotechnical constraint that will be identified early in the design process and detailed appropriately in the roadway plans. Through early phase geotechnical exploration and specific laboratory testing the geotechnical team can delineate and quantify potential unsuitable soil locations along the alignment. A matrix of these locations will be prepared along with hatching denotation in the roadway plans and cross-sections for the construction plans. With this process, the unsuitable areas are identified early in the project and become a focal point for initial roadway preparation and subsequent QC activities related to subgrade improvement. Details within the matrix of potential unsuitable soil locations include anticipated soil type (USCS classification), in-situ moisture condition, and relative density consistency. Further, the matrix and roadway plans provide direction for remediation. For this project we anticipate near surface remediation alternatives including but not limited to overexcavation and replacement, in-situ compaction effort, separation and/or stabilization geotextiles, and potential cement stabilization.

Another geotechnical constraint related to the construction schedule for the project is the overall geotechnical field and exploration activities. Based on The Wagman Team's experience with similar projects in this corridor, we understand that the geotechnical exploration requires significant coordination between The Wagman Team, VDOT, and other project stakeholders. The Wagman Team has been successful on similar projects by preparing the geotechnical exploration scope and boring and laboratory testing programs in the first two weeks from receiving authorization to proceed. This minimizes potential delays with VDOT"'s review and approval of planned explorations prior to commencing work in the field. Further, this approach supports scope validation activities so they can be brought to the attention of The Wagman Team and VDOT in an expeditious manner. Lastly, this advance review procedure provides us an opportunity to show VDOT that the geotechnical exploration will meet and/or exceed the minimum requirements for investigation and laboratory testing per Chapter 3 of the Manual of Instruction.

Environmental Impacts

The Wagman Team has identified the permit approval process as a key aspect in designing and constructing the Project. Since construction cannot commence until we obtain all regulatory permits and approvals, we will closely coordinate with the USACE, DEQ, and VRMC so that these can be obtained within the timeframe allotted by the schedule. To provide maximum flexibility in the permitting and approval process, we will develop separate design and permitting packages for each construction segment, such that individual segments may proceed independently of each other.

Right of Way Acquisition

The Wagman Team will act as an agent on behalf of the Commonwealth of Virginia, providing all ROW acquisition and relocation services for acquisition of fee ROW and permanent, temporary and utility easements with the following RFP conditions:

- Acquisition of up to approximately 18.1 acres of ROW from City of Newport News is permitted
- Acquisition of up to 2.3 acres of ROW from the City of Newport News Waterworks is permitted
- Acquisition of properties owned by the City of Newport News will be accomplished by VDOT

The VDOT RFP plans showed 21 parcels that will be impacted by this project including two residential total acquisitions involving relocation. Six of the properties are owned either by the City of Newport News or Newport News Waterworks. Additionally, there are three parcels owned by non-profit religious entities and another six properties that are residential common areas.

Through our innovative stormwater management design, The Wagman Team was able to greatly reduce the amount of fee taking ROW on the project. As indicated by our plans, we have completely eliminated any impacts to eight of the RFP parcels, such that only 13 parcels will be impacted by this Project. There will be no residential acquisitions involving relocations and only one parcel owned by a non-profit religious entity will

be directly impacted.

Immediately upon Notice to Proceed (NTP), we will initiate title work on all properties at our risk in order to advance the project schedule. Titles will be ordered in accordance with the guidelines established in the *VDOT Right of Way and Utilities Manual*. Although titles only have a 60-day shelf life, getting the title reports done as soon as possible will allow us to evaluate them for problematic liens or issues that could delay the closing process. Parcels will be organized and prioritized to allow enough time for acquisition without jeopardizing the project schedule. Titles will be updated prior to making offers in the event the titles are older than 60 days.

The Wagman Team also recognizes that the properties owned by non-profit religious entities or one part of homeowners' associations or condominium common areas have the potential to impact the project schedule if not properly managed. For churches, it's critical to discover if trustees are registered and attain a better understanding of the church's legal status and any special conditions that must be met for them to transfer property. Similarly for associations land or common area, it's imperative that we understand the applicable covenants governing the transfer of property. To mitigate the risk, we've scheduled title work immediately after NTP to uncover these obstacles and allow us to close in a timely manner with these landowners.

Staging and Storage Areas

With the project area divided into four major segments, logistics for these four areas will be crucial. Potential storage areas for Segment C include areas around Fort Eustis Boulevard interchange and preliminary discussions with landowners at Industrial Park Drive have taken place to utilize these areas for staging and storage. There are potential areas along the project corridor for Segment D that can be utilized as well as areas off of Denbigh Boulevard. These areas will have to have agreements reached with private landowners as well as commercial owners. As with Segment D, Segments A and B have potential areas for use and agreements will need to be reached with private owners as well as the City of Newport News.

Public Involvement/Stakeholder Coordination

The key to successful public involvement for this project will understand the requirements and needs of VDOT and third party stakeholders. The Wagman Team has employed McComick Taylor, who excels at building consensus and effectively managing the public outreach program. The Wagman Team will utilize the expertise of Ms. Patsy Napier, who leads our Virginia Communications efforts to manage all public relations initiatives in collaboration with the VDOT Communications staff. Working with the VDOT Communications staff, Patsy will coordinate all efforts on Project marketing, communication and public outreach material. The Wagman Team will obtain VDOT approval for costs related to any Public Involvement/Public Relation services as outlined in Section 2.11 by use of a Work Order in accordance with Article 9 of RFP Part 4.

During the design phase of the Project and at a minimum of 90-days before any traffic impacts or mobilization, The Wagman Team will develop, for VDOT approval, the required processes, procedures, and budget for media relations and public information in the form of a Public Information and Communications Plan (PICP 2.11.1).

The Wagman Team will develop and distribute a weekly report to VDOT Communications on adherence to the PICP, highlighting marketing and communication activities, current and outstanding community issues, and recent media activity by noon each Wednesday. We will distribute the schedule for the following week from Sunday through Saturday. All communications materials submitted for review by The Wagman Team to VDOT should be consistent with AP Style and VDOT branding guidelines.

Anticipating and Mitigating Potential Delays and Expediting of the Final Completion

The Wagman Team recognizes that construction delays are possible with any project, in particular, design-build projects. We understand the need to have tools in place to anticipate any such challenges as far in advance as possible to be able to react accordingly to mitigate the delay. The Wagman Team has the resources to allow us to properly plan ahead, be flexible and have contingency plans at the ready to deal with any unforeseen

delays. Our planning efforts have already commenced with the development of our Proposal Schedule (see section 4.7), which demonstrates our understanding of the complexities and interrelationships of the technical elements of the Project. The proposal schedule identifies critical activities pertaining to design, permitting, design review and approvals, utility relocations and ROW acquisitions. We have planned our construction activities to minimize delays and impacts from these critical activities with an approach that allows for early release packages of work which are not dependent on completion of the full design, utility relocations, environmental permitting prior to commencement. We have also sequenced the project to allow for early work in areas that are not dependent on utility relocations and ROW acquisitions, or offer opportunities for reducing the dependency of these work areas on the critical activities. For example, we plan on incorporating temporary sediment basins in our design to serve as a contingency in the event that the ROW acquisition for areas of the planned basins lags behind schedule.

In order to properly anticipate delays, The Wagman Team will constantly monitor the progression of the design and construction activities and compare the progress to the baseline of the CPM. We will perform three-week look-aheads to properly plan our activities and to identify any deviation from the CPM. When changes or unforeseen circumstances impact the schedule, we will immediately communicate the impacts to VDOT and other appropriate stakeholders during regularly scheduled meetings, partnering events or through direct communication between the DBPM and VDOT's CO. If necessary, we will immediately develop and implement a recovery plan to put the project back on schedule. The Wagman Team has an ample resource pool from which to obtain the resources required to successfully implement a recovery plan, such as manpower (design and construction), equipment or additional subcontractors.

In addition to readily identifying impacts, by utilizing the same tools discussed above we will be able to quickly identify opportunities of accelerating the schedule. Through constant monitoring of the project's progress, we will be able to identify such opportunities and will be able to make adjustments to the CPM to allow us to accelerate the completion date to the fullest extent possible. As indicated in section 4.1.6 of the letter of submittal, we have already committed to finishing the project on November 17, 2017, beating the required completion date and finishing ahead of the Thanksgiving Day holiday. **However, through our concurrent segment construction sequencing, we anticipate the major median widening construction (through Phase 3) to be complete for approximately 50% of the project corridor by the end of 2016. We feel this will substantially alleviate congestion along a significant portion of the corridor in advance of the 2017 tourist season.** The Wagman Team is committed to further improving the Proposal Schedule, and upon notice of award we will actively work to improve the efficiency of the schedule, minimize the probability of impacts, and complete the project ahead of the stated completion date.

4.5.2 TRANSPORTATION MANAGEMENT PLAN

The Transportation Management Plan (TMP) is vital to the success of this project and requires a tremendous amount of planning and coordination. The purpose of this project is to improve the infrastructure in an area that is already experiencing a great amount of disruption and congestion due to the inadequacies of the existing roadway. Due to traffic volumes that currently exceed the existing infrastructure's capacity, constructing the necessary roadway improvements, while minimizing the impact to the current traffic flow and maintaining a safe and efficient work zone, is the main focus in the design and implementation of The Wagman Team's TMP. Safety of the traveling public and project personnel along with constructability will be the deciding factors used in developing the TMP. Special attention will be given to items such as temporary widening, lane shifts, concrete barrier, and night work so that an effective plan can be successfully implemented while still maintaining a level of constructability that will meet the project parameters and schedule. The Wagman Team will ensure that the construction sequencing will interface with the TMP and all work can be implemented safely and efficiently. All design work will be performed in accordance with the *Virginia Work Area Protection Manual* (VWAPM) and the *FHWA Manual of Uniform Traffic Control Devices* (MUTCD).

Maintenance of Traffic and Construction Impacts

I-64 is a major corridor, with an average ADT in excess of 100,000 vehicles per day, that serves commercial traffic, commuters, and tourists. With the high volume of traffic, The Wagman Team understands how critical an effective and efficient MOT Plan is to the success of this project. A detailed MOT plan will be prepared by The Wagman Team that will successfully execute the goals established in the development of the TMP. As stated above, maintaining a safe and efficient work zone while minimizing the impacts to the traveling public are key. The Wagman Team's approach will accomplish this by requiring only one major traffic switch to construct median widening. In accordance with Addendum 3, providing a 9' outside shoulder throughout the entire length of the project allows~~,~~ construction of all median widening throughout the project corridor to be accomplished in one single phase. By doing this, we can successfully meet the requirements of the RFP and also stay within the guidelines of the VWAPM and the MUTCD.

Following the new median widening construction, the existing concrete pavement patching, placement of THMACO, and existing bridge repairs/re-surfacing will be completed over the entire project, while utilizing the newly constructed travel lane and shoulder for traffic. Group II Barrels along the roadway widening areas, concrete barrier at the bridges, and some night work will be utilized during this final phase which will result in shorter work zones and minimize the impact to the traveling public.

The most noticeable construction impacts will be a lane width reduction to 11' through the work zone and a corresponding traffic shift towards the outside shoulder. This will be accomplished by first improving and strengthening the existing outside shoulder. This would allow traffic to be shifted 1' onto the shoulder while maintaining a 9' wide shoulder for emergencies and necessary pull-offs. We would then eradicate the existing pavement markings, reduce the travel lane widths to 11', and shift the traffic towards the outside. Once the lane shift is complete, there will be enough room to set concrete barrier on the inside edge of the travel lane while maintaining a 1' wide buffer between the 11' travel lane and the barrier.

Maintaining the 9' wide outside shoulder eliminates the need for safety pull-off areas on the inside and will allow construction to be completed on one long section of roadway instead of having a number of shorter sections separated by pull- off areas. The advantage to this approach is the fact that traffic will only be impacted one time for the new roadway construction. By eliminating the need for the pull-off areas on the inside, there is no additional traffic impact required to complete the roadway construction where the pull-offs were located at a later time.

Critical Areas of the Project

The interchange with I-64 and Fort Eustis Boulevard is one of the most critical areas on the project for transportation management. The MOT plan will be developed to address how the shoulder widening and lane shifts will interface with the on-ramps and off-ramps while still staying within the parameters of the RFP and VWAPM/MUTCD guidelines. Continuous access to these ramps will be maintained at all times for both acceleration and deceleration lanes. The MOT plan will provide adequate early warning signage (including warning signs and directional signs), proper taper lengths for on-ramp and off-ramp traffic, and pavement markings that clearly identify merge lanes and through lanes. Given the long and linear nature of this project, providing proper warning/information signage for this interchange is critical.

The other major critical area on this project is where the traveling public enter the work zone for the first time (both eastbound and westbound). This is the point at which the public will have to react to the changes that our work zones present. The MOT plan will provide proper early warning notifications for the traveling motorists and will allow them adequate time to prepare for the traffic changes that are ahead of them. This will include proper warning signage, directional signage, the use of variable message boards, and public outreach. Since much of the traffic on I-64 is composed of commuters and vacationers, public outreach efforts might not always effectively reach those that are traveling through the project. That is why the MOT plan design will place a large emphasis on the notifications provided to the motorists as they travel along the roadway. Informing and

preparing the motorists for what is directly ahead of them is the best way to create awareness. The MOT plan will effectively communicate this in a way that maximizes safety and minimizes risk.

Traffic Impacts

The Wagman Team is committed to reducing the impact of construction on the motoring public as much as possible. We will be maintaining all existing lanes and maintaining the outside shoulder for safe vehicle pull-off throughout the Project corridor during the construction of Phase 2. Also, we will design all lane shifts on I-64 to meet the full "L" length (double the minimum length) in an effort to maximize driver safety and mobility when navigating temporary traffic patterns. Other MOT design elements that will be thoroughly detailed include maintenance of positive drainage during construction, detailed temporary signing and pavement marking plans, and any access roads that may be needed from adjacent stakeholders.

Railroad Impacts

Anytime roadway construction commences near a railroad, it is important to communicate and coordinate all operations with the railroad to ensure impact is minimized to train traffic and that all of the safety requirements set forth by the railroad are being met. In constructing the bridge widening over the CSXT Railroad, we understand work will need to be done in and around the CSXT ROW. We will be working closely with CSXT to coordinate all necessary flagman required to complete this work. We will also coordinate with CSXT's Construction Monitoring representative URS Corporation. We expect no impacts to CSXT's operations.

Stakeholders Impacts and Public Acceptance

Public Information and Communications Plan (PICP): The Public Information and Communications Plan (PICP) will be presented to VDOT for review, comment and approval and will form the basis for all communication activities during the design and construction of the Project. Once approved by VDOT, The Wagman Team will perform the work as detailed in the PICP. At a minimum, the PICP will include a detailed account of the following:

- Communication Plan Goals
- Communication Plan Objectives
- Traffic Management Plan
- Identified Communication and Project Challenges
- Target Audiences and Key Stakeholders
- Communications Partners: Communication with elected officials and other High-Level stakeholders as identified by VDOT shall be managed by VDOT. Additionally, coordination with local agencies shall be coordinated in conjunction with VDOT. Other Communications Partners should be utilized to communicate consistent messaging for the Project by The Wagman Team, including message coordination with other contractors in the area.
- Crisis Communications/Risk Management Plan: The Wagman Team will develop processes for managing communication surrounding emergency management and recovery operations. The Wagman Team will provide to VDOT's Project Manager an emergency contact list of Project personnel and response plan to respond to any onsite emergency, including any work zone incidents in accordance with I&IM-241.
- Communications Tools, Tactics, and Strategies (See 2.11.2)
- Advertising and Marketing Budget: The cost estimate should be broken down by general line item. The advertising campaign will include regular coverage on television and in print media, radio and billboard advertising, and interactive media. The Wagman Team understands VDOT will make all decisions on expenditures for advertising and marketing.
- Action Steps/Deliverables/Time Line
- Program Success Measurements

Communications Tools, Tactics, and Strategies: The PICP prepared by The Wagman Team and approved by VDOT will provide a detailed outline of communication tools, tactics, and strategies to be employed during the Project. These will include, but are not limited to:

- Community Outreach Efforts/Public Information: The Wagman Team will establish ongoing mechanisms for stakeholder information and input during construction. They will incorporate a notification program into their communication tactics to inform motorists and the broader community about expected traffic changes/delays through, at a minimum, the district's weekly Lane Closure Report, traffic advisories, and a paid advertising campaign. The advertising campaign will include regular coverage on television and online venues as well as in print media, radio and billboard advertising, and interactive media. The Wagman Team will maintain a log or database of questions, complaints, and/or comments received from stakeholders and the public either via public outreach efforts or direct contact, along with dates received, responses generated, and how/when the issues or concerns are addressed. If appropriate, this list of questions and responses will be posted on VDOT's website.
- Traffic Impacts/ Notifications: The Wagman Team will provide VDOT information for Traffic Advisories whenever there are new planned impacts to motorists. All information for Traffic Advisories will be submitted at least one week in advance of the traffic impact. If the planned impact is major (changes or additional lane closures that are anticipated to cause traffic delays that exceed existing conditions), VDOT will be notified one month in advance.
- Educational Program: The Wagman Team will ensure that motorists are educated about the features and benefits of the Project, as well as the lane closures, potential congestion issues resulting from Project activity and suggested alternate routes, so that they can make an informed travel decisions during construction activity.
- News Media Relations Strategy: The Wagman Team and VDOT will ensure close coordination with each other on media outreach activities, issues, and responses, and will promote consistency with the PICP. The PICP strategy for The Wagman Team will include, but should not be limited to these guidelines.
- The Wagman Team will adhere to VDOT's media protocols governing responsibilities and reporting in relation to contact with the media, including guidelines for information sharing, policies to promote consistent messages, and procedures specific to managing emergencies and incidents.
- The Wagman Team will develop and provide to VDOT for review, comment and approval a set of media protocols within the Project team, with clearly defined spokespeople, roles, and talking points and proactively build and maintain media relationships, in collaboration with VDOT.
- The Wagman Team will provide timely response to media inquiries and keep VDOT informed of media inquiries regarding the Project and the nature of responses that are documented as mutually agreed and provide relevant Project information to the media in a timely fashion.
- The Wagman Team will monitor all known media coverage of the Project (stories requiring input from The Wagman Team, involving interviews, etc.) and report coverage to VDOT by the next business morning (9 a.m.).
- The Wagman Team will provide at least three business days to VDOT for review of all press releases or other media materials deemed non-emergency for review and approval before external distribution.

The Wagman Team fully understands that timely response means response to standard media inquiries are to be given within the same working day and responses to inquiries during emergencies will be immediate.

Project Website: The Wagman Team will provide web site copy to VDOT for review and input prior to posting. The web-site will contain a graphical Project overview, The Wagman Team contact information, plan of work for the coming month, overall Project schedule, a frequently asked questions area, and updated Project photos. The web-site will be updated as necessary throughout the duration of the Project. The Project page website will be managed by VDOT and incorporated into VDOT's statewide website.

Social Media Strategy: The Wagman Team will provide timely and appropriate social media pictures and posts that can be utilized by VDOT Communications on VDOT social media accounts. All photos, captions, tweets, and posts must be reviewed and approved by VDOT prior to posting.

Project Advertising Strategy: The Wagman Team will work in conjunction with VDOT Communication Managers to develop a paid advertising and marketing strategy for VDOT's review and approval to ensure they are consistent with both parties' values, needs, and goals. VDOT will be the final decision making authority on how the advertising/marketing strategy is executed and what mediums will be used for that advertising/marketing. The Wagman Team will ensure all public communication on the Project will be undertaken within the framework of a uniform VDOT 'brand' to ensure consistency of the marketing and communication across Project boundaries. The Wagman Team will also develop a branding strategy that can be used throughout the region on multiple projects of the same type. Using the approved "brand" or "co-brand" we will advertise the Projects throughout the region. VDOT will have final authority on when and how much money is spent for paid advertising and marketing throughout the life of the project.

Collateral Materials: The Wagman Team will develop tailored marketing and communication material for relevant stakeholder groups, including but not limited to the general traveling public, tourism, trucking and hotel industries. We will provide VDOT with advance copies of communications materials for review, comment and approval prior to dissemination.

Coordination with Adjacent Projects

We will invite adjacent property owners to our task force meetings and monthly progress meetings, as necessary to ensure proper coordination. As outlined in the RFP, there are three ongoing design and construction projects located within or near this project. Two of the projects are located within this project's footprint, and a third project is adjacent. The Wagman Team is committed to developing a proactive approach to the coordination of adjacent projects. Regular public outreach meetings and communication with the management staff of the adjacent projects will be implemented to ensure proper coordination with both the design and construction of all of the projects. Our proactive approach will reduce design impacts of this project as well as provide for a smoother review process by VDOT and the City of Newport News. In addition, proper coordination will help keep cumulative public impacts to this portion of the I-64 corridor to a minimum. Our efforts will include the following:

1. **Denbigh Blvd. Bridge Replacement over I-64 and CSXT Railroad** – This VDOT Design-Build project which is planned to be advertised in May of 2017 will require coordination with the successful design-builder in the later parts of this I-64 Capacity Improvements Project. Coordination will be required for the Design of the Denbigh Blvd. Bridge replacement project. The Wagman Team will coordinate with VDOT during the design of this I-64 Project in order to obtain any available information for the Denbigh Blvd. Bridge replacement project in order to ensure that the design of this I-64 project will properly accommodate the goals of VDOT for the Denbigh Blvd. Bridge Replacement Project.

   In addition to design coordination, and depending on the schedule for the Denbigh Blvd. Bridge Replacement Projects, these two projects may have concurrent construction activities. Due to the advertisement date falling late into the schedule for this I-64 Improvement Project, and the design work that will be required, The Wagman Team anticipates that there will be some early field work to accommodate their design, such as survey and geotechnical exploration. The Wagman Team will make every effort to ensure proper coordination between the projects in order to minimize impacts to both projects as well as to the public.

2. **Design of Atkinson Blvd.** – This City of Newport News Design-Build Project is located within the limits of this I-64 Capacity Improvements Project. Because this project is slated to be advertised in August of 2015, the design of both projects will overlap. In addition to design, and depending on the schedule for the Atkinson Blvd. Project, the majority of the construction of the Atkinson Blvd. Project will overlap the construction of this I-64 Capacity Improvements project. The Wagman Team will coordinate with the City of Newport News and VDOT during our design phase to ensure that we are properly accommodating for the goals of the Atkinson Blvd. Project. Upon award of the Atkinson Blvd. Project, The Wagman Team will promptly reach out to the design-build team to coordinate the design of the Atkinson Blvd. Project as

well as to evaluate any adjustments to the design of this I-64 Project to determine if such adjustments may be beneficial to both projects as well as the traveling public.

In addition to design coordination, the Atkinson Blvd. Project will most likely require substantial construction coordination. The Wagman Team will endeavor to properly coordinate with the Atkinson Blvd. Design-Build Team to ensure coordination of early design related activities such as survey and geotechnical explorations. In addition, we will coordinate lane closures and traffic switches to coincide with the needs of both projects and to minimize impacts to the traveling public.

3. **Replacement of the Fort Eustis Blvd. Bridge over CSXT Railroad** – This City of Newport News Design-Build project is located adjacent to this I-64 Capacity Improvements Project and the project limits do not overlap. It is, however, directly adjacent to the project limits. Currently, the Fort Eustis Blvd. Bridge Project is slated to be completed in January of 2015. Therefore, it will most likely be complete prior to the start of this I-64 project, so coordination efforts will only involve design coordination. The Wagman Team will coordinate with the Fort Eustis Blvd. Bridge Project's Design-Builder to ensure that we have the most up to date information regarding the construction of the adjacent project to provide proper implementation into our design. In addition, should the Fort Eustis Blvd. Bridge Project fall behind schedule, thereby causing overlap of the construction of both projects, The Wagman Team will properly coordinate traffic control measures and other activities as necessary so as not to hinder the progression of both projects.

SECTION 4.6

Disadvantaged Business Enterprises (DBE)

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4.6 DISADVANTAGED BUSINESS ENTERPRISES (DBE)

The Wagman Team is committed to achieving a twelve percent (12%) DBE participation goal for the entire value of the contract.

The Wagman Team has a consistent history of meeting and exceeding DBE participation goals. In selecting subconsultants, we will select highly qualified and skilled DBE firms with whom we have an established relationship with, as well as those firms who have VDOT design-build experience. The Wagman Team maintains a database of DBE firms qualified to work on our projects. Our experience working with each of these firms provides us with confidence in, and knowledge of, their capabilities, allowing us to successfully integrate them into The Wagman Team and maximize their utilization on the project. In addition to the database, we routinely engage in outreach efforts to be able to continuously connect with additional qualified DBE firms.

Concurrent with the preparation of this Technical Proposal and as part of the Price Proposal, we will solicit pricing for the work from potential DBE subcontractors and vendors. The following list outlines the steps we will take during the Price Proposal preparation to ensure compliance:

- Examine the Project and nature of the work and compare to our internal database to identify opportunities for DBE participation.
- Contact DBE firms in our company database to inform them of the opportunity. We will include, in an email solicitation, the Project scope and a list of trades for subcontracting opportunities.
- Make follow-up phone calls to identified firms to determine actual interest in the project and to assist with their proposal efforts.
- Publish Proposal Notifications/Bid Notices in local and minority newspapers identifying the Project and the potential opportunity to supply materials and services.
- Post the opportunity on our company website to reach potential interested DBE firms.
- Post plans and specifications on our FTP site for subcontractors to review.
- Maintain a spreadsheet with DBE firms' contact information and correspondence.
- Maintain a DBE participation tracking log during the preparation of our Technical and Price Proposals in order to determine the status of expected DBE participation. DBE solicitation strategies will be evaluated and adjusted as necessary to ensure that the goal will be met with the submission of the Price Proposal.

Throughout the design and construction phases of the project, the DBE participation plan will be constantly monitored by the DBPM to ensure The Wagman Team meets or exceeds the goal. Results and status of our monitoring efforts will be continuously relayed to VDOT on a regular basis to ensure transparency of our DBE subcontracting efforts. Additionally, The Wagman Team understands the Governor's Executive Order Number 20 (July 2014) related to opportunity for SWaM firm participation and will employ good faith efforts to maximize the use of SWaM firms.

SECTION 4.7

Proposal Schedule

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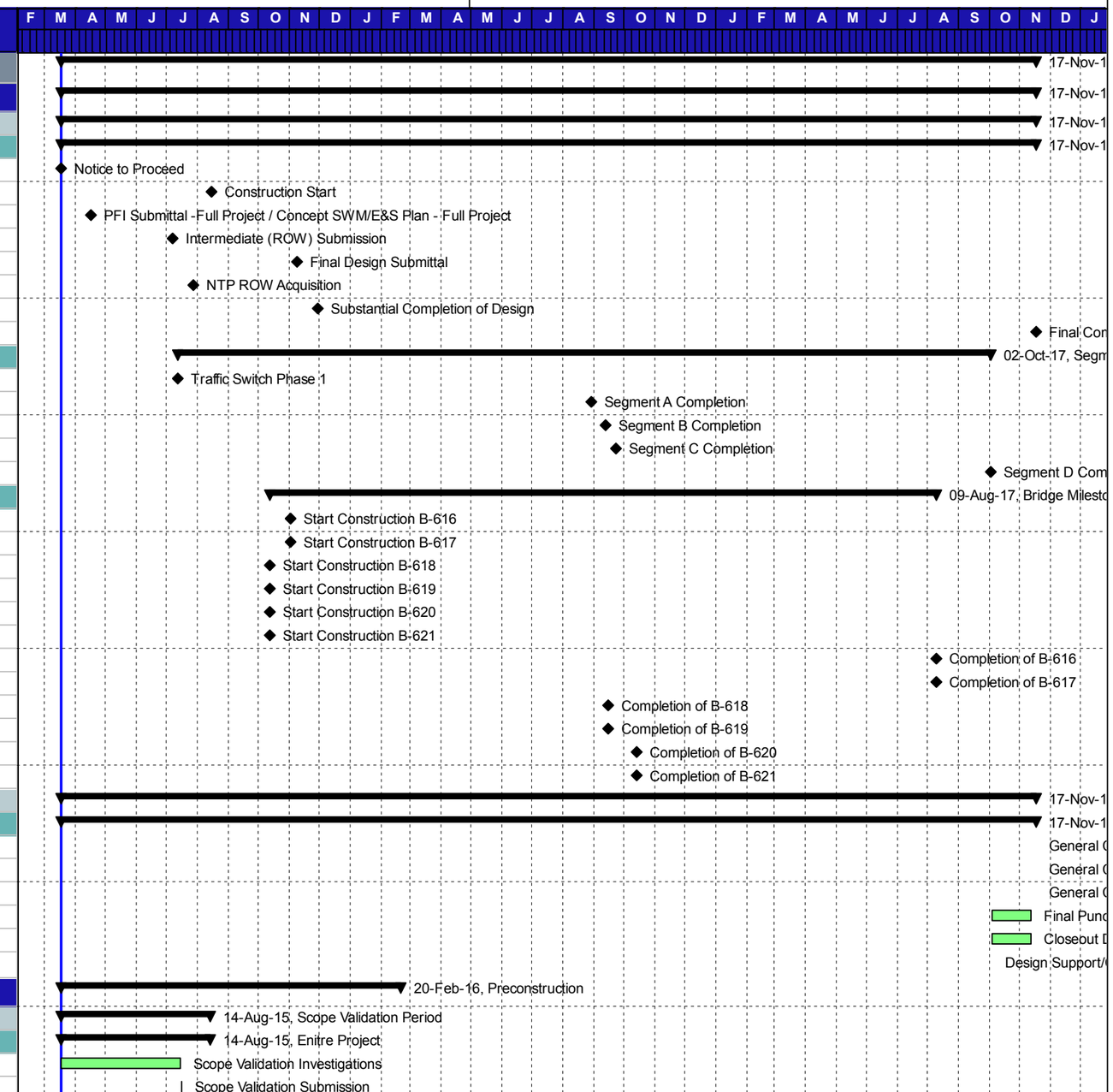
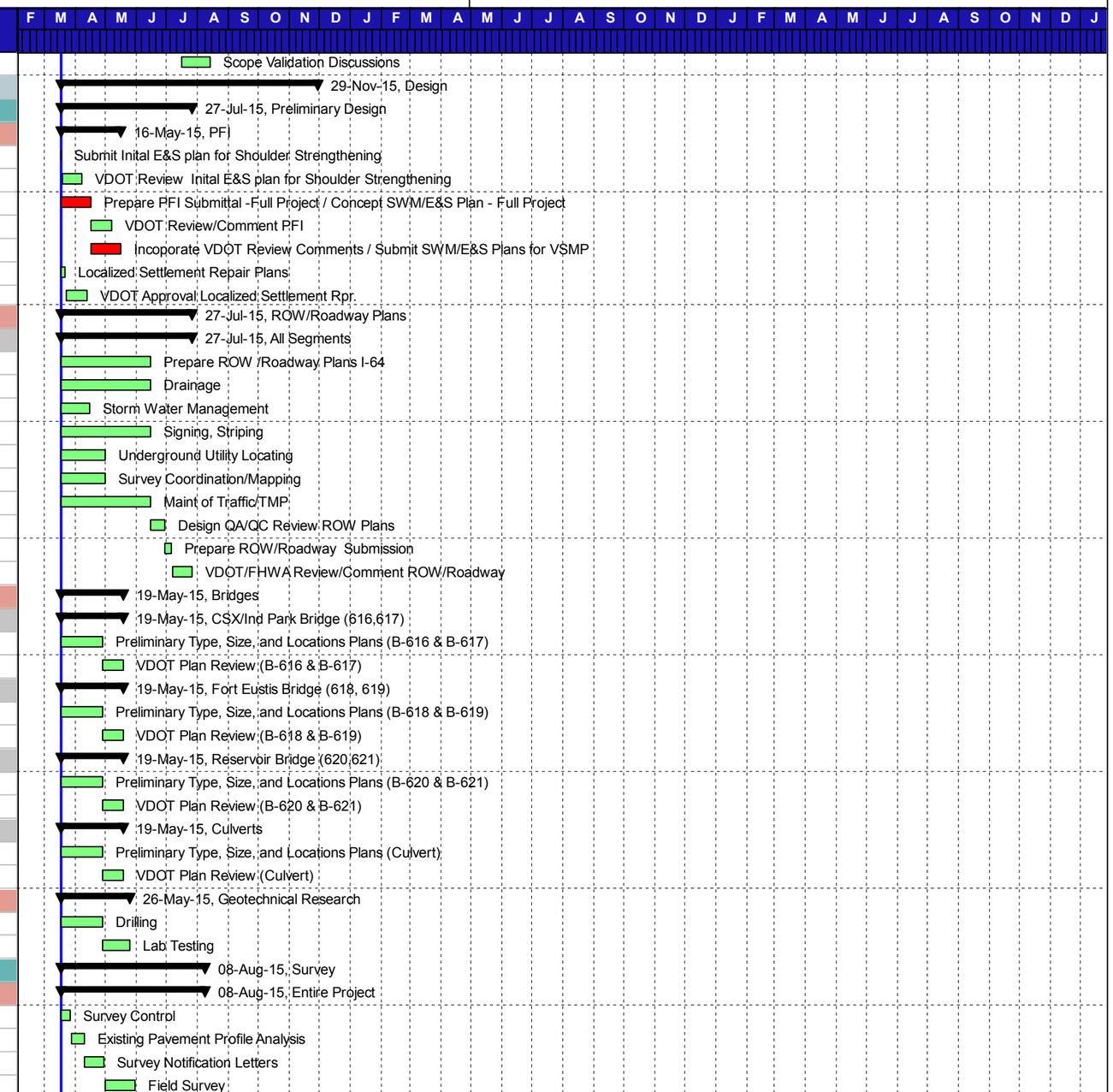
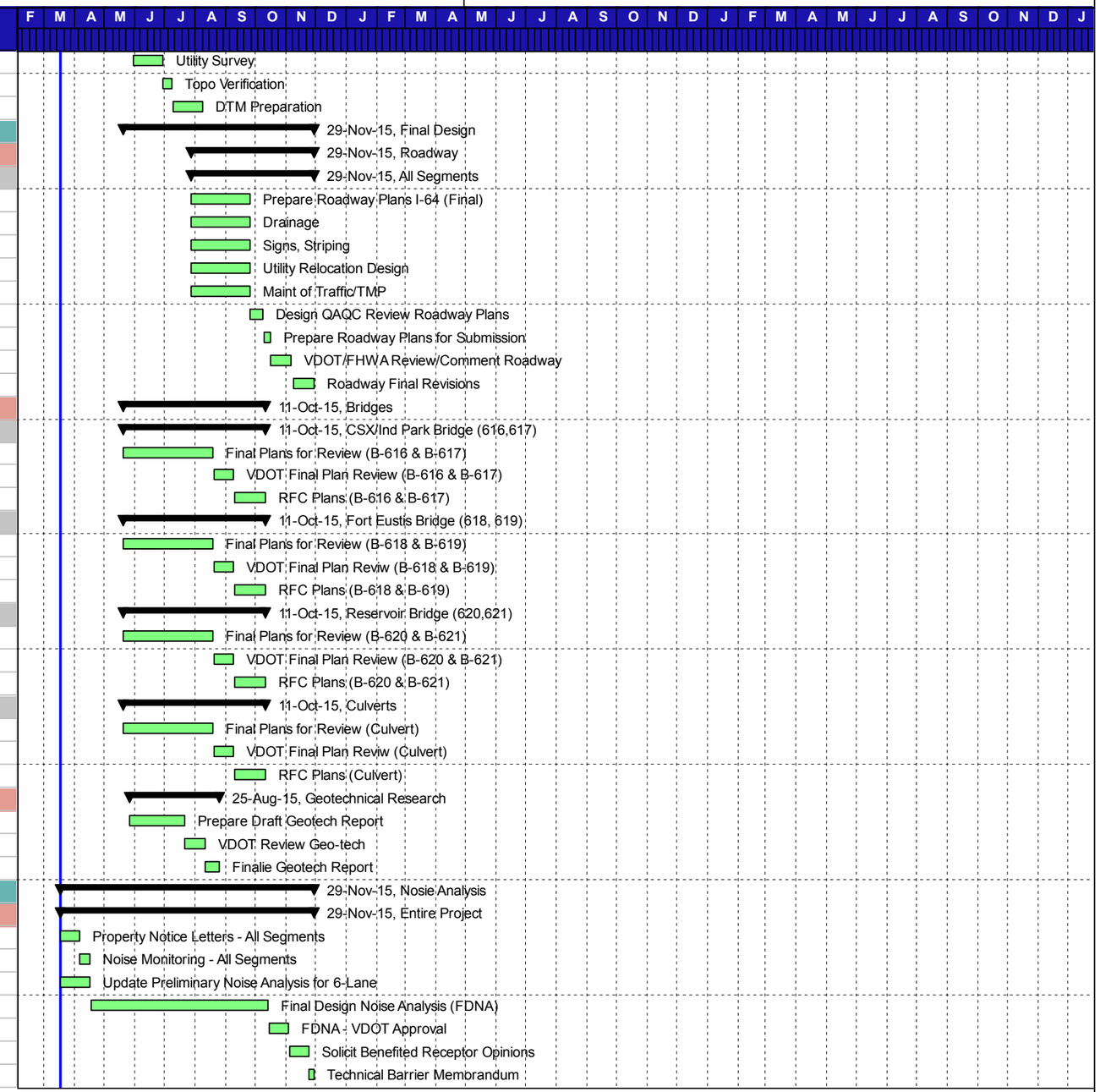
Activity ID	Activity Name	Planned Duration	Start	Finish
C00104905DB75 I-64 Capacity Improvements - Se		698.0d	18-Mar-15	17-Nov-17
Milestones and General Conditions		698.0d	18-Mar-15	17-Nov-17
Milestones		698.0d	18-Mar-15	17-Nov-17
Project Milestones		698.0d	18-Mar-15	17-Nov-17
A1000	Notice to Proceed	0.0d	18-Mar-15	
A1010	Construction Start	0.0d	15-Aug-15	
A1015	PFI Submittal -Full Project / Concept SWM/	0.0d		17-Apr-15
A1016	Intermediate (ROW) Submission	0.0d		07-Jul-15
A1017	Final Design Submittal	0.0d		09-Nov-15
A1019	NTP ROW Acquisition	0.0d		28-Jul-15
A1020	Substantial Completion of Design	0.0d		29-Nov-15
A1060	Final Completion (Contract = 01-DEC-2017	0.0d		17-Nov-17
Segment Milestones		579.6d	13-Jul-15	02-Oct-17
A6060	Traffic Switch Phase 1	0.0d		13-Jul-15
A6290	Segment A Completion	0.0d		29-Aug-16
A6350	Segment B Completion	0.0d		12-Sep-16
A6351	Segment C Completion	0.0d		22-Sep-16
A6352	Segment D Completion	0.0d		02-Oct-17
Bridge Milestones		476.9d	12-Oct-15	09-Aug-17
A1070	Start Construction B-616	0.0d	02-Nov-15	
A1080	Start Construction B-617	0.0d	02-Nov-15	
A1090	Start Construction B-618	0.0d	12-Oct-15	
A1100	Start Construction B-619	0.0d	12-Oct-15	
A1110	Start Construction B-620	0.0d	12-Oct-15	
A1120	Start Construction B-621	0.0d	12-Oct-15	
A1130	Completion of B-616	0.0d		09-Aug-17
A1140	Completion of B-617	0.0d		09-Aug-17
A1150	Completion of B-618	0.0d		15-Sep-16
A1160	Completion of B-619	0.0d		15-Sep-16
A1170	Completion of B-620	0.0d		13-Oct-16
A1180	Completion of B-621	0.0d		13-Oct-16
General Conditions		698.0d	18-Mar-15	17-Nov-17
Entire Project		698.0d	18-Mar-15	17-Nov-17
A1190	General Conditions: Survey through Substa	976.0d	18-Mar-15	17-Nov-17
A1200	General Conditions: Project Management tl	976.0d	18-Mar-15	17-Nov-17
A1210	General Conditions: QA/QC to Substantial (	976.0d	18-Mar-15	17-Nov-17
A1250	Final Punchlist/Demoblization	40.0d	04-Oct-17	12-Nov-17
A1260	Closeout Documentation	40.0d	04-Oct-17	12-Nov-17
DAB100	Design Support/Construction	781.0d	15-Aug-15	03-Oct-17
Preconstruction		243.0d	18-Mar-15	20-Feb-16
Scope Validation Period		108.0d	18-Mar-15	14-Aug-15
Enitre Project		108.0d	18-Mar-15	14-Aug-15
SV100	Scope Validation Investigations	120.0d	18-Mar-15	15-Jul-15
SV110	Scope Validation Submission	0.0d	16-Jul-15	16-Jul-15



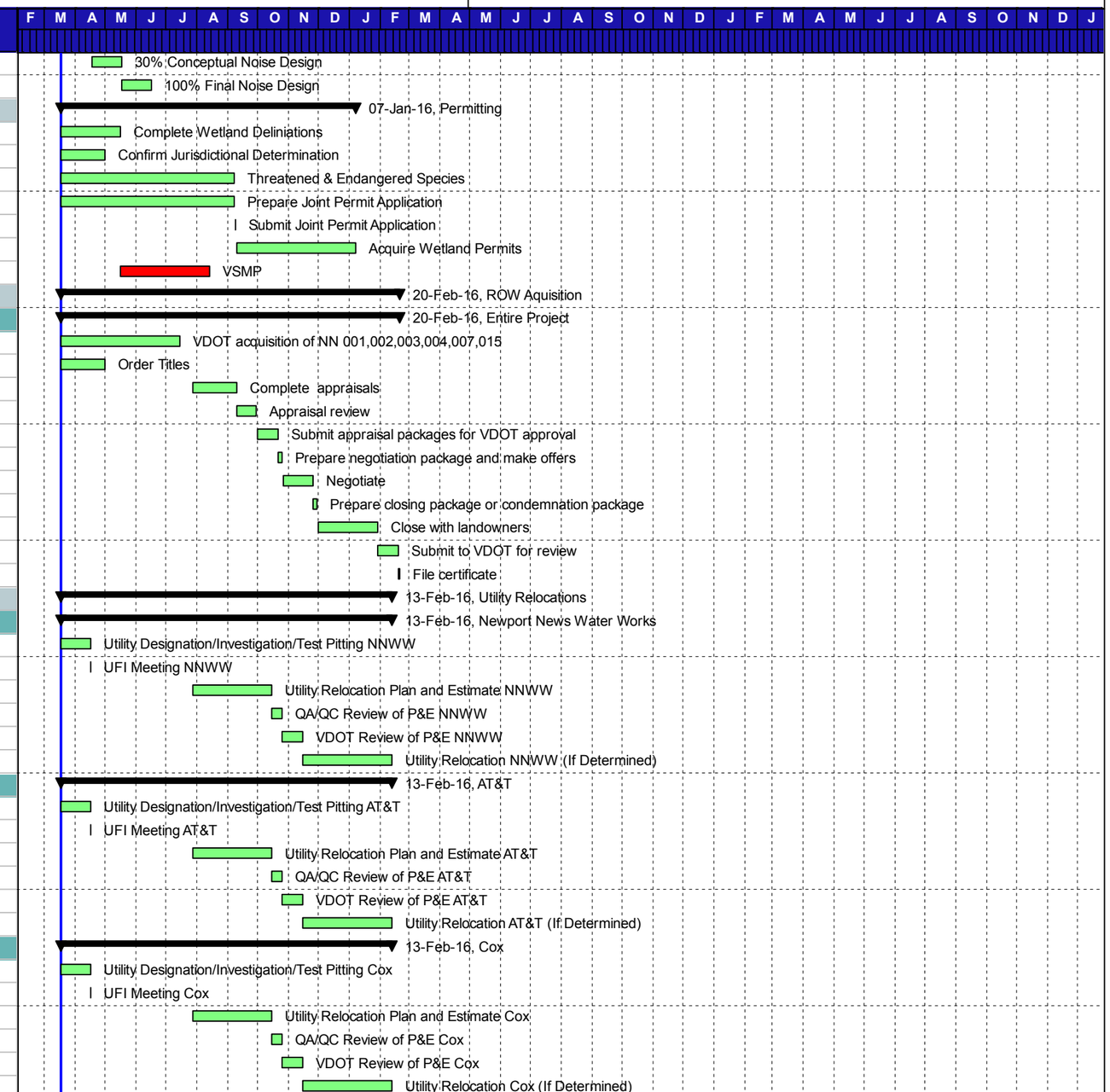
Activity ID	Activity Name	Planned Duration	Start	Finish
SV120	Scope Validation Discussions	30.0d	16-Jul-15	14-Aug-15
Design		183.0d	18-Mar-15	29-Nov-15
Preliminary Design		94.0d	18-Mar-15	27-Jul-15
PFI		43.0d	18-Mar-15	16-May-15
A10265	Submit Inital E&S plan for Shoulder Strengt	1.0d	18-Mar-15	18-Mar-15
A10266	VDOT Review Inital E&S plan for Shoulder	21.0d	19-Mar-15	08-Apr-15
A10270	Prepare PFI Submittal -Full Project / Conce	30.0d	18-Mar-15	16-Apr-15
A10280	VDOT Review/Comment PFI	21.0d	17-Apr-15	07-May-15
A14820	Incoporate VDOT Review Comments / Sub	30.0d	17-Apr-15	16-May-15
A6590	Localized Settlement Repair Plans	5.0d	18-Mar-15	22-Mar-15
A6600	VDOT Approval Localized Settlement Rpr.	21.0d	23-Mar-15	12-Apr-15
ROW/Roadway Plans		94.0d	18-Mar-15	27-Jul-15
All Segments		94.0d	18-Mar-15	27-Jul-15
DRW1000	Prepare ROW /Roadway Plans I-64	90.0d	18-Mar-15	15-Jun-15
DRW1010	Drainage	90.0d	18-Mar-15	15-Jun-15
DRW1020	Storm Water Management	29.0d	18-Mar-15	15-Apr-15
DRW1030	Signing, Striping	90.0d	18-Mar-15	15-Jun-15
DRW1040	Underground Utility Locating	45.0d	18-Mar-15	01-May-15
DRW1050	Survey Coordination/Mapping	45.0d	18-Mar-15	01-May-15
DRW1090	Maint of Traffic/TMP	90.0d	18-Mar-15	15-Jun-15
DRW1110	Design QA/QC Review ROW Plans	14.0d	16-Jun-15	29-Jun-15
DRW1120	Prepare ROW/Roadway Submission	7.0d	30-Jun-15	06-Jul-15
DRW1150	VDOT/FHWA Review/Comment ROW/Roa	21.0d	07-Jul-15	27-Jul-15
Bridges		45.0d	18-Mar-15	19-May-15
CSX/Ind Park Bridge (616,617)		45.0d	18-Mar-15	19-May-15
DRW1130	Preliminary Type, Size, and Locations Plans	42.0d	18-Mar-15	28-Apr-15
DRW1140	VDOT Plan Review (B-616 & B-617)	21.0d	29-Apr-15	19-May-15
Fort Eustis Bridge (618, 619)		45.0d	18-Mar-15	19-May-15
DRW1200	Preliminary Type, Size, and Locations Plans	42.0d	18-Mar-15	28-Apr-15
DRW1210	VDOT Plan Review (B-618 & B-619)	21.0d	29-Apr-15	19-May-15
Reservoir Bridge (620,621)		45.0d	18-Mar-15	19-May-15
DRW1220	Preliminary Type, Size, and Locations Plans	42.0d	18-Mar-15	28-Apr-15
DRW1230	VDOT Plan Review (B-620 & B-621)	21.0d	29-Apr-15	19-May-15
Culverts		45.0d	18-Mar-15	19-May-15
DRW1240	Preliminary Type, Size, and Locations Plans	42.0d	18-Mar-15	28-Apr-15
DRW1250	VDOT Plan Review (Culvert)	21.0d	29-Apr-15	19-May-15
Geotechnical Research		50.0d	18-Mar-15	26-May-15
DRW1061	Drilling	42.0d	18-Mar-15	28-Apr-15
DRW1062	Lab Testing	28.0d	29-Apr-15	26-May-15
Survey		103.0d	18-Mar-15	08-Aug-15
Entire Project		103.0d	18-Mar-15	08-Aug-15
A8690	Survey Control	10.0d	18-Mar-15	27-Mar-15
A8691	Existing Pavement Profile Analysis	14.0d	28-Mar-15	10-Apr-15
A8700	Survey Notification Letters	20.0d	11-Apr-15	30-Apr-15
A8710	Field Survey	30.0d	01-May-15	30-May-15



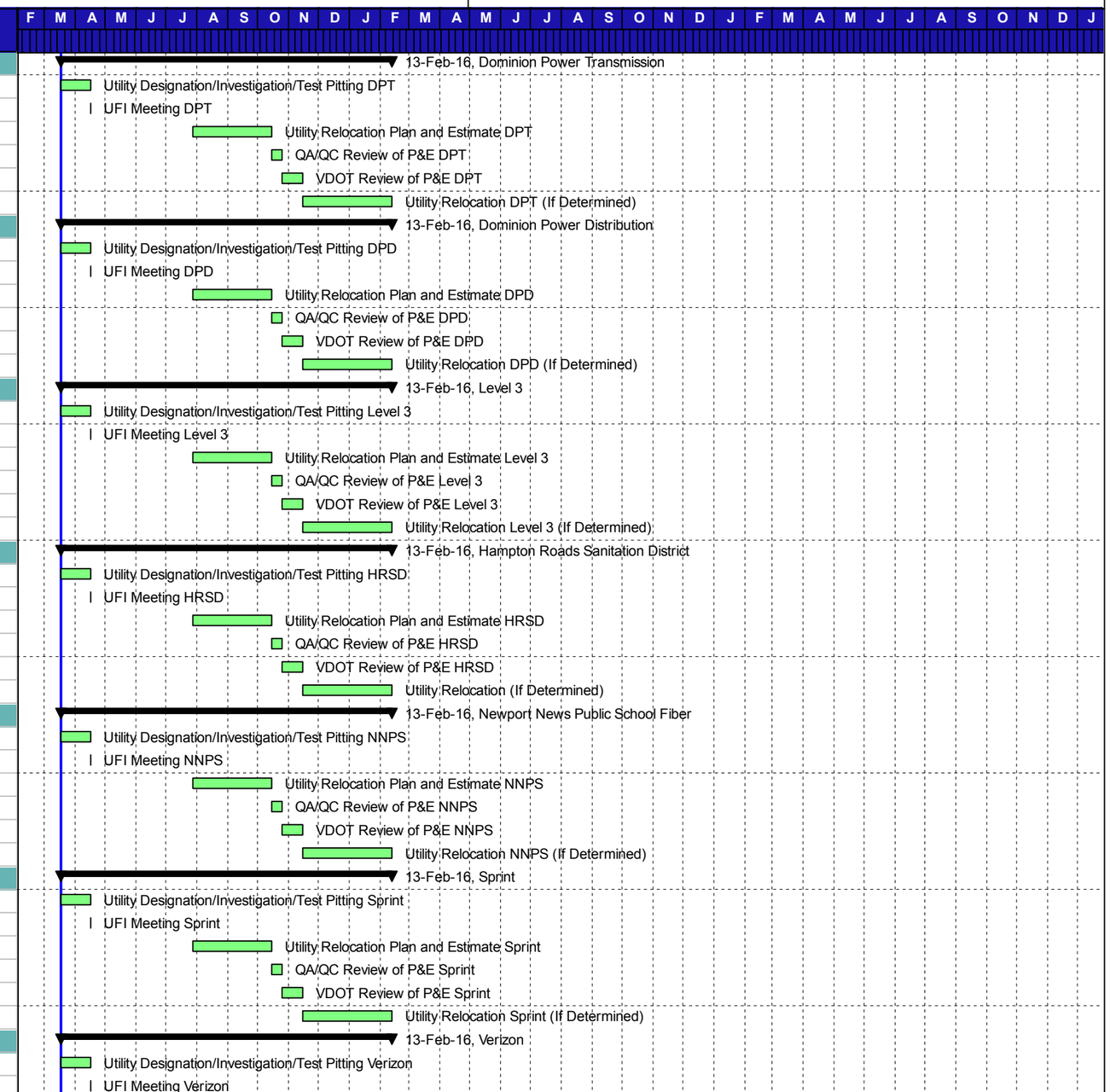
Activity ID	Activity Name	Planned Duration	Start	Finish
A8720	Utility Survey	30.0d	31-May-15	29-Jun-15
A8730	Topo Verification	10.0d	30-Jun-15	09-Jul-15
A8740	DTM Preparation	30.0d	10-Jul-15	08-Aug-15
Final Design		138.0d	20-May-15	29-Nov-15
Roadway		89.0d	28-Jul-15	29-Nov-15
All Segments		89.0d	28-Jul-15	29-Nov-15
DF2000	Prepare Roadway Plans I-64 (Final)	60.0d	28-Jul-15	25-Sep-15
DF2010	Drainage	60.0d	28-Jul-15	25-Sep-15
DF2030	Signs, Striping	60.0d	28-Jul-15	25-Sep-15
DF2040	Utility Relocation Design	60.0d	28-Jul-15	25-Sep-15
DF2070	Maint of Traffic/TMP	60.0d	28-Jul-15	25-Sep-15
DF2080	Design QAQC Review Roadway Plans	14.0d	26-Sep-15	09-Oct-15
DF2090	Prepare Roadway Plans for Submission	7.0d	10-Oct-15	16-Oct-15
DF2120	VDOT/FHWA Review/Comment Roadway	21.0d	17-Oct-15	06-Nov-15
DRFC3010	Roadway Final Revisions	21.0d	09-Nov-15	29-Nov-15
Bridges		103.0d	20-May-15	11-Oct-15
CSX/Ind Park Bridge (616,617)		103.0d	20-May-15	11-Oct-15
DF2150	Final Plans for Review (B-616 & B-617)	92.0d	20-May-15	19-Aug-15
DF2160	VDOT Final Plan Review (B-616 & B-617)	21.0d	20-Aug-15	09-Sep-15
DFRC3020	RFC Plans (B-616 & B-617)	32.0d	10-Sep-15	11-Oct-15
Fort Eustis Bridge (618, 619)		103.0d	20-May-15	11-Oct-15
DF2170	Final Plans for Review (B-618 & B-619)	92.0d	20-May-15	19-Aug-15
DF2180	VDOT Final Plan Reviw (B-618 & B-619)	21.0d	20-Aug-15	09-Sep-15
DFRC3030	RFC Plans (B-618 & B-619)	32.0d	10-Sep-15	11-Oct-15
Reservoir Bridge (620,621)		103.0d	20-May-15	11-Oct-15
DF2190	Final Plans for Review (B-620 & B-621)	92.0d	20-May-15	19-Aug-15
DF2200	VDOT Final Plan Review (B-620 & B-621)	21.0d	20-Aug-15	09-Sep-15
DFRC3040	RFC Plans (B-620 & B-621)	32.0d	10-Sep-15	11-Oct-15
Culverts		103.0d	20-May-15	11-Oct-15
DF2210	Final Plans for Review (Culvert)	92.0d	20-May-15	19-Aug-15
DF2220	VDOT Final Plan Reviw (Culvert)	21.0d	20-Aug-15	09-Sep-15
DFRC3050	RFC Plans (Culvert)	32.0d	10-Sep-15	11-Oct-15
Geotechnical Research		65.0d	27-May-15	25-Aug-15
DRW1063	Prepare Draft Geotech Report	56.0d	27-May-15	21-Jul-15
DRW1064	VDOT Review Geo-tech	21.0d	22-Jul-15	11-Aug-15
DRW1065	Finalie Geotech Report	14.0d	12-Aug-15	25-Aug-15
Nosie Analysis		183.0d	18-Mar-15	29-Nov-15
Entire Project		183.0d	18-Mar-15	29-Nov-15
NB1000	Property Notice Letters - All Segments	20.0d	18-Mar-15	06-Apr-15
NB2000	Noise Monitoring - All Segments	10.0d	07-Apr-15	16-Apr-15
NB3000	Update Preliminary Noise Analysis for 6-Lar	31.0d	18-Mar-15	17-Apr-15
NB4000	Final Design Noise Analysis (FDNA)	180.0d	18-Apr-15	14-Oct-15
NB5000	FDNA - VDOT Approval	21.0d	15-Oct-15	04-Nov-15
NB6000	Solicit Benefited Receptor Opinions	20.0d	05-Nov-15	24-Nov-15
NB7000	Technical Barrier Memorandum	5.0d	25-Nov-15	29-Nov-15



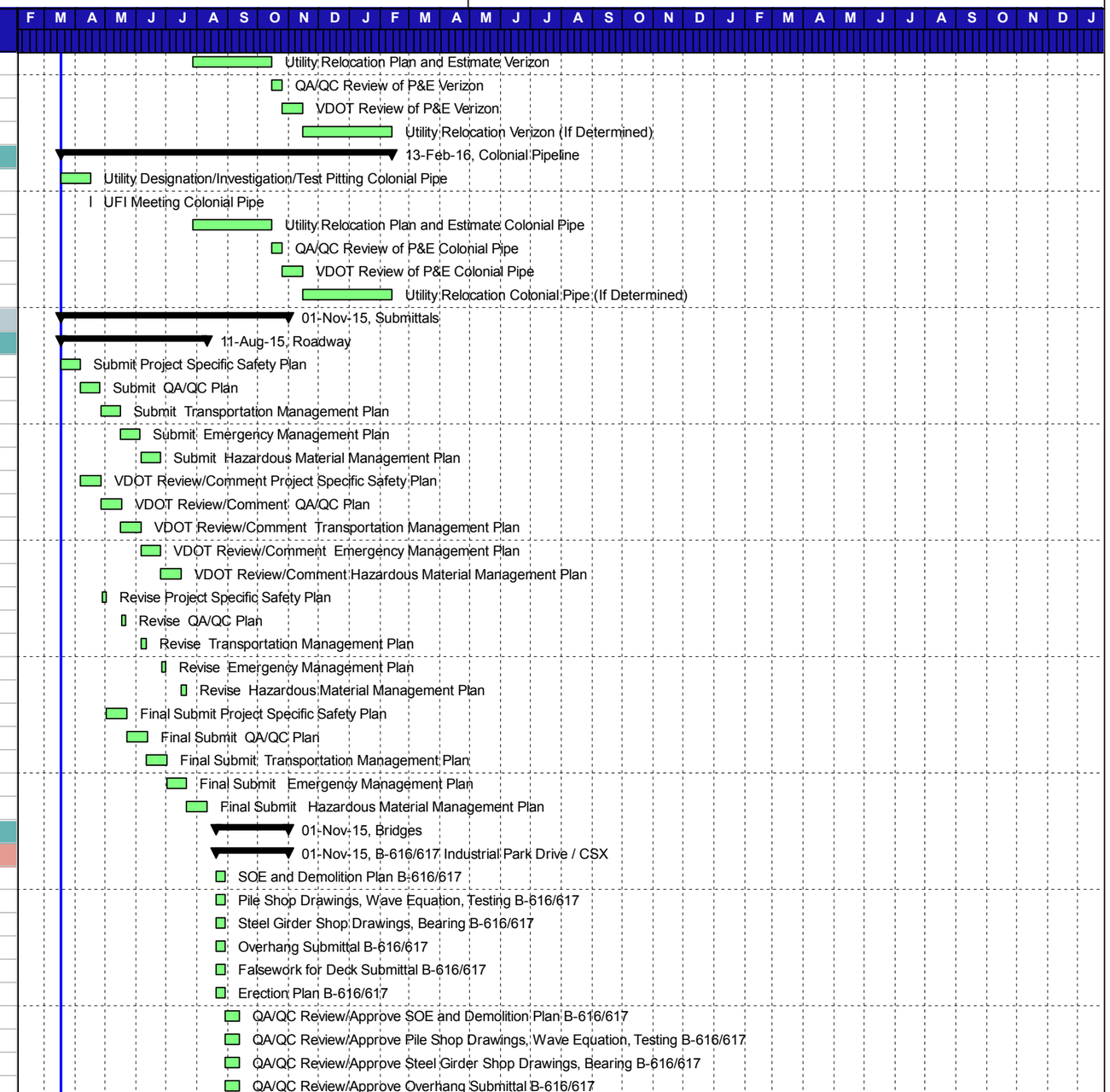
Activity ID	Activity Name	Planned Duration	Start	Finish
NB9120	30% Conceptual Noise Design	30.0d	18-Apr-15	17-May-15
NB9140	100% Final Noise Design	30.0d	18-May-15	16-Jun-15
Permitting		212.0d	18-Mar-15	07-Jan-16
E2	Complete Wetland Deliniations	60.0d	18-Mar-15	16-May-15
E3	Confirm Jurisdictional Determination	45.0d	18-Mar-15	01-May-15
E4	Threatened & Endangered Species	175.0d	18-Mar-15	08-Sep-15
E5	Prepare Joint Permit Application	175.0d	18-Mar-15	08-Sep-15
E5.5	Submit Joint Permit Application	1.0d	09-Sep-15	09-Sep-15
E6	Acquire Wetland Permits	120.0d	10-Sep-15	07-Jan-16
E7	VSMP	90.0d	17-May-15	14-Aug-15
ROW Aquisition		243.0d	18-Mar-15	20-Feb-16
Entire Project		243.0d	18-Mar-15	20-Feb-16
A10669	VDOT acquisition of NN 001,002,003,004,0	120.0d	18-Mar-15	15-Jul-15
A10670	Order Titles	45.0d	18-Mar-15	01-May-15
A10680	Complete appraisals	45.0d	28-Jul-15	10-Sep-15
A10690	Appraisal review	20.0d	11-Sep-15	30-Sep-15
A10700	Submit appraisal packages for VDOT appro	21.0d	01-Oct-15	21-Oct-15
A10710	Prepare negotiation package and make offe	5.0d	22-Oct-15	26-Oct-15
A10720	Negotiate	30.0d	27-Oct-15	25-Nov-15
A10730	Prepare closing package or condemnation p	5.0d	26-Nov-15	30-Nov-15
A10740	Close with landowners	60.0d	01-Dec-15	29-Jan-16
A10750	Submit to VDOT for review	21.0d	30-Jan-16	19-Feb-16
A10760	File certificate	1.0d	20-Feb-16	20-Feb-16
Utility Relocations		238.0d	18-Mar-15	13-Feb-16
Newport News Water Works		238.0d	18-Mar-15	13-Feb-16
A9610	Utility Designation/Investigation/Test Pitting	30.0d	18-Mar-15	16-Apr-15
A9620	UFI Meeting NNWW	1.0d	17-Apr-15	17-Apr-15
A9630	Utility Relocation Plan and Estimate NNWW	80.0d	28-Jul-15	15-Oct-15
A9640	QA/QC Review of P&E NNWW	10.0d	16-Oct-15	25-Oct-15
A9650	VDOT Review of P&E NNWW	21.0d	26-Oct-15	15-Nov-15
A9660	Utility Relocation NNWW (If Determined)	90.0d	16-Nov-15	13-Feb-16
AT&T		238.0d	18-Mar-15	13-Feb-16
A9670	Utility Designation/Investigation/Test Pitting	30.0d	18-Mar-15	16-Apr-15
A9680	UFI Meeting AT&T	1.0d	17-Apr-15	17-Apr-15
A9690	Utility Relocation Plan and Estimate AT&T	80.0d	28-Jul-15	15-Oct-15
A9700	QA/QC Review of P&E AT&T	10.0d	16-Oct-15	25-Oct-15
A9710	VDOT Review of P&E AT&T	21.0d	26-Oct-15	15-Nov-15
A9720	Utility Relocation AT&T (If Determined)	90.0d	16-Nov-15	13-Feb-16
Cox		238.0d	18-Mar-15	13-Feb-16
A9730	Utility Designation/Investigation/Test Pitting	30.0d	18-Mar-15	16-Apr-15
A9740	UFI Meeting Cox	1.0d	17-Apr-15	17-Apr-15
A9750	Utility Relocation Plan and Estimate Cox	80.0d	28-Jul-15	15-Oct-15
A9760	QA/QC Review of P&E Cox	10.0d	16-Oct-15	25-Oct-15
A9770	VDOT Review of P&E Cox	21.0d	26-Oct-15	15-Nov-15
A9780	Utility Relocation Cox (If Determined)	90.0d	16-Nov-15	13-Feb-16



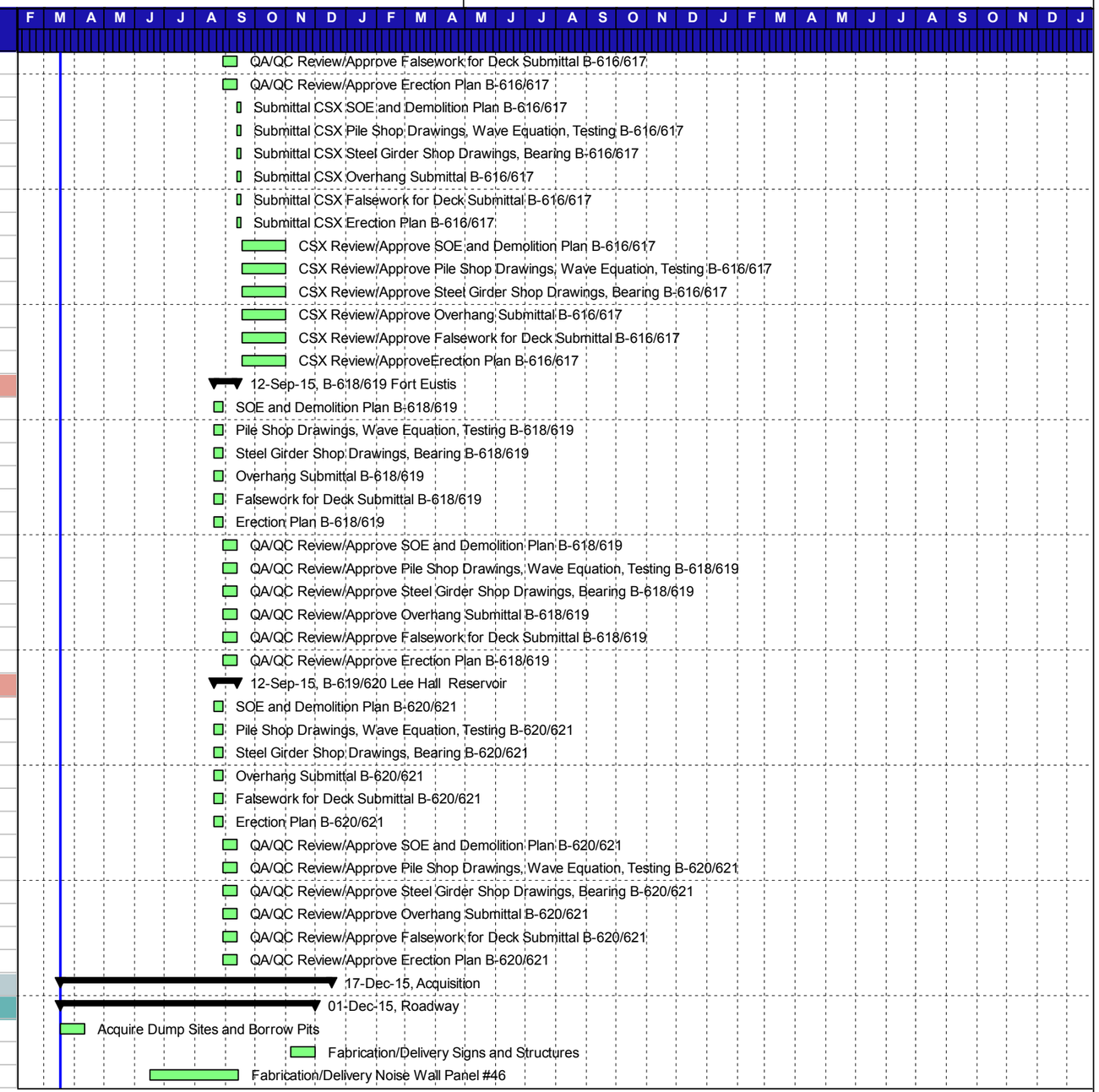
Activity ID	Activity Name	Planned Duration	Start	Finish
Dominion Power Transmission		238.0d	18-Mar-15	13-Feb-16
A9790	Utility Designation/Investigation/Test Pitting	30.0d	18-Mar-15	16-Apr-15
A9800	UFI Meeting DPT	1.0d	17-Apr-15	17-Apr-15
A9810	Utility Relocation Plan and Estimate DPT	80.0d	28-Jul-15	15-Oct-15
A9820	QA/QC Review of P&E DPT	10.0d	16-Oct-15	25-Oct-15
A9830	VDOT Review of P&E DPT	21.0d	26-Oct-15	15-Nov-15
A9840	Utility Relocation DPT (If Determined)	90.0d	16-Nov-15	13-Feb-16
Dominion Power Distribution		238.0d	18-Mar-15	13-Feb-16
A9850	Utility Designation/Investigation/Test Pitting	30.0d	18-Mar-15	16-Apr-15
A9860	UFI Meeting DPD	1.0d	17-Apr-15	17-Apr-15
A9870	Utility Relocation Plan and Estimate DPD	80.0d	28-Jul-15	15-Oct-15
A9880	QA/QC Review of P&E DPD	10.0d	16-Oct-15	25-Oct-15
A9890	VDOT Review of P&E DPD	21.0d	26-Oct-15	15-Nov-15
A9900	Utility Relocation DPD (If Determined)	90.0d	16-Nov-15	13-Feb-16
Level 3		238.0d	18-Mar-15	13-Feb-16
A9910	Utility Designation/Investigation/Test Pitting	30.0d	18-Mar-15	16-Apr-15
A9920	UFI Meeting Level 3	1.0d	17-Apr-15	17-Apr-15
A9930	Utility Relocation Plan and Estimate Level 3	80.0d	28-Jul-15	15-Oct-15
A9940	QA/QC Review of P&E Level 3	10.0d	16-Oct-15	25-Oct-15
A9950	VDOT Review of P&E Level 3	21.0d	26-Oct-15	15-Nov-15
A9960	Utility Relocation Level 3 (If Determined)	90.0d	16-Nov-15	13-Feb-16
Hampton Roads Sanitation District		238.0d	18-Mar-15	13-Feb-16
A9970	Utility Designation/Investigation/Test Pitting	30.0d	18-Mar-15	16-Apr-15
A9980	UFI Meeting HRSD	1.0d	17-Apr-15	17-Apr-15
A9990	Utility Relocation Plan and Estimate HRSD	80.0d	28-Jul-15	15-Oct-15
A9991	QA/QC Review of P&E HRSD	10.0d	16-Oct-15	25-Oct-15
A9992	VDOT Review of P&E HRSD	21.0d	26-Oct-15	15-Nov-15
A9993	Utility Relocation (If Determined)	90.0d	16-Nov-15	13-Feb-16
Newport News Public School Fiber		238.0d	18-Mar-15	13-Feb-16
A10030	Utility Designation/Investigation/Test Pitting	30.0d	18-Mar-15	16-Apr-15
A10040	UFI Meeting NNPS	1.0d	17-Apr-15	17-Apr-15
A10050	Utility Relocation Plan and Estimate NNPS	80.0d	28-Jul-15	15-Oct-15
A10060	QA/QC Review of P&E NNPS	10.0d	16-Oct-15	25-Oct-15
A10070	VDOT Review of P&E NNPS	21.0d	26-Oct-15	15-Nov-15
A10080	Utility Relocation NNPS (If Determined)	90.0d	16-Nov-15	13-Feb-16
Sprint		238.0d	18-Mar-15	13-Feb-16
A10090	Utility Designation/Investigation/Test Pitting	30.0d	18-Mar-15	16-Apr-15
A10100	UFI Meeting Sprint	1.0d	17-Apr-15	17-Apr-15
A10110	Utility Relocation Plan and Estimate Sprint	80.0d	28-Jul-15	15-Oct-15
A10120	QA/QC Review of P&E Sprint	10.0d	16-Oct-15	25-Oct-15
A10130	VDOT Review of P&E Sprint	21.0d	26-Oct-15	15-Nov-15
A10140	Utility Relocation Sprint (If Determined)	90.0d	16-Nov-15	13-Feb-16
Verizon		238.0d	18-Mar-15	13-Feb-16
A10150	Utility Designation/Investigation/Test Pitting	30.0d	18-Mar-15	16-Apr-15
A10160	UFI Meeting Verizon	1.0d	17-Apr-15	17-Apr-15



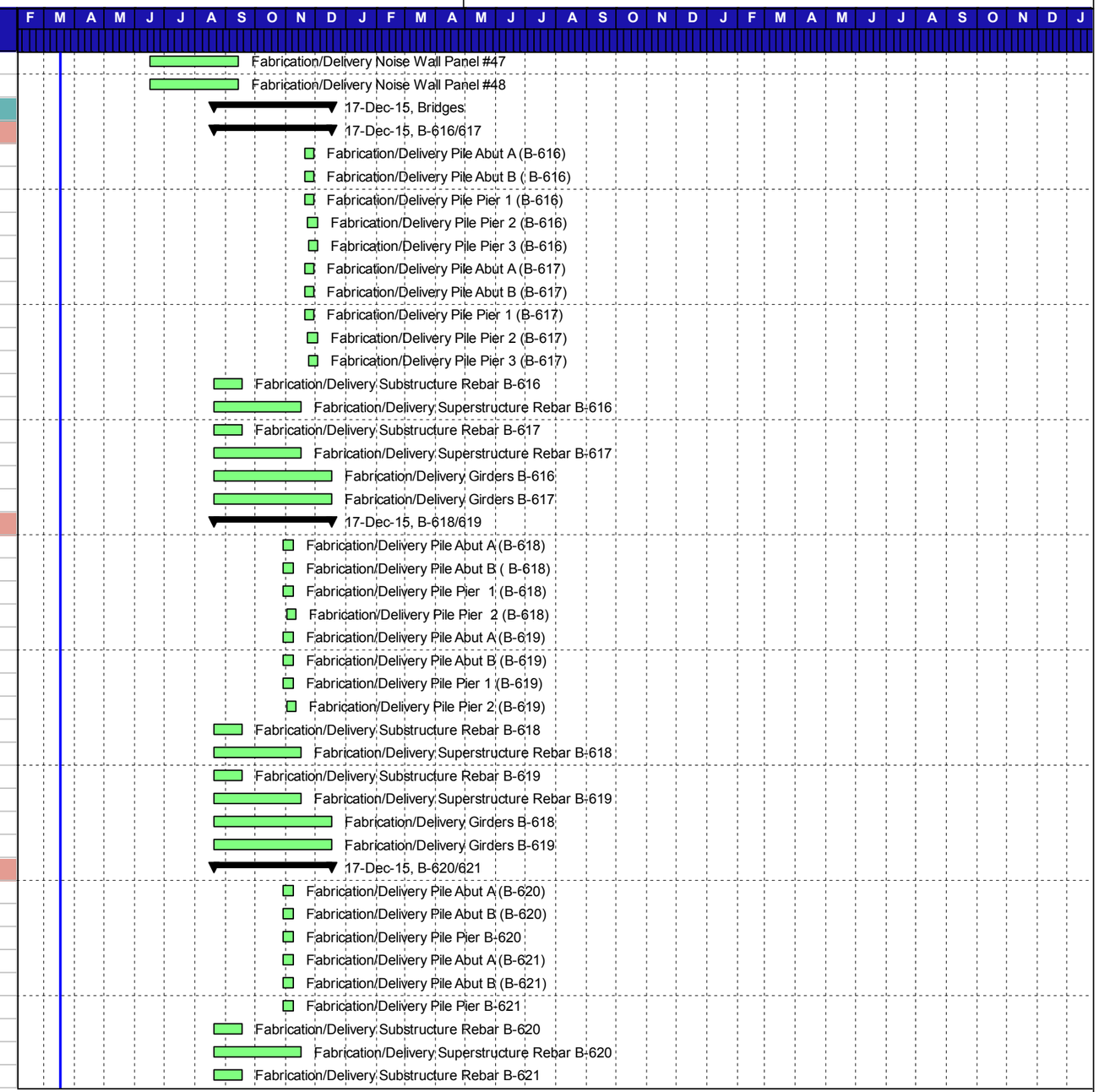
Activity ID	Activity Name	Planned Duration	Start	Finish
A10170	Utility Relocation Plan and Estimate Verizon	80.0d	28-Jul-15	15-Oct-15
A10180	QA/QC Review of P&E Verizon	10.0d	16-Oct-15	25-Oct-15
A10190	VDOT Review of P&E Verizon	21.0d	26-Oct-15	15-Nov-15
A10200	Utility Relocation Verizon (If Determined)	90.0d	16-Nov-15	13-Feb-16
Colonial Pipeline		238.0d	18-Mar-15	13-Feb-16
A10210	Utility Designation/Investigation/Test Pitting	30.0d	18-Mar-15	16-Apr-15
A10220	UFI Meeting Colonial Pipe	1.0d	17-Apr-15	17-Apr-15
A10230	Utility Relocation Plan and Estimate Colonia	80.0d	28-Jul-15	15-Oct-15
A10240	QA/QC Review of P&E Colonial Pipe	10.0d	16-Oct-15	25-Oct-15
A10250	VDOT Review of P&E Colonial Pipe	21.0d	26-Oct-15	15-Nov-15
A10260	Utility Relocation Colonial Pipe (If Determin	90.0d	16-Nov-15	13-Feb-16
Submittals		163.0d	18-Mar-15	01-Nov-15
Roadway		105.0d	18-Mar-15	11-Aug-15
A8750	Submit Project Specific Safety Plan	20.0d	18-Mar-15	06-Apr-15
A8760	Submit QA/QC Plan	20.0d	07-Apr-15	26-Apr-15
A8770	Submit Transportation Management Plan	20.0d	27-Apr-15	16-May-15
A8780	Submit Emergency Management Plan	20.0d	17-May-15	05-Jun-15
A8790	Submit Hazardous Material Management F	20.0d	06-Jun-15	25-Jun-15
A8930	VDOT Review/Comment Project Specific S	21.0d	07-Apr-15	27-Apr-15
A8940	VDOT Review/Comment QA/QC Plan	21.0d	27-Apr-15	17-May-15
A8950	VDOT Review/Comment Transportation M	21.0d	17-May-15	06-Jun-15
A8960	VDOT Review/Comment Emergency Man	21.0d	06-Jun-15	26-Jun-15
A8970	VDOT Review/Comment Hazardous Mater	21.0d	26-Jun-15	16-Jul-15
A8980	Revise Project Specific Safety Plan	5.0d	28-Apr-15	02-May-15
A8990	Revise QA/QC Plan	5.0d	18-May-15	22-May-15
A9000	Revise Transportation Management Plan	5.0d	07-Jun-15	11-Jun-15
A9010	Revise Emergency Management Plan	5.0d	27-Jun-15	01-Jul-15
A9020	Revise Hazardous Material Management F	5.0d	17-Jul-15	21-Jul-15
A9030	Final Submit Project Specific Safety Plan	21.0d	03-May-15	23-May-15
A9040	Final Submit QA/QC Plan	21.0d	23-May-15	12-Jun-15
A9050	Final Submit Transportation Management I	21.0d	12-Jun-15	02-Jul-15
A9060	Final Submit Emergency Management Pla	21.0d	02-Jul-15	22-Jul-15
A9070	Final Submit Hazardous Material Manage	21.0d	22-Jul-15	11-Aug-15
Bridges		52.0d	20-Aug-15	01-Nov-15
B-616/617 Industrial Park Drive / CSX		52.0d	20-Aug-15	01-Nov-15
A9080	SOE and Demolition Plan B-616/617	10.0d	20-Aug-15	29-Aug-15
A9090	Pile Shop Drawings, Wave Equation, Testin	10.0d	20-Aug-15	29-Aug-15
A9100	Steel Girder Shop Drawings, Bearing B-61	10.0d	20-Aug-15	29-Aug-15
A9110	Overhang Submittal B-616/617	10.0d	20-Aug-15	29-Aug-15
A9120	Falsework for Deck Submittal B-616/617	10.0d	20-Aug-15	29-Aug-15
A9130	Erection Plan B-616/617	10.0d	20-Aug-15	29-Aug-15
A9140	QA/QC Review/Approve SOE and Demolitic	14.0d	30-Aug-15	12-Sep-15
A9150	QA/QC Review/Approve Pile Shop Drawing	14.0d	30-Aug-15	12-Sep-15
A9160	QA/QC Review/Approve Steel Girder Shop	14.0d	30-Aug-15	12-Sep-15
A9170	QA/QC Review/Approve Overhang Submitt	14.0d	30-Aug-15	12-Sep-15



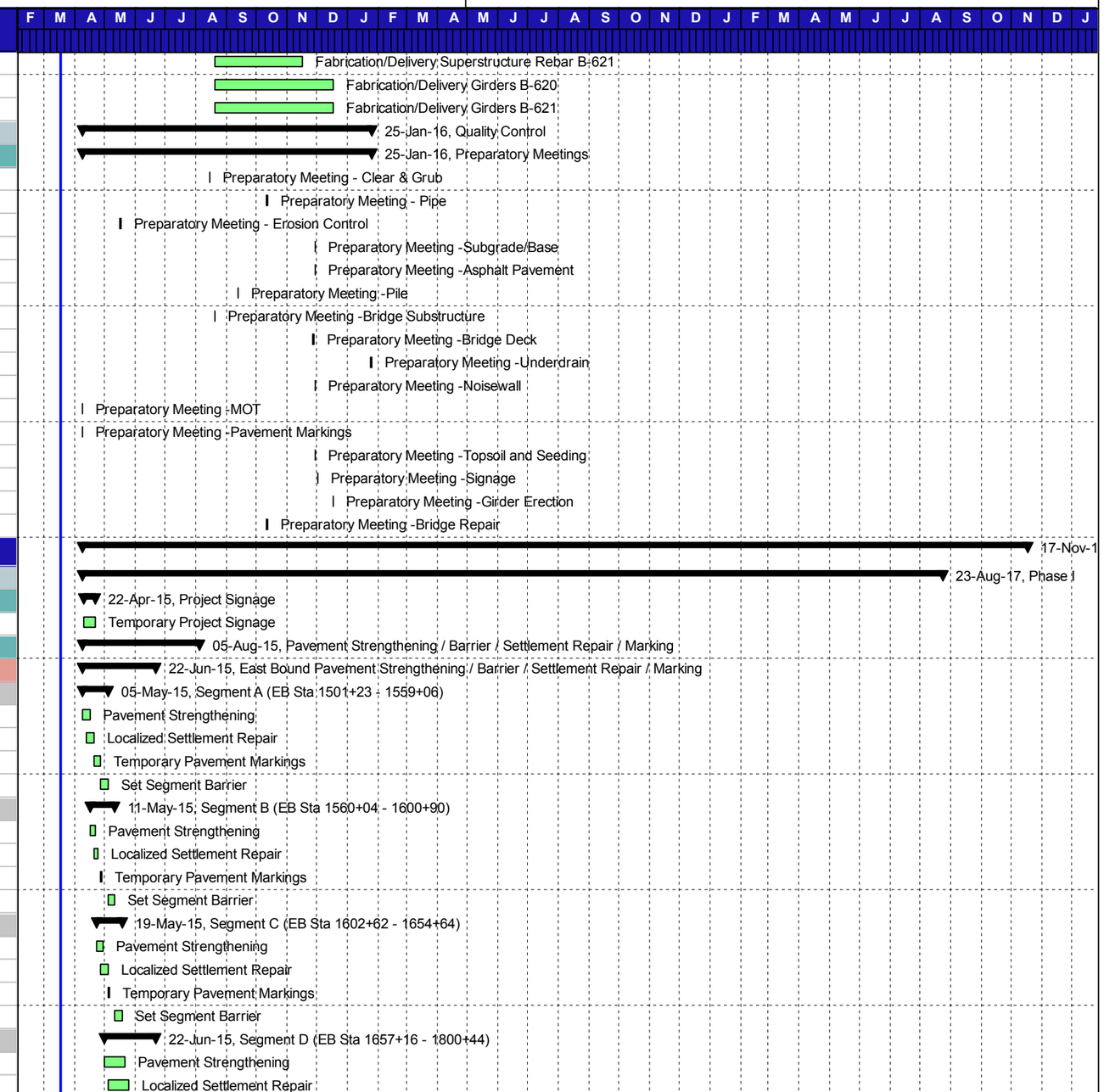
Activity ID	Activity Name	Planned Duration	Start	Finish
A9180	QA/QC Review/Approve Falsework for Dec	14.0d	30-Aug-15	12-Sep-15
A9190	QA/QC Review/Approve Erection Plan B-61	14.0d	30-Aug-15	12-Sep-15
A9200	Submittal CSX SOE and Demolition Plan B-	5.0d	13-Sep-15	17-Sep-15
A9210	Submittal CSX Pile Shop Drawings, Wave E	5.0d	13-Sep-15	17-Sep-15
A9220	Submittal CSX Steel Girder Shop Drawings	5.0d	13-Sep-15	17-Sep-15
A9230	Submittal CSX Overhang Submittal B-616/6	5.0d	13-Sep-15	17-Sep-15
A9240	Submittal CSX Falsework for Deck Submitt	5.0d	13-Sep-15	17-Sep-15
A9250	Submittal CSX Erection Plan B-616/617	5.0d	13-Sep-15	17-Sep-15
A9260	CSX Review/Approve SOE and Demolition	45.0d	18-Sep-15	01-Nov-15
A9270	CSX Review/Approve Pile Shop Drawings,	45.0d	18-Sep-15	01-Nov-15
A9280	CSX Review/Approve Steel Girder Shop Dr	45.0d	18-Sep-15	01-Nov-15
A9290	CSX Review/Approve Overhang Submittal I	45.0d	18-Sep-15	01-Nov-15
A9300	CSX Review/Approve Falsework for Deck S	45.0d	18-Sep-15	01-Nov-15
A9310	CSX Review/ApproveErection Plan B-616/6	45.0d	18-Sep-15	01-Nov-15
B-618/619 Fort Eustis		17.0d	20-Aug-15	12-Sep-15
A9320	SOE and Demolition Plan B-618/619	10.0d	20-Aug-15	29-Aug-15
A9330	Pile Shop Drawings, Wave Equation, Testin	10.0d	20-Aug-15	29-Aug-15
A9340	Steel Girder Shop Drawings, Bearing B-618	10.0d	20-Aug-15	29-Aug-15
A9350	Overhang Submittal B-618/619	10.0d	20-Aug-15	29-Aug-15
A9360	Falsework for Deck Submittal B-618/619	10.0d	20-Aug-15	29-Aug-15
A9370	Erection Plan B-618/619	10.0d	20-Aug-15	29-Aug-15
A9380	QA/QC Review/Approve SOE and Demolitic	14.0d	30-Aug-15	12-Sep-15
A9390	QA/QC Review/Approve Pile Shop Drawing	14.0d	30-Aug-15	12-Sep-15
A9400	QA/QC Review/Approve Steel Girder Shop	14.0d	30-Aug-15	12-Sep-15
A9410	QA/QC Review/Approve Overhang Submitt	14.0d	30-Aug-15	12-Sep-15
A9420	QA/QC Review/Approve Falsework for Dec	14.0d	30-Aug-15	12-Sep-15
A9430	QA/QC Review/Approve Erection Plan B-61	14.0d	30-Aug-15	12-Sep-15
B-619/620 Lee Hall Reservoir		17.0d	20-Aug-15	12-Sep-15
A9440	SOE and Demolition Plan B-620/621	10.0d	20-Aug-15	29-Aug-15
A9450	Pile Shop Drawings, Wave Equation, Testin	10.0d	20-Aug-15	29-Aug-15
A9460	Steel Girder Shop Drawings, Bearing B-62	10.0d	20-Aug-15	29-Aug-15
A9470	Overhang Submittal B-620/621	10.0d	20-Aug-15	29-Aug-15
A9480	Falsework for Deck Submittal B-620/621	10.0d	20-Aug-15	29-Aug-15
A9490	Erection Plan B-620/621	10.0d	20-Aug-15	29-Aug-15
A9500	QA/QC Review/Approve SOE and Demolitic	14.0d	30-Aug-15	12-Sep-15
A9510	QA/QC Review/Approve Pile Shop Drawing	14.0d	30-Aug-15	12-Sep-15
A9520	QA/QC Review/Approve Steel Girder Shop	14.0d	30-Aug-15	12-Sep-15
A9530	QA/QC Review/Approve Overhang Submitt	14.0d	30-Aug-15	12-Sep-15
A9540	QA/QC Review/Approve Falsework for Dec	14.0d	30-Aug-15	12-Sep-15
A9550	QA/QC Review/Approve Erection Plan B-62	14.0d	30-Aug-15	12-Sep-15
Acquisition		197.0d	18-Mar-15	17-Dec-15
Roadway		185.0d	18-Mar-15	01-Dec-15
A9560	Acquire Dump Sites and Borrow Pits	25.0d	18-Mar-15	11-Apr-15
A9570	Fabrication/Delivery Signs and Structures	25.0d	07-Nov-15	01-Dec-15
A9580	Fabrication/Delivery Noise Wall Panel #46	90.0d	17-Jun-15	14-Sep-15



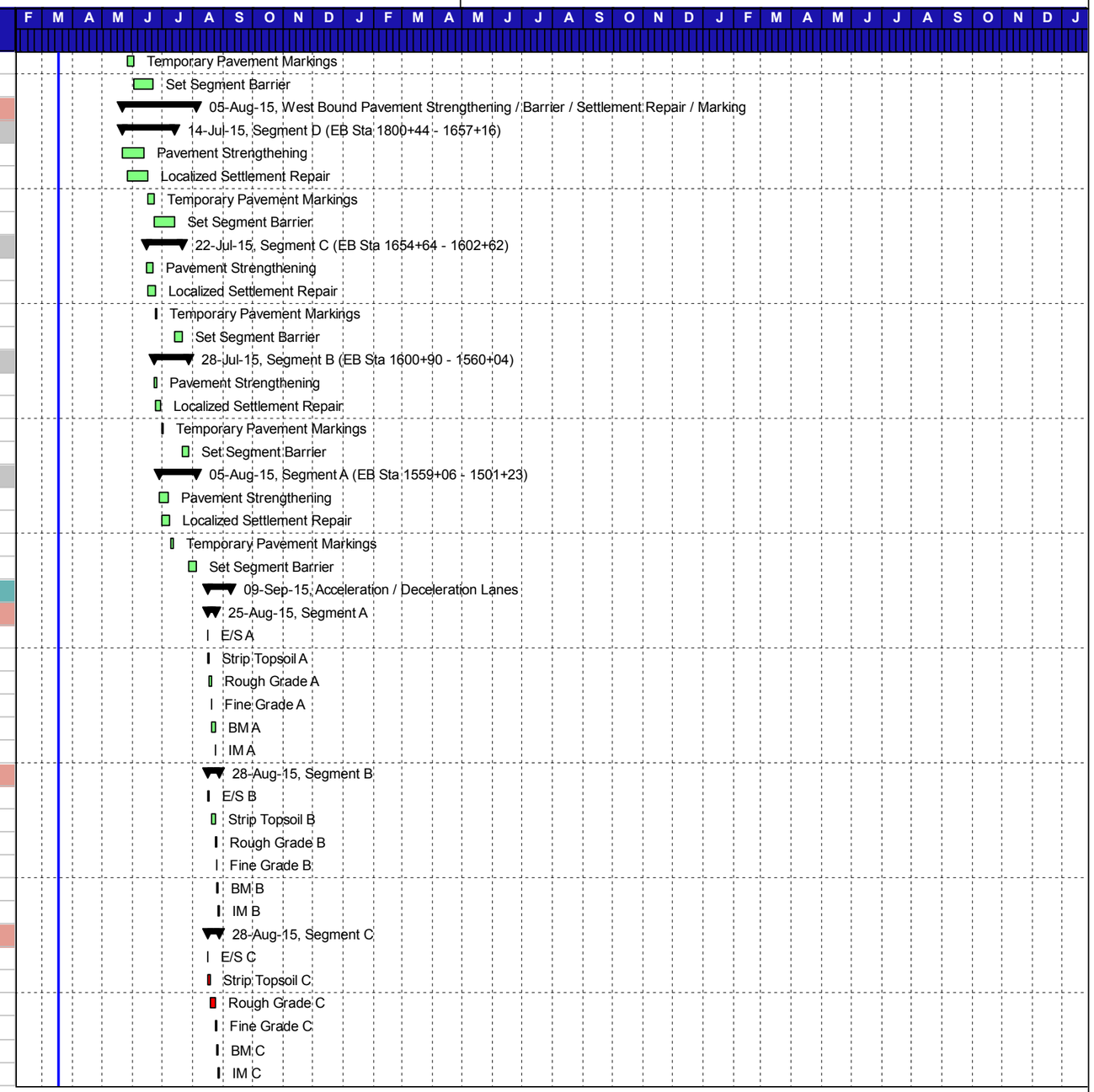
Activity ID	Activity Name	Planned Duration	Start	Finish
A9590	Fabrication/Delivery Noise Wall Panel #47	90.0d	17-Jun-15	14-Sep-15
A9600	Fabrication/Delivery Noise Wall Panel #48	90.0d	17-Jun-15	14-Sep-15
Bridges		86.0d	20-Aug-15	17-Dec-15
B-616/617		86.0d	20-Aug-15	17-Dec-15
FD1100	Fabrication/Delivery Pile Abut A (B-616)	10.0d	20-Nov-15	30-Nov-15
FD1109	Fabrication/Delivery Pile Abut B (B-616)	10.0d	20-Nov-15	30-Nov-15
FD1110	Fabrication/Delivery Pile Pier 1 (B-616)	10.0d	20-Nov-15	30-Nov-15
FD1111	Fabrication/Delivery Pile Pier 2 (B-616)	10.0d	23-Nov-15	03-Dec-15
FD1112	Fabrication/Delivery Pile Pier 3 (B-616)	10.0d	24-Nov-15	04-Dec-15
FD1120	Fabrication/Delivery Pile Abut A (B-617)	10.0d	20-Nov-15	30-Nov-15
FD1121	Fabrication/Delivery Pile Abut B (B-617)	10.0d	20-Nov-15	30-Nov-15
FD1130	Fabrication/Delivery Pile Pier 1 (B-617)	10.0d	20-Nov-15	30-Nov-15
FD1131	Fabrication/Delivery Pile Pier 2 (B-617)	10.0d	23-Nov-15	03-Dec-15
FD1132	Fabrication/Delivery Pile Pier 3 (B-617)	10.0d	24-Nov-15	04-Dec-15
FD1140.	Fabrication/Delivery Substructure Rebar B-	30.0d	20-Aug-15	18-Sep-15
FD1150.	Fabrication/Delivery Superstructure Rebar	90.0d	20-Aug-15	17-Nov-15
FD1160	Fabrication/Delivery Substructure Rebar B-	30.0d	20-Aug-15	18-Sep-15
FD1170	Fabrication/Delivery Superstructure Rebar	90.0d	20-Aug-15	17-Nov-15
FD1180.	Fabrication/Delivery Girders B-616	120.0d	20-Aug-15	17-Dec-15
FD1190	Fabrication/Delivery Girders B-617	120.0d	20-Aug-15	17-Dec-15
B-618/619		86.0d	20-Aug-15	17-Dec-15
FD1200	Fabrication/Delivery Pile Abut A (B-618)	10.0d	30-Oct-15	09-Nov-15
FD1201	Fabrication/Delivery Pile Abut B (B-618)	10.0d	30-Oct-15	09-Nov-15
FD1210	Fabrication/Delivery Pile Pier 1 (B-618)	10.0d	30-Oct-15	09-Nov-15
FD1211	Fabrication/Delivery Pile Pier 2 (B-618)	10.0d	02-Nov-15	12-Nov-15
FD1220	Fabrication/Delivery Pile Abut A (B-619)	10.0d	30-Oct-15	09-Nov-15
FD1221	Fabrication/Delivery Pile Abut B (B-619)	10.0d	30-Oct-15	09-Nov-15
FD1230	Fabrication/Delivery Pile Pier 1 (B-619)	10.0d	30-Oct-15	09-Nov-15
FD1231	Fabrication/Delivery Pile Pier 2 (B-619)	10.0d	02-Nov-15	12-Nov-15
FD1240	Fabrication/Delivery Substructure Rebar B-	30.0d	20-Aug-15	18-Sep-15
FD1250	Fabrication/Delivery Superstructure Rebar	90.0d	20-Aug-15	17-Nov-15
FD1260	Fabrication/Delivery Substructure Rebar B-	30.0d	20-Aug-15	18-Sep-15
FD1270	Fabrication/Delivery Superstructure Rebar	90.0d	20-Aug-15	17-Nov-15
FD1280	Fabrication/Delivery Girders B-618	120.0d	20-Aug-15	17-Dec-15
FD1290	Fabrication/Delivery Girders B-619	120.0d	20-Aug-15	17-Dec-15
B-620/621		86.0d	20-Aug-15	17-Dec-15
FD1300	Fabrication/Delivery Pile Abut A (B-620)	10.0d	30-Oct-15	09-Nov-15
FD1301	Fabrication/Delivery Pile Abut B (B-620)	10.0d	30-Oct-15	09-Nov-15
FD1310	Fabrication/Delivery Pile Pier B-620	10.0d	30-Oct-15	09-Nov-15
FD1320	Fabrication/Delivery Pile Abut A (B-621)	10.0d	30-Oct-15	09-Nov-15
FD1321	Fabrication/Delivery Pile Abut B (B-621)	10.0d	30-Oct-15	09-Nov-15
FD1330	Fabrication/Delivery Pile Pier B-621	10.0d	30-Oct-15	09-Nov-15
FD1340	Fabrication/Delivery Substructure Rebar B-	30.0d	20-Aug-15	18-Sep-15
FD1350	Fabrication/Delivery Superstructure Rebar	90.0d	20-Aug-15	17-Nov-15
FD1360	Fabrication/Delivery Substructure Rebar B-	30.0d	20-Aug-15	18-Sep-15



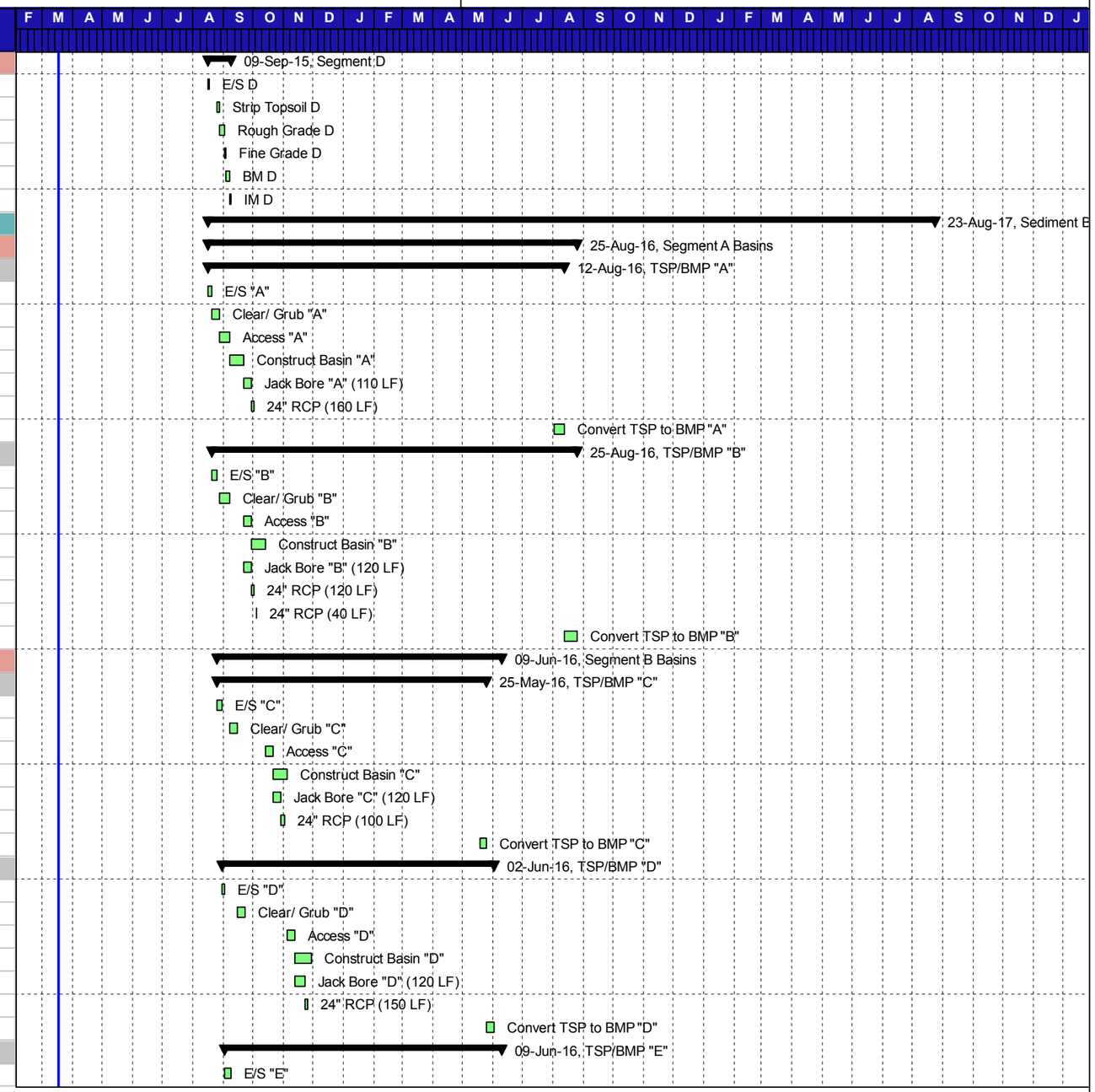
Activity ID	Activity Name	Planned Duration	Start	Finish
FD1370	Fabrication/Delivery Superstructure Rebar	90.0d	20-Aug-15	17-Nov-15
FD1380	Fabrication/Delivery Girders B-620	120.0d	20-Aug-15	17-Dec-15
FD1390	Fabrication/Delivery Girders B-621	120.0d	20-Aug-15	17-Dec-15
Quality Control		208.0d	09-Apr-15	25-Jan-16
Preparatory Meetings		208.0d	09-Apr-15	25-Jan-16
A10860	Preparatory Meeting - Clear & Grub	1.0d	15-Aug-15	15-Aug-15
A10870	Preparatory Meeting - Pipe	1.0d	12-Oct-15	12-Oct-15
A10880	Preparatory Meeting - Erosion Control	1.0d	17-May-15	17-May-15
A10890	Preparatory Meeting -Subgrade/Base	1.0d	30-Nov-15	30-Nov-15
A10900	Preparatory Meeting -Asphalt Pavement	1.0d	30-Nov-15	30-Nov-15
A10910	Preparatory Meeting -Pile	1.0d	13-Sep-15	13-Sep-15
A10920	Preparatory Meeting -Bridge Substructure	1.0d	20-Aug-15	20-Aug-15
A10930	Preparatory Meeting -Bridge Deck	1.0d	27-Nov-15	28-Nov-15
A10940	Preparatory Meeting -Underdrain	1.0d	25-Jan-16	25-Jan-16
A10950	Preparatory Meeting -Noisewall	1.0d	30-Nov-15	30-Nov-15
A10960	Preparatory Meeting -MOT	1.0d	09-Apr-15	09-Apr-15
A10970	Preparatory Meeting -Pavement Markings	1.0d	09-Apr-15	09-Apr-15
A10980	Preparatory Meeting -Topsoil and Seeding	1.0d	30-Nov-15	30-Nov-15
A10990	Preparatory Meeting -Signage	1.0d	02-Dec-15	02-Dec-15
A11000	Preparatory Meeting -Girder Erection	1.0d	18-Dec-15	18-Dec-15
A11010	Preparatory Meeting -Bridge Repair	1.0d	12-Oct-15	12-Oct-15
Construction		682.0d	09-Apr-15	17-Nov-17
Phase I		619.3d	09-Apr-15	23-Aug-17
Project Signage		8.4d	10-Apr-15	22-Apr-15
A1270	Temporary Project Signage	10.0d	10-Apr-15	22-Apr-15
Pavement Strengthening / Barrier / Settlement Repair / Marking		84.5d	09-Apr-15	05-Aug-15
East Bound Pavement Strengthening / Barrier / Settlement R		52.5d	09-Apr-15	22-Jun-15
Segment A (EB Sta 1501+23 - 1559+06)		18.0d	09-Apr-15	05-May-15
A11730	Pavement Strengthening	6.0d	09-Apr-15	16-Apr-15
A11740	Localized Settlement Repair	6.0d	13-Apr-15	20-Apr-15
A11750	Temporary Pavement Markings	5.0d	21-Apr-15	27-Apr-15
A11760	Set Segment Barrier	7.0d	27-Apr-15	05-May-15
Segment B (EB Sta 1560+04 - 1600+90)		16.3d	17-Apr-15	11-May-15
A11770	Pavement Strengthening	4.0d	17-Apr-15	22-Apr-15
A11780	Localized Settlement Repair	4.0d	21-Apr-15	24-Apr-15
A11790	Temporary Pavement Markings	2.0d	27-Apr-15	28-Apr-15
A11800	Set Segment Barrier	5.0d	05-May-15	11-May-15
Segment C (EB Sta 1602+62 - 1654+64)		18.1d	23-Apr-15	19-May-15
A11810	Pavement Strengthening	6.0d	23-Apr-15	30-Apr-15
A11820	Localized Settlement Repair	6.0d	27-Apr-15	04-May-15
A11830	Temporary Pavement Markings	2.0d	05-May-15	06-May-15
A11840	Set Segment Barrier	7.0d	11-May-15	19-May-15
Segment D (EB Sta 1657+16 - 1800+44)		36.5d	01-May-15	22-Jun-15
A11850	Pavement Strengthening	15.0d	01-May-15	21-May-15
A11860	Localized Settlement Repair	15.0d	05-May-15	26-May-15



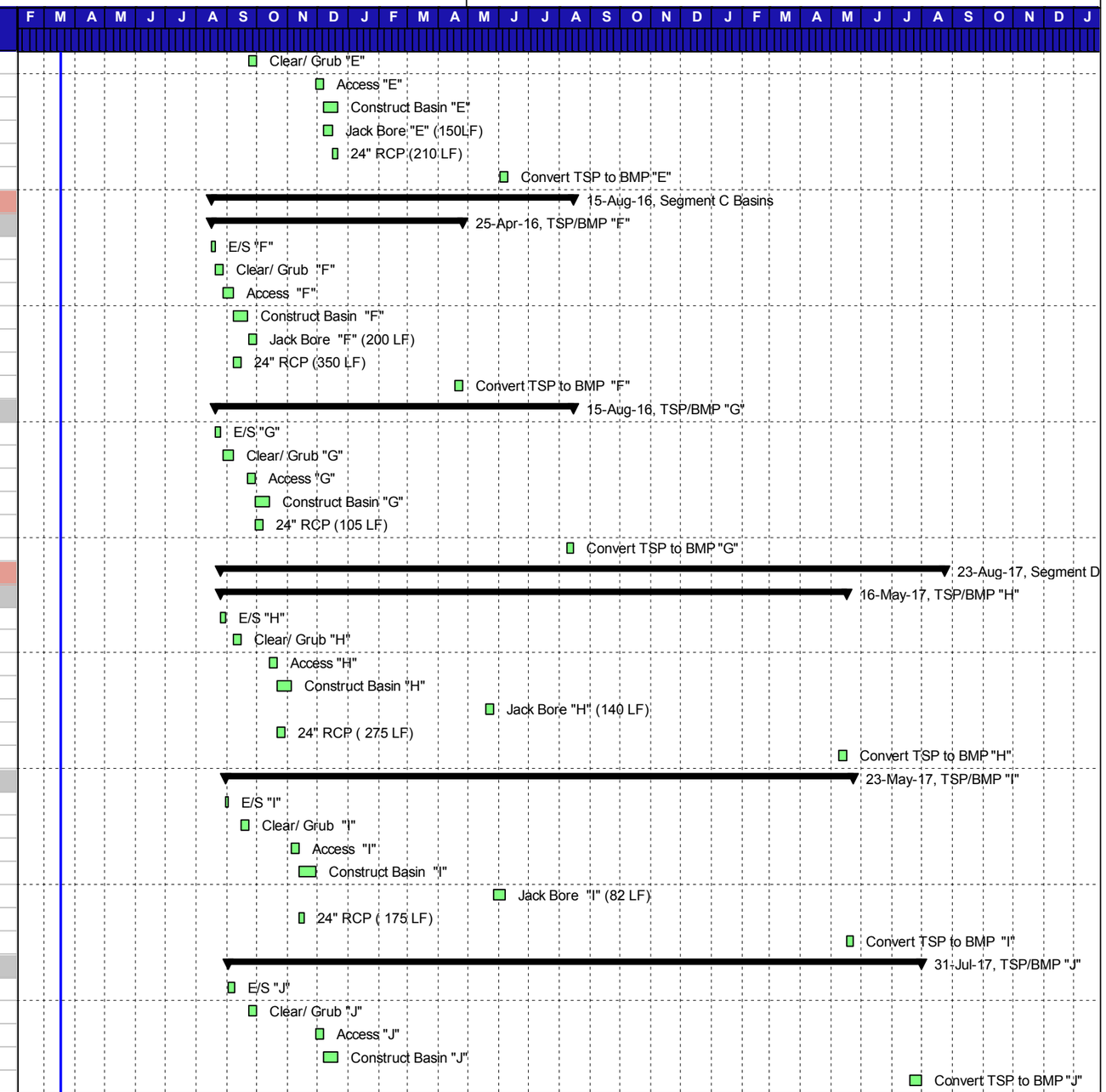
Activity ID	Activity Name	Planned Duration	Start	Finish
A11870	Temporary Pavement Markings	5.0d	27-May-15	02-Jun-15
A11880	Set Segment Barrier	17.0d	02-Jun-15	22-Jun-15
West Bound Pavement Strengthening / Barrier / Settlement R		53.5d	22-May-15	05-Aug-15
Segment D (EB Sta 1800+44 - 1657+16)		37.5d	22-May-15	14-Jul-15
A11690	Pavement Strengthening	15.0d	22-May-15	12-Jun-15
A11700	Localized Settlement Repair	15.0d	27-May-15	16-Jun-15
A11710	Temporary Pavement Markings	5.0d	17-Jun-15	23-Jun-15
A11720	Set Segment Barrier	17.0d	23-Jun-15	14-Jul-15
Segment C (EB Sta 1654+64 - 1602+62)		27.4d	15-Jun-15	22-Jul-15
A11650	Pavement Strengthening	6.0d	15-Jun-15	22-Jun-15
A11660	Localized Settlement Repair	6.0d	17-Jun-15	24-Jun-15
A116669	Temporary Pavement Markings	2.0d	25-Jun-15	26-Jun-15
A11670	Set Segment Barrier	7.0d	14-Jul-15	22-Jul-15
Segment B (EB Sta 1600+90 - 1560+04)		25.7d	23-Jun-15	28-Jul-15
A11610	Pavement Strengthening	4.0d	23-Jun-15	26-Jun-15
A11620	Localized Settlement Repair	4.0d	25-Jun-15	30-Jun-15
A11629	Temporary Pavement Markings	2.0d	01-Jul-15	02-Jul-15
A11630	Set Segment Barrier	5.0d	22-Jul-15	28-Jul-15
Segment A(EB Sta 1559+06 - 1501+23)		27.5d	29-Jun-15	05-Aug-15
A11570	Pavement Strengthening	6.0d	29-Jun-15	07-Jul-15
A11580	Localized Settlement Repair	6.0d	01-Jul-15	09-Jul-15
A11589	Temporary Pavement Markings	2.0d	10-Jul-15	13-Jul-15
A11590	Set Segment Barrier	7.0d	28-Jul-15	05-Aug-15
Acceleration / Deceleration Lanes		17.3d	17-Aug-15	09-Sep-15
Segment A		6.1d	17-Aug-15	25-Aug-15
A12150	E/S A	1.0d	17-Aug-15	17-Aug-15
A12160	Strip Topsoil A	1.0d	17-Aug-15	18-Aug-15
A12170	Rough Grade A	2.0d	18-Aug-15	20-Aug-15
A12180	Fine Grade A	1.0d	20-Aug-15	21-Aug-15
A12190	BM A	1.0d	21-Aug-15	24-Aug-15
A12200	IM A	1.0d	24-Aug-15	25-Aug-15
Segment B		8.6d	17-Aug-15	28-Aug-15
A12210	E/S B	1.0d	17-Aug-15	18-Aug-15
A12220	Strip Topsoil B	1.0d	21-Aug-15	24-Aug-15
A12230	Rough Grade B	2.0d	24-Aug-15	25-Aug-15
A12240	Fine Grade B	1.0d	25-Aug-15	26-Aug-15
A12250	BM B	1.0d	26-Aug-15	27-Aug-15
A12260	IM B	1.0d	27-Aug-15	28-Aug-15
Segment C		9.5d	17-Aug-15	28-Aug-15
A12270	E/S C	1.0d	17-Aug-15	17-Aug-15
A12280	Strip Topsoil C	2.0d	17-Aug-15	19-Aug-15
A12290	Rough Grade C	4.0d	19-Aug-15	24-Aug-15
A12300	Fine Grade C	2.0d	24-Aug-15	26-Aug-15
A12310	BM C	1.0d	26-Aug-15	27-Aug-15
A12320	IM C	1.0d	27-Aug-15	28-Aug-15



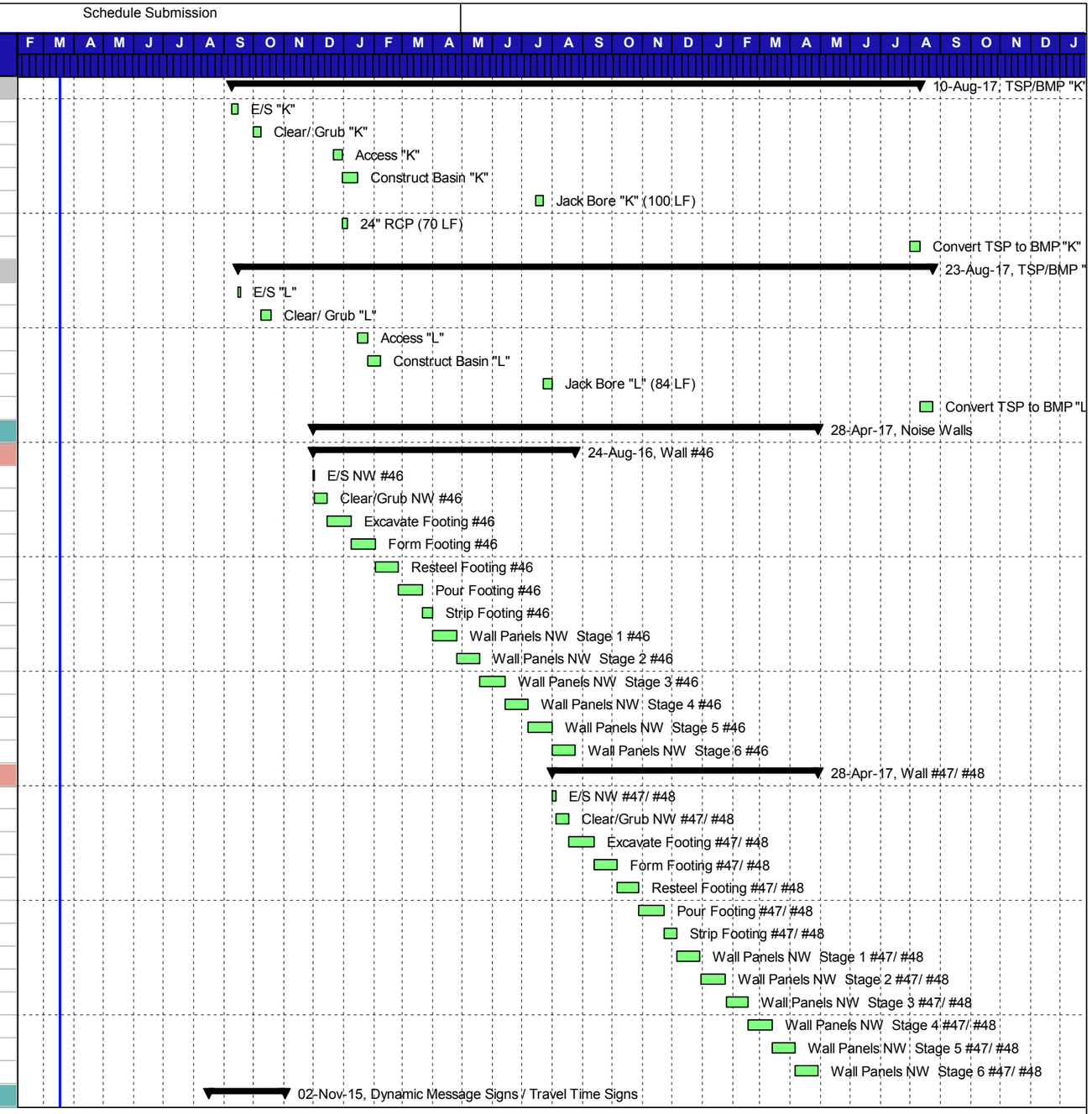
Activity ID	Activity Name	Planned Duration	Start	Finish
Segment D		16.3d	17-Aug-15	09-Sep-15
A12330	E/S D	1.0d	17-Aug-15	18-Aug-15
A12340	Strip Topsoil D	2.0d	26-Aug-15	28-Aug-15
A12350	Rough Grade D	4.0d	28-Aug-15	02-Sep-15
A12360	Fine Grade D	2.0d	02-Sep-15	04-Sep-15
A12370	BM D	1.0d	04-Sep-15	08-Sep-15
A12380	IM D	1.0d	08-Sep-15	09-Sep-15
Sediment Basin Construction		527.3d	17-Aug-15	23-Aug-17
Segment A Basins		268.3d	17-Aug-15	25-Aug-16
TSP/BMP "A"		260.0d	17-Aug-15	12-Aug-16
A6010	E/S "A"	4.0d	17-Aug-15	20-Aug-15
A6020	Clear/ Grub "A"	7.0d	20-Aug-15	28-Aug-15
A6030	Access "A"	7.0d	28-Aug-15	08-Sep-15
A6040	Construct Basin "A"	12.0d	08-Sep-15	22-Sep-15
A6050	Jack Bore "A" (110 LF)	7.0d	22-Sep-15	30-Sep-15
A6051	24" RCP (160 LF)	3.0d	30-Sep-15	02-Oct-15
A6120	Convert TSP to BMP "A"	10.0d	02-Aug-16	12-Aug-16
TSP/BMP "B"		265.0d	20-Aug-15	25-Aug-16
A2740	E/S "B"	4.0d	20-Aug-15	25-Aug-15
A2750	Clear/ Grub "B"	7.0d	28-Aug-15	08-Sep-15
A2760	Access "B"	7.0d	22-Sep-15	30-Sep-15
A2770	Construct Basin "B"	12.0d	30-Sep-15	14-Oct-15
A2780	Jack Bore "B" (120 LF)	7.0d	22-Sep-15	30-Sep-15
A2781	24" RCP (120 LF)	3.0d	30-Sep-15	02-Oct-15
A2782	24" RCP (40 LF)	1.0d	05-Oct-15	05-Oct-15
A6130	Convert TSP to BMP "B"	10.0d	12-Aug-16	25-Aug-16
Segment B Basins		207.2d	25-Aug-15	09-Jun-16
TSP/BMP "C"		196.1d	25-Aug-15	25-May-16
A1810	E/S "C"	4.0d	25-Aug-15	31-Aug-15
A1820	Clear/ Grub "C"	7.0d	08-Sep-15	16-Sep-15
A1830	Access "C"	7.0d	14-Oct-15	22-Oct-15
A1840	Construct Basin "C"	12.0d	22-Oct-15	05-Nov-15
A1850	Jack Bore "C" (120 LF)	7.0d	22-Oct-15	30-Oct-15
A1851	24" RCP (100 LF)	2.0d	30-Oct-15	02-Nov-15
A6180	Convert TSP to BMP "C"	6.0d	18-May-16	25-May-16
TSP/BMP "D"		198.9d	31-Aug-15	02-Jun-16
A2030	E/S "D"	4.0d	31-Aug-15	03-Sep-15
A2040	Clear/ Grub "D"	7.0d	16-Sep-15	23-Sep-15
A2050	Access "D"	7.0d	05-Nov-15	13-Nov-15
A2060	Construct Basin "D"	12.0d	13-Nov-15	30-Nov-15
A2070	Jack Bore "D" (120 LF)	7.0d	13-Nov-15	23-Nov-15
A2071	24" RCP (150 LF)	3.0d	23-Nov-15	25-Nov-15
A6170	Convert TSP to BMP "D"	6.0d	25-May-16	02-Jun-16
TSP/BMP "E"		200.6d	03-Sep-15	09-Jun-16
A2420	E/S "E"	4.0d	03-Sep-15	09-Sep-15



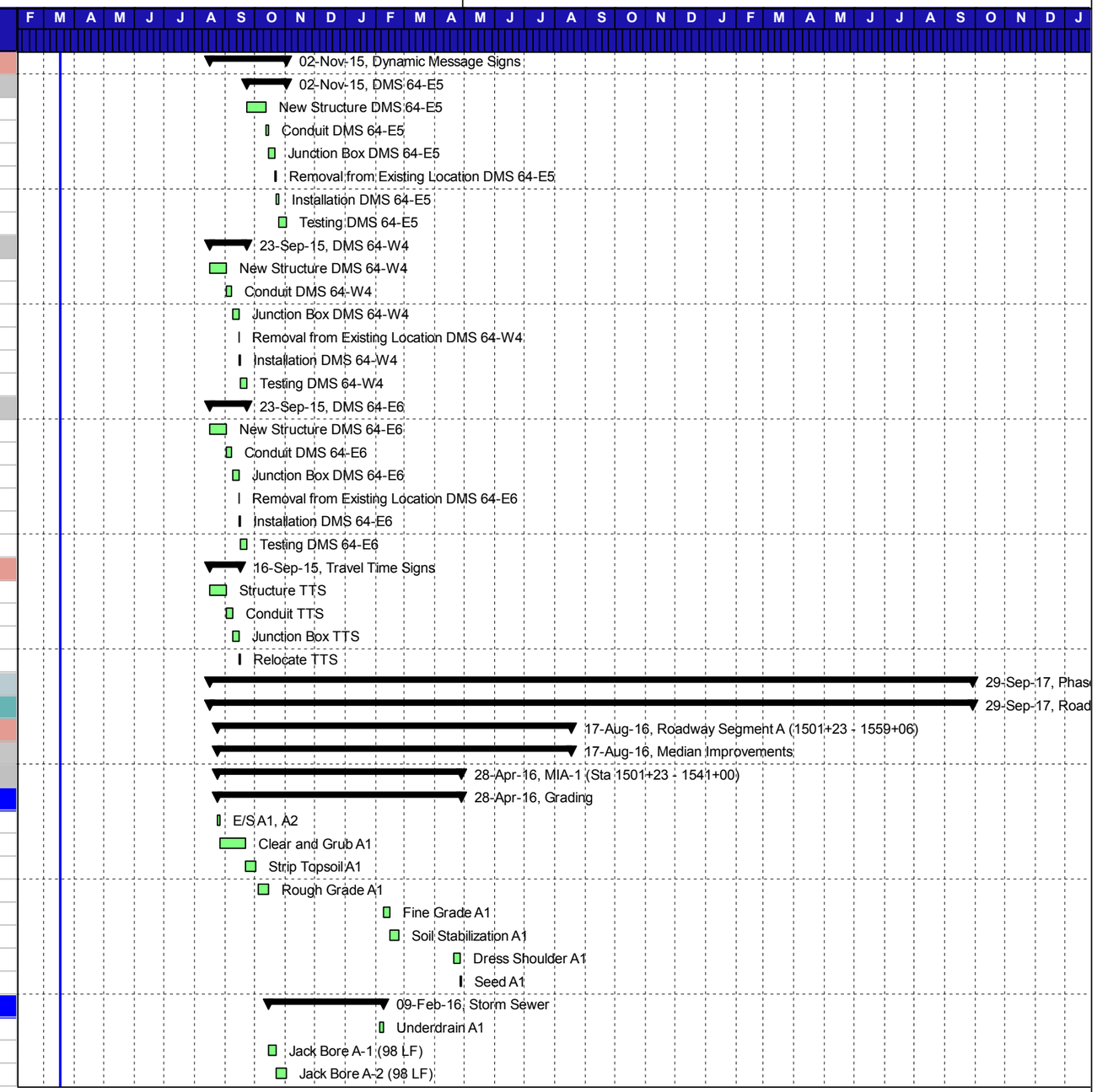
Activity ID	Activity Name	Planned Duration	Start	Finish
A2430	Clear/ Grub "E"	7.0d	23-Sep-15	01-Oct-15
A2440	Access "E"	7.0d	30-Nov-15	08-Dec-15
A2450	Construct Basin "E"	12.0d	08-Dec-15	22-Dec-15
A2460	Jack Bore "E" (150LF)	7.0d	08-Dec-15	16-Dec-15
A2461	24" RCP (210 LF)	4.0d	16-Dec-15	21-Dec-15
A6190	Convert TSP to BMP "E"	6.0d	02-Jun-16	09-Jun-16
Segment C Basins		260.2d	17-Aug-15	15-Aug-16
TSP/BMP "F"		180.3d	17-Aug-15	25-Apr-16
A3230	E/S "F"	4.0d	17-Aug-15	20-Aug-15
A3240	Clear/ Grub "F"	7.0d	20-Aug-15	28-Aug-15
A3250	Access "F"	7.0d	28-Aug-15	08-Sep-15
A3260	Construct Basin "F"	12.0d	08-Sep-15	22-Sep-15
A3270	Jack Bore "F" (200 LF)	7.0d	23-Sep-15	01-Oct-15
A3271	24" RCP (350 LF)	6.0d	08-Sep-15	15-Sep-15
A6210	Convert TSP to BMP "F"	6.0d	18-Apr-16	25-Apr-16
TSP/BMP "G"		256.9d	20-Aug-15	15-Aug-16
A3450	E/S "G"	4.0d	20-Aug-15	25-Aug-15
A3460	Clear/ Grub "G"	7.0d	28-Aug-15	08-Sep-15
A3470	Access "G"	7.0d	22-Sep-15	30-Sep-15
A3480	Construct Basin "G"	12.0d	30-Sep-15	14-Oct-15
A3490	24" RCP (105 LF)	7.0d	30-Sep-15	08-Oct-15
A6220	Convert TSP to BMP "G"	6.0d	08-Aug-16	15-Aug-16
Segment D Basins		520.4d	25-Aug-15	23-Aug-17
TSP/BMP "H"		450.2d	25-Aug-15	16-May-17
A2470	E/S "H"	4.0d	25-Aug-15	31-Aug-15
A2480	Clear/ Grub "H"	7.0d	08-Sep-15	16-Sep-15
A2490	Access "H"	7.0d	14-Oct-15	22-Oct-15
A2500	Construct Basin "H"	12.0d	22-Oct-15	05-Nov-15
A2510	Jack Bore "H" (140 LF)	7.0d	19-May-16	27-May-16
A2511	24" RCP (275 LF)	6.0d	22-Oct-15	29-Oct-15
A6200	Convert TSP to BMP "H"	6.0d	09-May-17	16-May-17
TSP/BMP "I"		452.0d	31-Aug-15	23-May-17
A3500	E/S "I"	4.0d	31-Aug-15	03-Sep-15
A3510	Clear/ Grub "I"	7.0d	16-Sep-15	23-Sep-15
A3520	Access "I"	7.0d	05-Nov-15	13-Nov-15
A3530	Construct Basin "I"	12.0d	13-Nov-15	30-Nov-15
A3540	Jack Bore "I" (82 LF)	7.0d	27-May-16	07-Jun-16
A3541	24" RCP (175 LF)	4.0d	13-Nov-15	18-Nov-15
A6230	Convert TSP to BMP "I"	6.0d	16-May-17	23-May-17
TSP/BMP "J"		497.0d	03-Sep-15	31-Jul-17
A3010	E/S "J"	4.0d	03-Sep-15	09-Sep-15
A3020	Clear/ Grub "J"	7.0d	23-Sep-15	01-Oct-15
A3030	Access "J"	7.0d	30-Nov-15	08-Dec-15
A3040	Construct Basin "J"	12.0d	08-Dec-15	22-Dec-15
A6150	Convert TSP to BMP "J"	10.0d	19-Jul-17	31-Jul-17



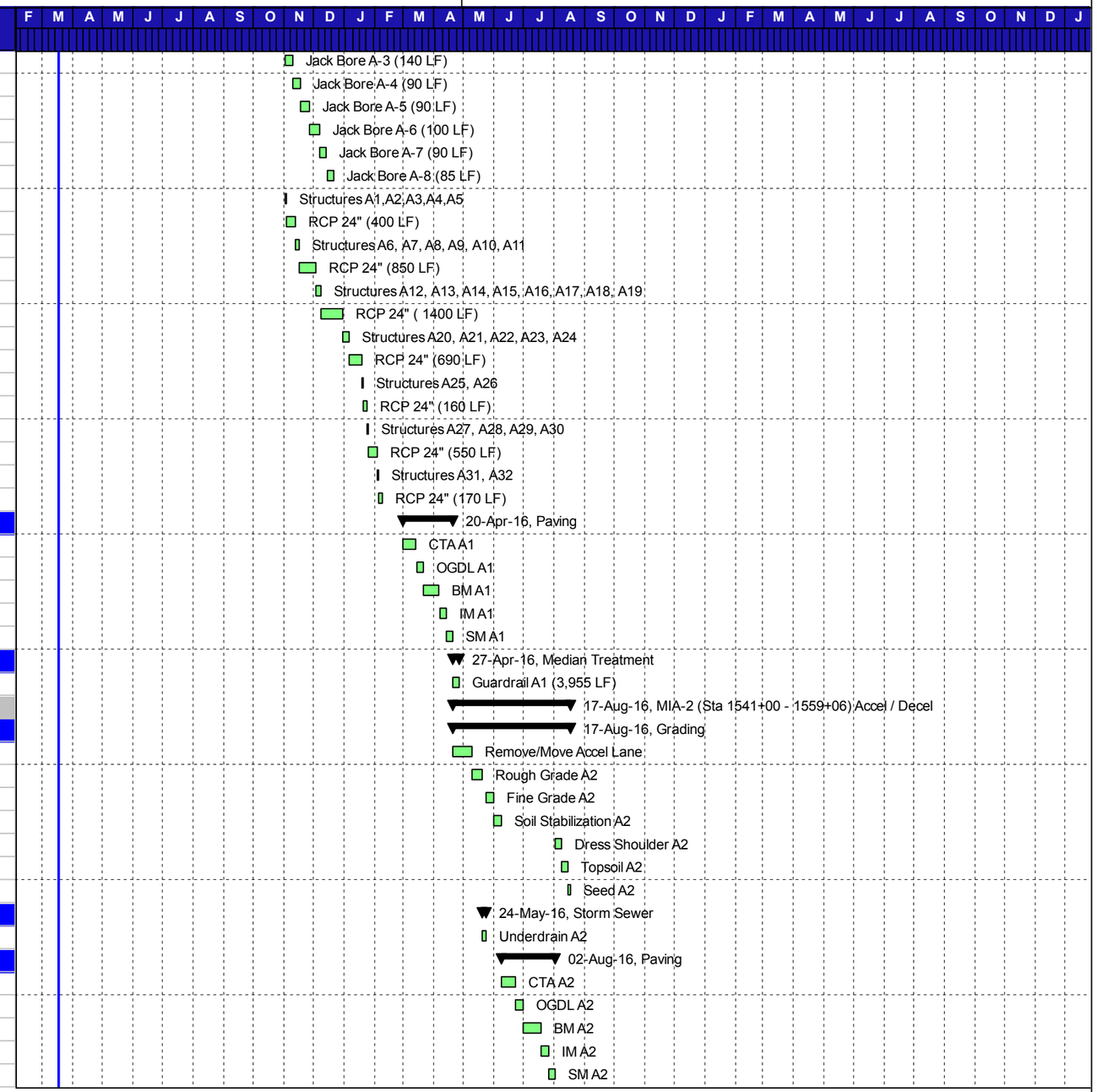
Activity ID	Activity Name	Planned Duration	Start	Finish
TSP/BMP "K"		501.1d	09-Sep-15	10-Aug-17
A2790	E/S "K"	4.0d	09-Sep-15	15-Sep-15
A2800	Clear/ Grub "K"	7.0d	01-Oct-15	09-Oct-15
A2810	Access "K"	7.0d	22-Dec-15	31-Dec-15
A2820	Construct Basin "K"	12.0d	31-Dec-15	15-Jan-16
A2830	Jack Bore "K" (100 LF)	7.0d	14-Jul-16	22-Jul-16
A2831	24" RCP (70 LF)	2.0d	31-Dec-15	05-Jan-16
A6140	Convert TSP to BMP "K"	10.0d	31-Jul-17	10-Aug-17
TSP/BMP "L"		506.1d	15-Sep-15	23-Aug-17
A11230	E/S "L"	4.0d	15-Sep-15	18-Sep-15
A11240	Clear/ Grub "L"	7.0d	09-Oct-15	19-Oct-15
A11250	Access "L"	7.0d	15-Jan-16	25-Jan-16
A11260	Construct Basin "L"	12.0d	25-Jan-16	08-Feb-16
A11270	Jack Bore "L" (84 LF)	7.0d	22-Jul-16	01-Aug-16
A11280	Convert TSP to BMP "L"	10.0d	10-Aug-17	23-Aug-17
Noise Walls		368.5d	01-Dec-15	28-Apr-17
Wall #46		191.2d	01-Dec-15	24-Aug-16
A6430	E/S NW #46	2.0d	01-Dec-15	02-Dec-15
A6440	Clear/Grub NW #46	10.0d	02-Dec-15	15-Dec-15
A6451	Excavate Footing #46	20.0d	15-Dec-15	08-Jan-16
A6452	Form Footing #46	20.0d	08-Jan-16	02-Feb-16
A6453	Resteel Footing #46	20.0d	02-Feb-16	25-Feb-16
A6454	Pour Footing #46	20.0d	25-Feb-16	21-Mar-16
A6455	Strip Footing #46	10.0d	21-Mar-16	01-Apr-16
A6460	Wall Panels NW Stage 1 #46	20.0d	01-Apr-16	26-Apr-16
A6461	Wall Panels NW Stage 2 #46	20.0d	26-Apr-16	18-May-16
A6462	Wall Panels NW Stage 3 #46	20.0d	18-May-16	13-Jun-16
A6463	Wall Panels NW Stage 4 #46	20.0d	13-Jun-16	07-Jul-16
A6464	Wall Panels NW Stage 5 #46	20.0d	07-Jul-16	01-Aug-16
A6465	Wall Panels NW Stage 6 #46	20.0d	01-Aug-16	24-Aug-16
Wall #47/ #48		194.1d	01-Aug-16	28-Apr-17
A116668	E/S NW #47/ #48	5.0d	01-Aug-16	05-Aug-16
A116670	Clear/Grub NW #47/ #48	10.0d	05-Aug-16	18-Aug-16
A116680	Excavate Footing #47/ #48	20.0d	18-Aug-16	12-Sep-16
A116690	Form Footing #47/ #48	20.0d	12-Sep-16	05-Oct-16
A116700	Resteel Footing #47/ #48	20.0d	05-Oct-16	28-Oct-16
A116710	Pour Footing #47/ #48	20.0d	28-Oct-16	22-Nov-16
A116720	Strip Footing #47/ #48	10.0d	22-Nov-16	06-Dec-16
A116730	Wall Panels NW Stage 1 #47/ #48	20.0d	06-Dec-16	29-Dec-16
A116740	Wall Panels NW Stage 2 #47/ #48	20.0d	30-Dec-16	24-Jan-17
A116750	Wall Panels NW Stage 3 #47/ #48	20.0d	25-Jan-17	16-Feb-17
A116760	Wall Panels NW Stage 4 #47/ #48	20.0d	16-Feb-17	13-Mar-17
A116770	Wall Panels NW Stage 5 #47/ #48	20.0d	13-Mar-17	05-Apr-17
A116780	Wall Panels NW Stage 6 #47/ #48	20.0d	05-Apr-17	28-Apr-17
Dynamic Message Signs / Travel Time Signs		55.0d	17-Aug-15	02-Nov-15



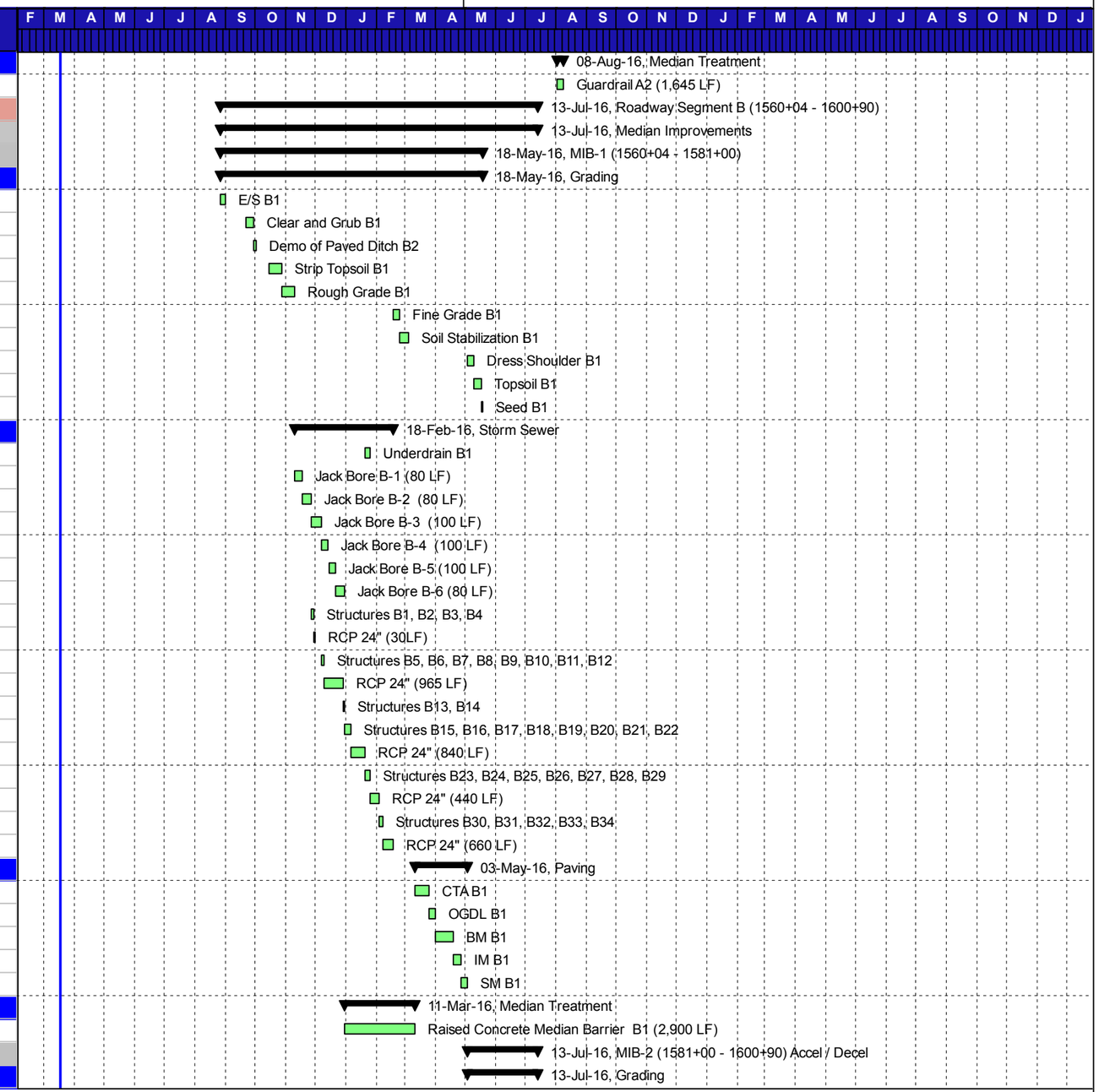
Activity ID	Activity Name	Planned Duration	Start	Finish
Dynamic Message Signs		55.0d	17-Aug-15	02-Nov-15
DMS 64-E5		27.0d	23-Sep-15	02-Nov-15
A11019	New Structure DMS 64-E5	15.0d	23-Sep-15	12-Oct-15
A11020	Conduit DMS 64-E5	4.0d	12-Oct-15	16-Oct-15
A11030	Junction Box DMS 64-E5	5.0d	16-Oct-15	22-Oct-15
A11040	Removal from Existing Location DMS 64-E5	1.0d	22-Oct-15	23-Oct-15
A11050	Installation DMS 64-E5	2.0d	23-Oct-15	26-Oct-15
A11060	Testing DMS 64-E5	5.0d	26-Oct-15	02-Nov-15
DMS 64-W4		28.0d	17-Aug-15	23-Sep-15
A11070	New Structure DMS 64-W4	15.0d	17-Aug-15	02-Sep-15
A11080	Conduit DMS 64-W4	4.0d	02-Sep-15	08-Sep-15
A11090	Junction Box DMS 64-W4	5.0d	09-Sep-15	15-Sep-15
A11100	Removal from Existing Location DMS 64-W	1.0d	15-Sep-15	16-Sep-15
A11110	Installation DMS 64-W4	2.0d	16-Sep-15	17-Sep-15
A11120	Testing DMS 64-W4	5.0d	17-Sep-15	23-Sep-15
DMS 64-E6		28.0d	17-Aug-15	23-Sep-15
A11130	New Structure DMS 64-E6	15.0d	17-Aug-15	02-Sep-15
A11140	Conduit DMS 64-E6	4.0d	02-Sep-15	08-Sep-15
A11150	Junction Box DMS 64-E6	5.0d	09-Sep-15	15-Sep-15
A11160	Removal from Existing Location DMS 64-E6	1.0d	15-Sep-15	16-Sep-15
A11170	Installation DMS 64-E6	2.0d	16-Sep-15	17-Sep-15
A11180	Testing DMS 64-E6	5.0d	17-Sep-15	23-Sep-15
Travel Time Signs		23.0d	17-Aug-15	16-Sep-15
A11190	Structure TTS	15.0d	17-Aug-15	02-Sep-15
A11200	Conduit TTS	5.0d	02-Sep-15	09-Sep-15
A11210	Junction Box TTS	5.0d	09-Sep-15	16-Sep-15
A11220	Relocate TTS	1.0d	16-Sep-15	16-Sep-15
Phase 2		554.3d	17-Aug-15	29-Sep-17
Roadway Segments		554.3d	17-Aug-15	29-Sep-17
Roadway Segment A(1501+23 - 1559+06)		256.3d	25-Aug-15	17-Aug-16
Median Improvements		256.3d	25-Aug-15	17-Aug-16
MIA-1 (Sta 1501+23 - 1541+00)		177.9d	25-Aug-15	28-Apr-16
Grading		177.9d	25-Aug-15	28-Apr-16
A12390	E/S A1, A2	3.0d	25-Aug-15	27-Aug-15
A12400	Clear and Grub A1	20.0d	27-Aug-15	22-Sep-15
A12410	Strip Topsoil A1	10.0d	22-Sep-15	02-Oct-15
A12430	Rough Grade A1	10.0d	05-Oct-15	15-Oct-15
A12440	Fine Grade A1	5.0d	09-Feb-16	16-Feb-16
A12450	Soil Stabilization A1	8.0d	16-Feb-16	24-Feb-16
A12530	Dress Shoulder A1	5.0d	21-Apr-16	27-Apr-16
A12540	Seed A1	2.0d	27-Apr-16	28-Apr-16
Storm Sewer		83.4d	15-Oct-15	09-Feb-16
A12460	Underdrain A1	3.0d	05-Feb-16	09-Feb-16
A12560	Jack Bore A-1 (98 LF)	7.0d	15-Oct-15	23-Oct-15
A12570	Jack Bore A-2 (98 LF)	7.0d	23-Oct-15	02-Nov-15



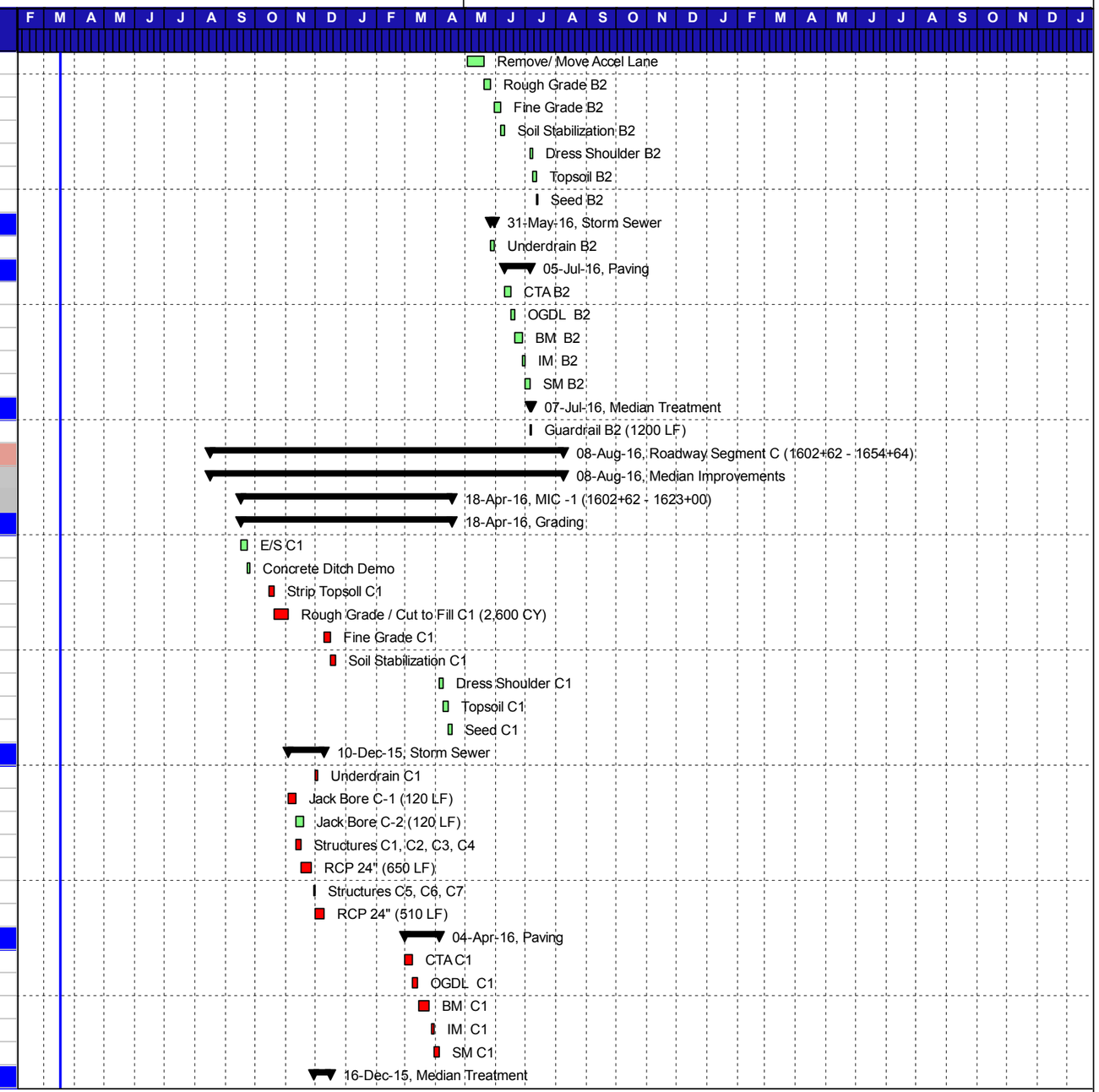
Activity ID	Activity Name	Planned Duration	Start	Finish
A12810	Jack Bore A-3 (140 LF)	7.0d	02-Nov-15	10-Nov-15
A12820	Jack Bore A-4 (90 LF)	7.0d	10-Nov-15	18-Nov-15
A12825	Jack Bore A-5 (90 LF)	7.0d	18-Nov-15	27-Nov-15
A12826	Jack Bore A-6 (100 LF)	7.0d	27-Nov-15	07-Dec-15
A12827	Jack Bore A-7 (90 LF)	7.0d	07-Dec-15	14-Dec-15
A12828	Jack Bore A-8 (85 LF)	7.0d	15-Dec-15	22-Dec-15
A12835	Structures A1,A2,A3,A4,A5	3.0d	02-Nov-15	04-Nov-15
A12836	RCP 24" (400 LF)	7.0d	04-Nov-15	12-Nov-15
A12837	Structures A6, A7, A8, A9, A10, A11	3.0d	12-Nov-15	17-Nov-15
A12838	RCP 24" (850 LF)	14.0d	17-Nov-15	04-Dec-15
A12839	Structures A12, A13, A14, A15, A16, A17, A	4.0d	04-Dec-15	09-Dec-15
A12840	RCP 24" (1400 LF)	18.0d	09-Dec-15	31-Dec-15
A12850	Structures A20, A21, A22, A23, A24	3.0d	31-Dec-15	06-Jan-16
A12860	RCP 24" (690 LF)	11.0d	06-Jan-16	19-Jan-16
A12870	Structures A25, A26	1.0d	19-Jan-16	20-Jan-16
A12880	RCP 24" (160 LF)	3.0d	20-Jan-16	25-Jan-16
A12890	Structures A27, A28, A29, A30	2.0d	25-Jan-16	26-Jan-16
A12900	RCP 24" (550 LF)	8.0d	26-Jan-16	04-Feb-16
A12910	Structures A31, A32	1.0d	04-Feb-16	05-Feb-16
A12920	RCP 24" (170 LF)	3.0d	05-Feb-16	09-Feb-16
Paving		37.0d	01-Mar-16	20-Apr-16
A12480	CTA A1	10.0d	01-Mar-16	14-Mar-16
A12490	OGDL A1	5.0d	15-Mar-16	21-Mar-16
A12500	BM A1	12.0d	22-Mar-16	06-Apr-16
A12510	IM A1	5.0d	07-Apr-16	13-Apr-16
A12520	SM A1	5.0d	14-Apr-16	20-Apr-16
Median Treatment		4.1d	21-Apr-16	27-Apr-16
A12550	Guardrail A1 (3,955 LF)	5.0d	21-Apr-16	27-Apr-16
MIA-2 (Sta 1541+00 - 1559+06) Accel / Decel		84.4d	21-Apr-16	17-Aug-16
Grading		84.4d	21-Apr-16	17-Aug-16
A12630	Remove/Move Accel Lane	15.0d	21-Apr-16	09-May-16
A12660	Rough Grade A2	10.0d	09-May-16	20-May-16
A12670	Fine Grade A2	5.0d	24-May-16	31-May-16
A12680	Soil Stabilization A2	8.0d	31-May-16	09-Jun-16
A12750	Dress Shoulder A2	5.0d	02-Aug-16	08-Aug-16
A12760	Topsoil A2	6.0d	08-Aug-16	15-Aug-16
A12770	Seed A2	2.0d	15-Aug-16	17-Aug-16
Storm Sewer		2.6d	20-May-16	24-May-16
A12800	Underdrain A2	3.0d	20-May-16	24-May-16
Paving		37.9d	09-Jun-16	02-Aug-16
A12700	CTA A2	10.0d	09-Jun-16	23-Jun-16
A12710	OGDL A2	5.0d	23-Jun-16	30-Jun-16
A12720	BM A2	12.0d	30-Jun-16	19-Jul-16
A12730	IM A2	5.0d	19-Jul-16	26-Jul-16
A12740	SM A2	5.0d	26-Jul-16	02-Aug-16



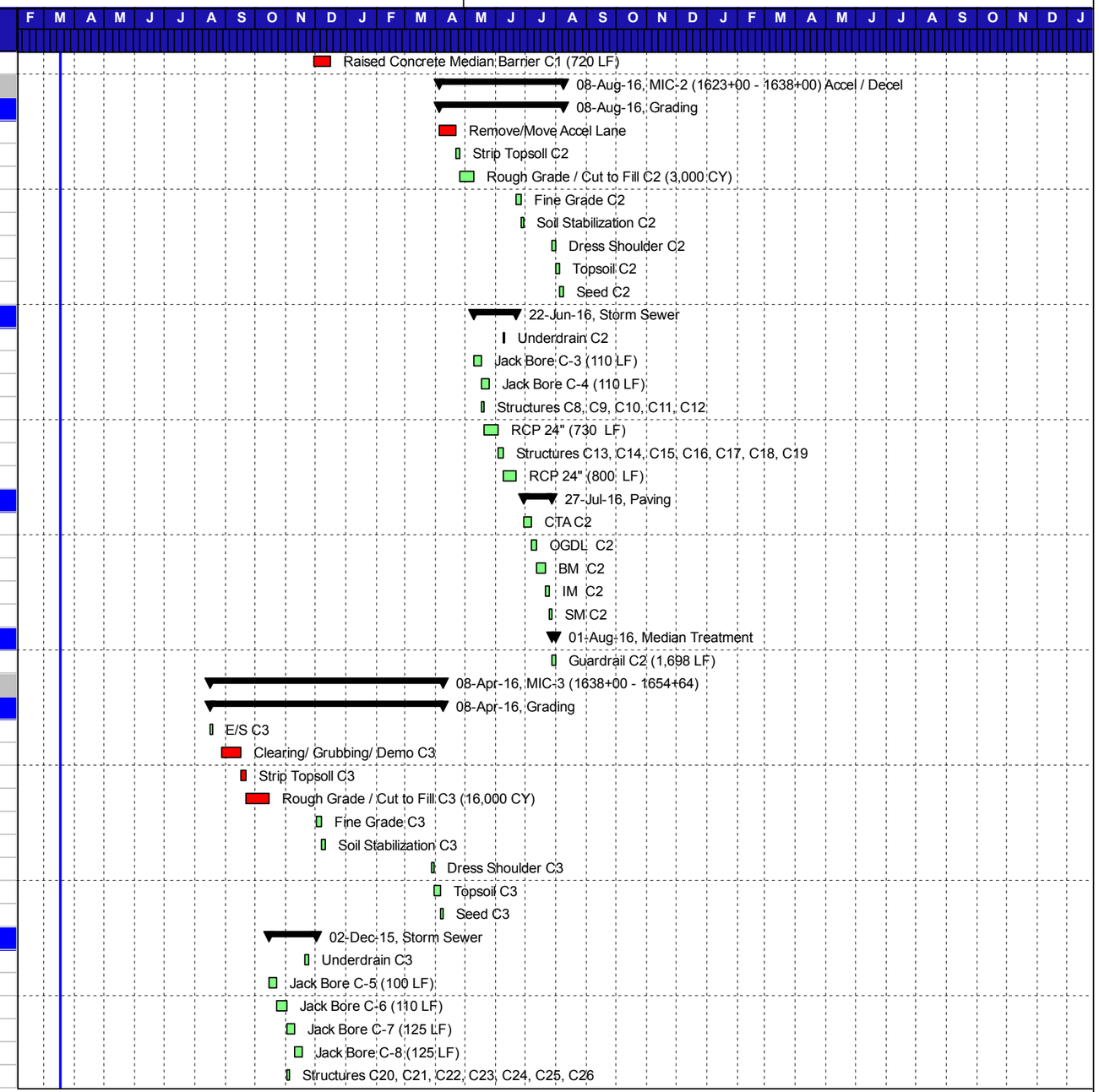
Activity ID	Activity Name	Planned Duration	Start	Finish
Median Treatment		4.3d	02-Aug-16	08-Aug-16
A12780	Guardrail A2 (1,645 LF)	5.0d	02-Aug-16	08-Aug-16
Roadway Segment B (1560+04 - 1600+90)		228.9d	27-Aug-15	13-Jul-16
Median Improvements		228.9d	27-Aug-15	13-Jul-16
MIB-1 (1560+04 - 1581+00)		189.0d	27-Aug-15	18-May-16
Grading		189.0d	27-Aug-15	18-May-16
A12930	E/S B1	3.0d	27-Aug-15	01-Sep-15
A12940	Clear and Grub B1	7.0d	22-Sep-15	30-Sep-15
A12941	Demo of Paved Ditch B2	3.0d	30-Sep-15	02-Oct-15
A12950	Strip Topsoil B1	11.0d	15-Oct-15	28-Oct-15
A12970	Rough Grade B1	10.0d	28-Oct-15	10-Nov-15
A12980	Fine Grade B1	5.0d	18-Feb-16	24-Feb-16
A12990	Soil Stabilization B1	8.0d	25-Feb-16	04-Mar-16
A13070	Dress Shoulder B1	5.0d	03-May-16	09-May-16
A13080	Topsoil B1	6.0d	10-May-16	17-May-16
A13090	Seed B1	2.0d	17-May-16	18-May-16
Storm Sewer		72.5d	10-Nov-15	18-Feb-16
A13120	Underdrain B1	3.0d	21-Jan-16	25-Jan-16
A13130	Jack Bore B-1 (80 LF)	7.0d	10-Nov-15	18-Nov-15
A13140	Jack Bore B-2 (80 LF)	7.0d	18-Nov-15	27-Nov-15
A13150	Jack Bore B-3 (100 LF)	7.0d	27-Nov-15	07-Dec-15
A13160	Jack Bore B-4 (100 LF)	7.0d	07-Dec-15	14-Dec-15
A13170	Jack Bore B-5 (100 LF)	7.0d	15-Dec-15	22-Dec-15
A13180	Jack Bore B-6 (80 LF)	7.0d	22-Dec-15	31-Dec-15
A13190	Structures B1, B2, B3, B4	2.0d	27-Nov-15	30-Nov-15
A13200	RCP 24" (30LF)	1.0d	30-Nov-15	01-Dec-15
A13210	Structures B5, B6, B7, B8, B9, B10, B11, B	4.0d	07-Dec-15	10-Dec-15
A13220	RCP 24" (965 LF)	15.0d	10-Dec-15	30-Dec-15
A13230	Structures B13, B14	1.0d	30-Dec-15	30-Dec-15
A13240	Structures B15, B16, B17, B18, B19, B20, I	4.0d	30-Dec-15	06-Jan-16
A13250	RCP 24" (840 LF)	13.0d	06-Jan-16	21-Jan-16
A13260	Structures B23, B24, B25, B26, B27, B28, I	4.0d	21-Jan-16	26-Jan-16
A13270	RCP 24" (440 LF)	7.0d	26-Jan-16	03-Feb-16
A13460	Structures B30, B31, B32, B33, B34	3.0d	03-Feb-16	08-Feb-16
A13470	RCP 24" (660 LF)	10.0d	08-Feb-16	18-Feb-16
Paving		37.0d	11-Mar-16	03-May-16
A13020	CTA B1	10.0d	11-Mar-16	25-Mar-16
A13030	OGDL B1	5.0d	25-Mar-16	01-Apr-16
A13040	BM B1	12.0d	01-Apr-16	19-Apr-16
A13050	IM B1	5.0d	19-Apr-16	26-Apr-16
A13060	SM B1	5.0d	26-Apr-16	03-May-16
Median Treatment		51.9d	30-Dec-15	11-Mar-16
A13010	Raised Concrete Median Barrier B1 (2,90(	60.0d	30-Dec-15	11-Mar-16
MIB-2 (1581+00 - 1600+90) Accel / Decel		50.8d	03-May-16	13-Jul-16
Grading		50.8d	03-May-16	13-Jul-16



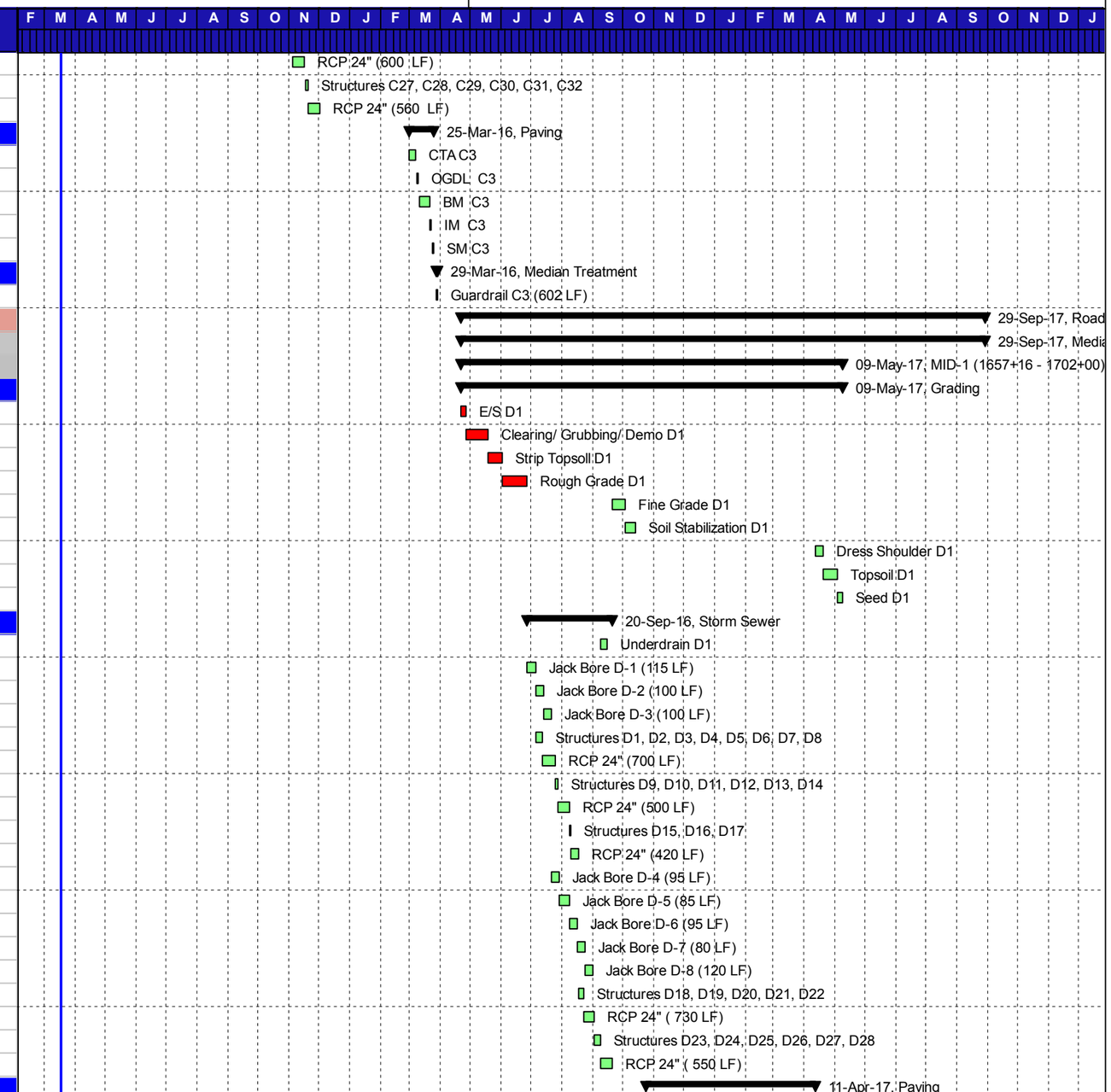
Activity ID	Activity Name	Planned Duration	Start	Finish
A13279	Remove/ Move Accel Lane	15.0d	03-May-16	20-May-16
A13320	Rough Grade B2	5.0d	20-May-16	26-May-16
A13330	Fine Grade B2	5.0d	31-May-16	06-Jun-16
A13340	Soil Stabilization B2	5.0d	06-Jun-16	10-Jun-16
A13410	Dress Shoulder B2	3.0d	05-Jul-16	08-Jul-16
A13420	Topsoil B2	3.0d	08-Jul-16	12-Jul-16
A13430	Seed B2	1.0d	12-Jul-16	13-Jul-16
Storm Sewer		2.6d	26-May-16	31-May-16
A13450	Underdrain B2	2.0d	26-May-16	31-May-16
Paving		17.0d	10-Jun-16	05-Jul-16
A13360	CTA B2	4.0d	10-Jun-16	16-Jun-16
A13370	OGDL B2	2.0d	16-Jun-16	20-Jun-16
A13380	BM B2	6.0d	20-Jun-16	28-Jun-16
A13390	IM B2	2.0d	28-Jun-16	30-Jun-16
A13400	SM B2	2.0d	30-Jun-16	05-Jul-16
Median Treatment		1.6d	05-Jul-16	07-Jul-16
A13440	Guardrail B2 (1200 LF)	2.0d	05-Jul-16	07-Jul-16
Roadway Segment C (1602+62 - 1654+64)		255.1d	17-Aug-15	08-Aug-16
Median Improvements		255.1d	17-Aug-15	08-Aug-16
MIC -1 (1602+62 - 1623+00)		152.1d	17-Sep-15	18-Apr-16
Grading		152.1d	17-Sep-15	18-Apr-16
A13490	E/S C1	5.0d	17-Sep-15	23-Sep-15
A13491	Concrete Ditch Demo	3.0d	23-Sep-15	25-Sep-15
A13500	Strip Topsoil C1	4.0d	15-Oct-15	20-Oct-15
A13520	Rough Grade / Cut to Fill C1 (2,600 CY)	12.0d	20-Oct-15	03-Nov-15
A13530	Fine Grade C1	5.0d	10-Dec-15	16-Dec-15
A13540	Soil Stabilization C1	4.0d	16-Dec-15	21-Dec-15
A13610	Dress Shoulder C1	4.0d	05-Apr-16	08-Apr-16
A13620	Topsoil C1	5.0d	08-Apr-16	14-Apr-16
A13630	Seed C1	2.0d	14-Apr-16	18-Apr-16
Storm Sewer		26.4d	04-Nov-15	10-Dec-15
A13550	Underdrain C1	3.0d	01-Dec-15	04-Dec-15
A13660	Jack Bore C-1 (120 LF)	7.0d	04-Nov-15	12-Nov-15
A13670	Jack Bore C-2 (120 LF)	7.0d	12-Nov-15	19-Nov-15
A13740	Structures C1, C2, C3, C4	3.0d	12-Nov-15	16-Nov-15
A13750	RCP 24" (650 LF)	10.0d	16-Nov-15	27-Nov-15
A13760	Structures C5, C6, C7	2.0d	30-Nov-15	01-Dec-15
A13770	RCP 24" (510 LF)	8.0d	01-Dec-15	10-Dec-15
Paving		25.0d	01-Mar-16	04-Apr-16
A13560	CTA C1	6.0d	01-Mar-16	08-Mar-16
A13570	OGDL C1	4.0d	09-Mar-16	14-Mar-16
A13580	BM C1	9.0d	15-Mar-16	25-Mar-16
A13590	IM C1	3.0d	28-Mar-16	30-Mar-16
A13600	SM C1	3.0d	31-Mar-16	04-Apr-16
Median Treatment		12.7d	30-Nov-15	16-Dec-15



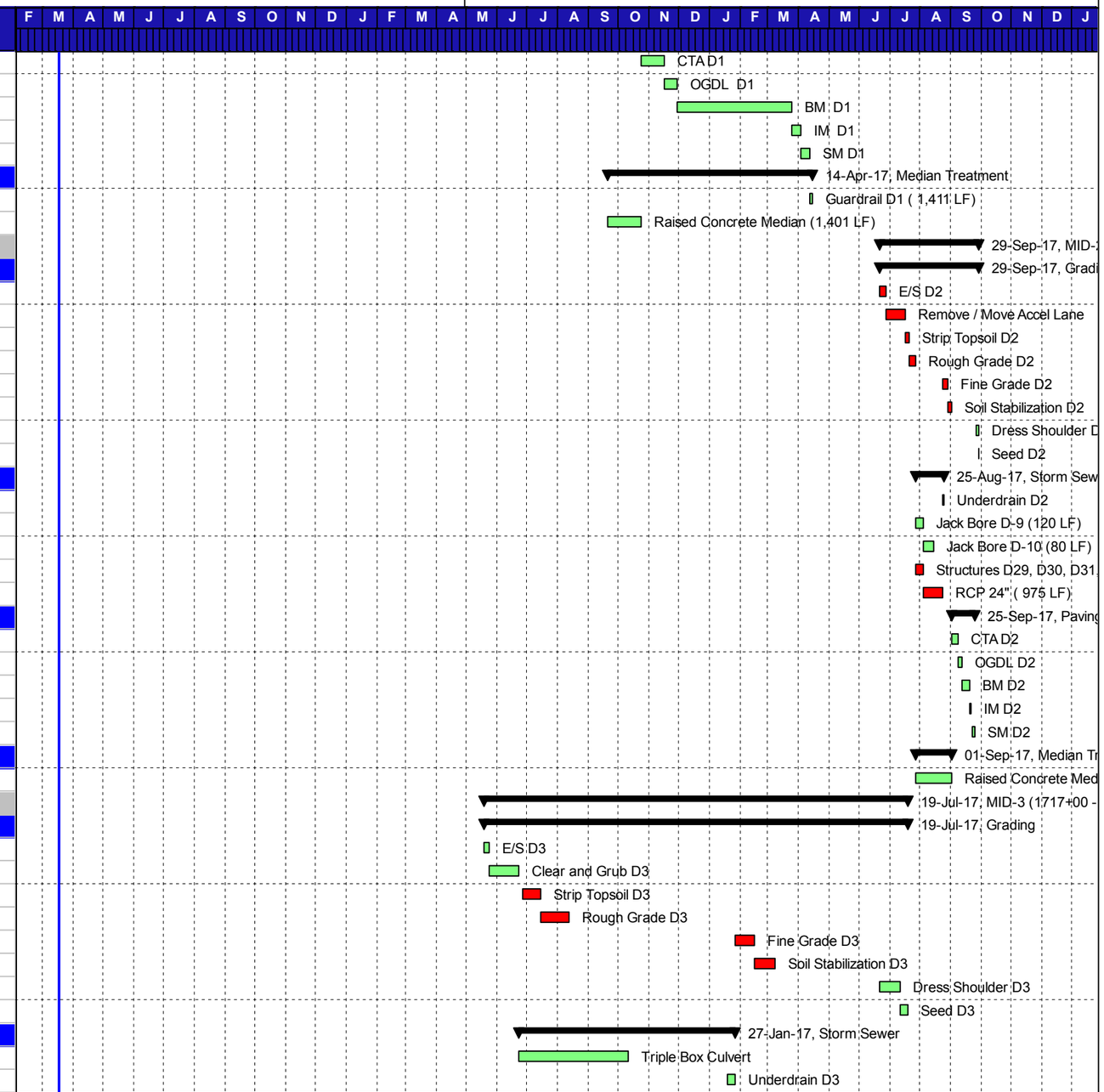
Activity ID	Activity Name	Planned Duration	Start	Finish
A13650	Raised Concrete Median Barrier C1 (720 L	15.0d	30-Nov-15	16-Dec-15
MIC-2 (1623+00 - 1638+00) Accel / Decel		89.1d	05-Apr-16	08-Aug-16
Grading		89.1d	05-Apr-16	08-Aug-16
A14828	Remove/Move Accel Lane	15.0d	05-Apr-16	21-Apr-16
A14850	Strip Topsoll C2	3.0d	21-Apr-16	26-Apr-16
A14860	Rough Grade / Cut to Fill C2 (3,000 CY)	12.0d	26-Apr-16	10-May-16
A14870	Fine Grade C2	3.0d	22-Jun-16	27-Jun-16
A14880	Soil Stabilization C2	3.0d	27-Jun-16	29-Jun-16
A14890	Dress Shoulder C2	3.0d	27-Jul-16	01-Aug-16
A14900	Topsoil C2	4.0d	01-Aug-16	04-Aug-16
A14910	Seed C2	2.0d	04-Aug-16	08-Aug-16
Storm Sewer		31.4d	10-May-16	22-Jun-16
A13679	Underdrain C2	3.0d	08-Jun-16	10-Jun-16
A13680	Jack Bore C-3 (110 LF)	7.0d	10-May-16	18-May-16
A13690	Jack Bore C-4 (110 LF)	7.0d	18-May-16	26-May-16
A13780	Structures C8, C9, C10, C11, C12	3.0d	18-May-16	20-May-16
A13790	RCP 24" (730 LF)	10.0d	20-May-16	03-Jun-16
A13800	Structures C13, C14, C15, C16, C17, C18,	4.0d	03-Jun-16	08-Jun-16
A13810	RCP 24" (800 LF)	12.0d	08-Jun-16	22-Jun-16
Paving		20.0d	29-Jun-16	27-Jul-16
A15010	CTA C2	5.0d	29-Jun-16	07-Jul-16
A15020	OGDL C2	3.0d	07-Jul-16	12-Jul-16
A15030	BM C2	7.0d	12-Jul-16	21-Jul-16
A15040	IM C2	2.0d	21-Jul-16	25-Jul-16
A15050	SM C2	2.0d	25-Jul-16	27-Jul-16
Median Treatment		3.3d	27-Jul-16	01-Aug-16
A13640	Guardrail C2 (1,698 LF)	4.0d	27-Jul-16	01-Aug-16
MIC-3 (1638+00 - 1654+64)		169.2d	17-Aug-15	08-Apr-16
Grading		169.2d	17-Aug-15	08-Apr-16
A14919	E/S C3	3.0d	17-Aug-15	19-Aug-15
A14920	Clearing/ Grubbing/ Demo C3	15.0d	28-Aug-15	17-Sep-15
A14940	Strip Topsoll C3	4.0d	17-Sep-15	22-Sep-15
A14950	Rough Grade / Cut to Fill C3 (16,000 CY)	20.0d	22-Sep-15	15-Oct-15
A14960	Fine Grade C3	4.0d	02-Dec-15	07-Dec-15
A14970	Soil Stabilization C3	4.0d	07-Dec-15	11-Dec-15
A14980	Dress Shoulder C3	4.0d	28-Mar-16	31-Mar-16
A14990	Topsoil C3	5.0d	31-Mar-16	06-Apr-16
A15000	Seed C3	2.0d	06-Apr-16	08-Apr-16
Storm Sewer		33.9d	15-Oct-15	02-Dec-15
A13699	Underdrain C3	3.0d	20-Nov-15	25-Nov-15
A13700	Jack Bore C-5 (100 LF)	7.0d	15-Oct-15	23-Oct-15
A13710	Jack Bore C-6 (110 LF)	7.0d	23-Oct-15	02-Nov-15
A13720	Jack Bore C-7 (125 LF)	7.0d	02-Nov-15	10-Nov-15
A13730	Jack Bore C-8 (125 LF)	7.0d	10-Nov-15	18-Nov-15
A13820	Structures C20, C21, C22, C23, C24, C25,	4.0d	02-Nov-15	05-Nov-15



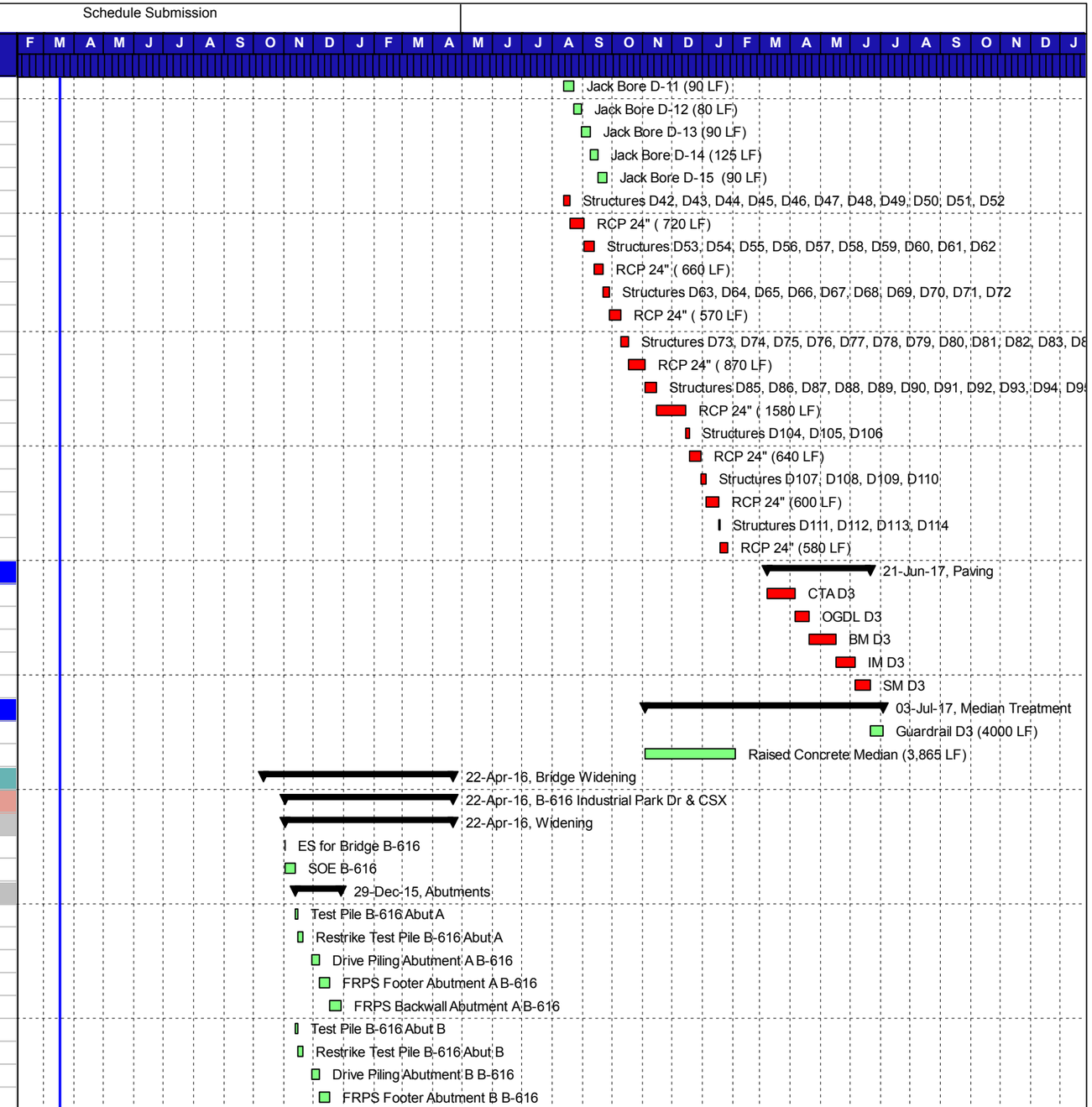
Activity ID	Activity Name	Planned Duration	Start	Finish
A13830	RCP 24" (600 LF)	9.0d	05-Nov-15	17-Nov-15
A13840	Structures C27, C28, C29, C30, C31, C32	3.0d	18-Nov-15	20-Nov-15
A13850	RCP 24" (560 LF)	8.0d	20-Nov-15	02-Dec-15
Paving		19.0d	01-Mar-16	25-Mar-16
A15060	CTA C3	5.0d	01-Mar-16	07-Mar-16
A15070	OGDL C3	3.0d	08-Mar-16	10-Mar-16
A15080	BM C3	7.0d	11-Mar-16	21-Mar-16
A15090	IM C3	2.0d	22-Mar-16	23-Mar-16
A15100	SM C3	2.0d	24-Mar-16	25-Mar-16
Median Treatment		1.8d	28-Mar-16	29-Mar-16
A15110	Guardrail C3 (602 LF)	2.0d	28-Mar-16	29-Mar-16
Roadway Segment D (1657+16 - 1782+50)		375.6d	21-Apr-16	29-Sep-17
Median Improvements		375.6d	21-Apr-16	29-Sep-17
MID-1 (1657+16 - 1702+00)		273.3d	21-Apr-16	09-May-17
Grading		273.3d	21-Apr-16	09-May-17
A13860	E/S D1	4.0d	21-Apr-16	26-Apr-16
A13870	Clearing/ Grubbing/ Demo D1	20.0d	27-Apr-16	19-May-16
A13880	Strip Topsoil D1	10.0d	19-May-16	02-Jun-16
A13900	Rough Grade D1	20.0d	02-Jun-16	27-Jun-16
A13910	Fine Grade D1	10.0d	20-Sep-16	03-Oct-16
A13920	Soil Stabilization D1	10.0d	03-Oct-16	13-Oct-16
A13990	Dress Shoulder D1	8.0d	11-Apr-17	20-Apr-17
A14000	Topsoil D1	12.0d	20-Apr-17	04-May-17
A14010	Seed D1	4.0d	04-May-17	09-May-17
Storm Sewer		62.0d	27-Jun-16	20-Sep-16
A13930	Underdrain D1	5.0d	09-Sep-16	15-Sep-16
A14030	Jack Bore D-1 (115 LF)	7.0d	27-Jun-16	05-Jul-16
A14040	Jack Bore D-2 (100 LF)	7.0d	06-Jul-16	13-Jul-16
A14050	Jack Bore D-3 (100 LF)	7.0d	13-Jul-16	21-Jul-16
A14060	Structures D1, D2, D3, D4, D5, D6, D7, D8	5.0d	06-Jul-16	12-Jul-16
A14070	RCP 24" (700 LF)	11.0d	12-Jul-16	25-Jul-16
A14080	Structures D9, D10, D11, D12, D13, D14	4.0d	25-Jul-16	28-Jul-16
A14090	RCP 24" (500 LF)	8.0d	28-Jul-16	08-Aug-16
A14100	Structures D15, D16, D17	2.0d	08-Aug-16	10-Aug-16
A14110	RCP 24" (420 LF)	7.0d	10-Aug-16	18-Aug-16
A14300	Jack Bore D-4 (95 LF)	7.0d	21-Jul-16	29-Jul-16
A14310	Jack Bore D-5 (85 LF)	7.0d	29-Jul-16	08-Aug-16
A14320	Jack Bore D-6 (95 LF)	7.0d	08-Aug-16	16-Aug-16
A14330	Jack Bore D-7 (80 LF)	7.0d	16-Aug-16	24-Aug-16
A14340	Jack Bore D-8 (120 LF)	7.0d	24-Aug-16	01-Sep-16
A14420	Structures D18, D19, D20, D21, D22	3.0d	18-Aug-16	22-Aug-16
A14430	RCP 24" (730 LF)	11.0d	22-Aug-16	02-Sep-16
A14440	Structures D23, D24, D25, D26, D27, D28	4.0d	02-Sep-16	09-Sep-16
A14450	RCP 24" (550 LF)	9.0d	09-Sep-16	20-Sep-16
Paving		121.0d	24-Oct-16	11-Apr-17



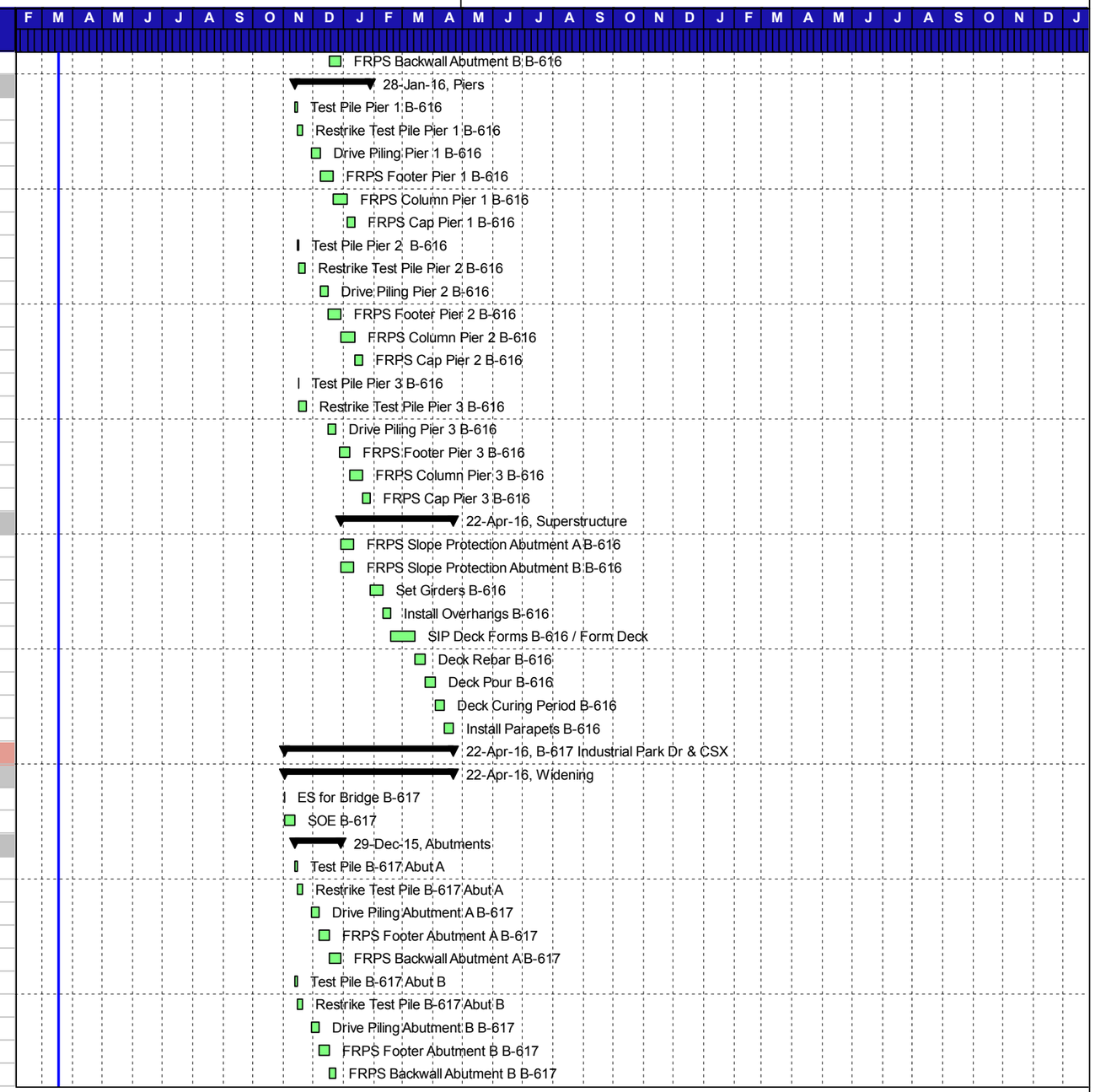
Activity ID	Activity Name	Planned Duration	Start	Finish
A13940	CTA D1	16.0d	24-Oct-16	16-Nov-16
A13950	OGDL D1	8.0d	16-Nov-16	29-Nov-16
A13960	BM D1	19.0d	29-Nov-16	24-Mar-17
A13970	IM D1	6.0d	24-Mar-17	03-Apr-17
A13980	SM D1	6.0d	03-Apr-17	11-Apr-17
Median Treatment		147.1d	20-Sep-16	14-Apr-17
A14020	Guardrail D1 (1,411 LF)	3.0d	11-Apr-17	14-Apr-17
A15120	Raised Concrete Median (1,401 LF)	28.0d	20-Sep-16	24-Oct-16
MID-2 (1702+00 - 1717+00) Accel / Decel		71.8d	21-Jun-17	29-Sep-17
Grading		71.8d	21-Jun-17	29-Sep-17
A14120	E/S D2	5.0d	21-Jun-17	27-Jun-17
A14130	Remove / Move Accel Lane	15.0d	27-Jun-17	17-Jul-17
A14140	Strip Topsoil D2	5.0d	17-Jul-17	21-Jul-17
A14160	Rough Grade D2	5.0d	21-Jul-17	27-Jul-17
A14170	Fine Grade D2	5.0d	23-Aug-17	29-Aug-17
A14180	Soil Stabilization D2	3.0d	29-Aug-17	01-Sep-17
A14250	Dress Shoulder D2	3.0d	26-Sep-17	28-Sep-17
A14260	Seed D2	1.0d	28-Sep-17	29-Sep-17
Storm Sewer		21.1d	27-Jul-17	25-Aug-17
A14190	Underdrain D2	3.0d	23-Aug-17	25-Aug-17
A14350	Jack Bore D-9 (120 LF)	7.0d	27-Jul-17	04-Aug-17
A14360	Jack Bore D-10 (80 LF)	7.0d	04-Aug-17	14-Aug-17
A14460	Structures D29, D30, D31, D32, D33, D34,	7.0d	27-Jul-17	04-Aug-17
A14470	RCP 24" (975 LF)	15.0d	04-Aug-17	23-Aug-17
Paving		17.0d	01-Sep-17	25-Sep-17
A14200	CTA D2	4.0d	01-Sep-17	07-Sep-17
A14210	OGDL D2	2.0d	08-Sep-17	11-Sep-17
A14220	BM D2	6.0d	12-Sep-17	19-Sep-17
A14230	IM D2	2.0d	20-Sep-17	21-Sep-17
A14240	SM D2	2.0d	22-Sep-17	25-Sep-17
Median Treatment		25.1d	27-Jul-17	01-Sep-17
A14280	Raised Concrete Median (1,500 LF)	30.0d	27-Jul-17	01-Sep-17
MID-3 (1717+00 - 1782+50)		303.1d	19-May-16	19-Jul-17
Grading		303.1d	19-May-16	19-Jul-17
A14580	E/S D3	3.0d	19-May-16	24-May-16
A14590	Clear and Grub D3	25.0d	24-May-16	23-Jun-16
A14600	Strip Topsoil D3	15.0d	27-Jun-16	14-Jul-16
A14620	Rough Grade D3	25.0d	14-Jul-16	12-Aug-16
A14630	Fine Grade D3	15.0d	27-Jan-17	15-Feb-17
A14640	Soil Stabilization D3	18.0d	15-Feb-17	08-Mar-17
A14710	Dress Shoulder D3	15.0d	21-Jun-17	11-Jul-17
A14720	Seed D3	7.0d	11-Jul-17	19-Jul-17
Storm Sewer		156.3d	23-Jun-16	27-Jan-17
A116790	Triple Box Culvert	90.0d	23-Jun-16	11-Oct-16
A14369	Underdrain D3	8.0d	18-Jan-17	27-Jan-17



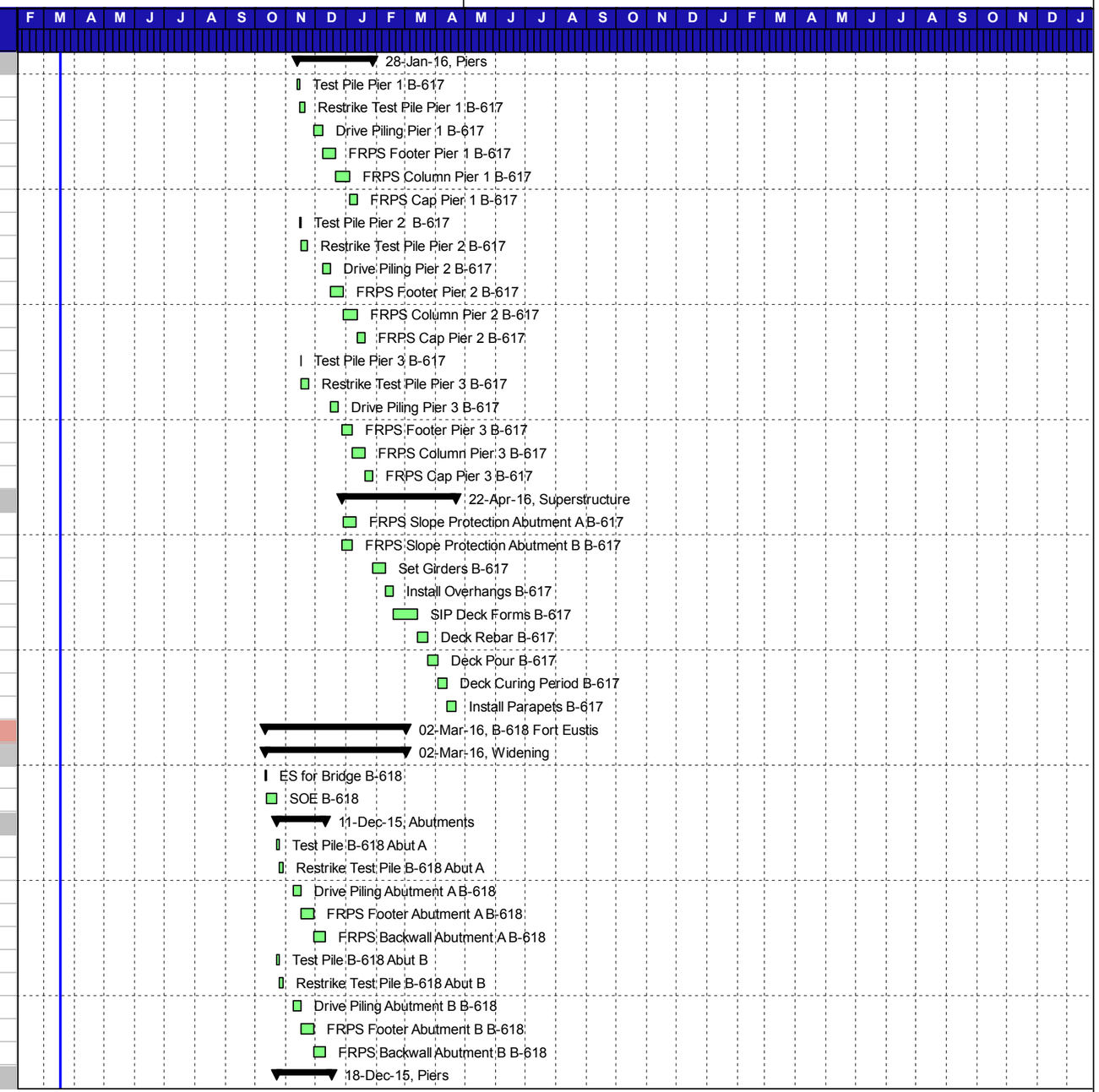
Activity ID	Activity Name	Planned Duration	Start	Finish
A14370	Jack Bore D-11 (90 LF)	7.0d	12-Aug-16	22-Aug-16
A14380	Jack Bore D-12 (80 LF)	7.0d	22-Aug-16	30-Aug-16
A14390	Jack Bore D-13 (90 LF)	7.0d	30-Aug-16	08-Sep-16
A14400	Jack Bore D-14 (125 LF)	7.0d	08-Sep-16	16-Sep-16
A14410	Jack Bore D-15 (90 LF)	7.0d	16-Sep-16	26-Sep-16
A14480	Structures D42, D43, D44, D45, D46, D47,	6.0d	12-Aug-16	19-Aug-16
A14490	RCP 24" (720 LF)	11.0d	19-Aug-16	02-Sep-16
A14500	Structures D53, D54, D55, D56, D57, D58,	6.0d	02-Sep-16	12-Sep-16
A14510	RCP 24" (660 LF)	10.0d	12-Sep-16	22-Sep-16
A14520	Structures D63, D64, D65, D66, D67, D68,	5.0d	22-Sep-16	28-Sep-16
A14530	RCP 24" (570 LF)	9.0d	28-Sep-16	10-Oct-16
A14540	Structures D73, D74, D75, D76, D77, D78,	7.0d	10-Oct-16	18-Oct-16
A14550	RCP 24" (870 LF)	14.0d	18-Oct-16	03-Nov-16
A14560	Structures D85, D86, D87, D88, D89, D90,	10.0d	03-Nov-16	15-Nov-16
A14570	RCP 24" (1580 LF)	25.0d	15-Nov-16	15-Dec-16
A14760	Structures D104, D105, D106	2.0d	15-Dec-16	19-Dec-16
A14770	RCP 24" (640 LF)	10.0d	19-Dec-16	30-Dec-16
A14780	Structures D107, D108, D109, D110	3.0d	30-Dec-16	05-Jan-17
A14790	RCP 24" (600 LF)	9.0d	05-Jan-17	17-Jan-17
A14800	Structures D111, D112, D113, D114	2.0d	17-Jan-17	18-Jan-17
A14810	RCP 24" (580 LF)	8.0d	18-Jan-17	27-Jan-17
Paving		74.9d	08-Mar-17	21-Jun-17
A14660	CTA D3	20.0d	08-Mar-17	05-Apr-17
A14670	OGDL D3	10.0d	05-Apr-17	19-Apr-17
A14680	BM D3	20.0d	19-Apr-17	17-May-17
A14690	IM D3	12.0d	17-May-17	05-Jun-17
A14700	SM D3	12.0d	05-Jun-17	21-Jun-17
Median Treatment		172.9d	03-Nov-16	03-Jul-17
A14730	Guardrail D3 (4000 LF)	10.0d	21-Jun-17	03-Jul-17
A15130	Raised Concrete Median (3,865 LF)	75.0d	03-Nov-16	03-Feb-17
Bridge Widening		139.8d	12-Oct-15	22-Apr-16
B-616 Industrial Park Dr & CSX		124.8d	02-Nov-15	22-Apr-16
Widening		124.8d	02-Nov-15	22-Apr-16
A1470	ES for Bridge B-616	1.0d	02-Nov-15	02-Nov-15
A4530	SOE B-616	10.0d	02-Nov-15	13-Nov-15
Abutments		32.4d	13-Nov-15	29-Dec-15
A4038	Test Pile B-616 Abut A	1.0d	13-Nov-15	16-Nov-15
A4039	Restrike Test Pile B-616 Abut A	5.0d	16-Nov-15	20-Nov-15
A4040	Drive Piling Abutment A B-616	7.0d	30-Nov-15	08-Dec-15
A4050	FRPS Footer Abutment A B-616	10.0d	08-Dec-15	18-Dec-15
A4060	FRPS Backwall Abutment A B-616	7.0d	18-Dec-15	29-Dec-15
A4068	Test Pile B-616 Abut B	1.0d	13-Nov-15	16-Nov-15
A4069	Restrike Test Pile B-616 Abut B	5.0d	16-Nov-15	20-Nov-15
A4070	Drive Piling Abutment B B-616	7.0d	30-Nov-15	08-Dec-15
A4080	FRPS Footer Abutment B B-616	10.0d	08-Dec-15	18-Dec-15



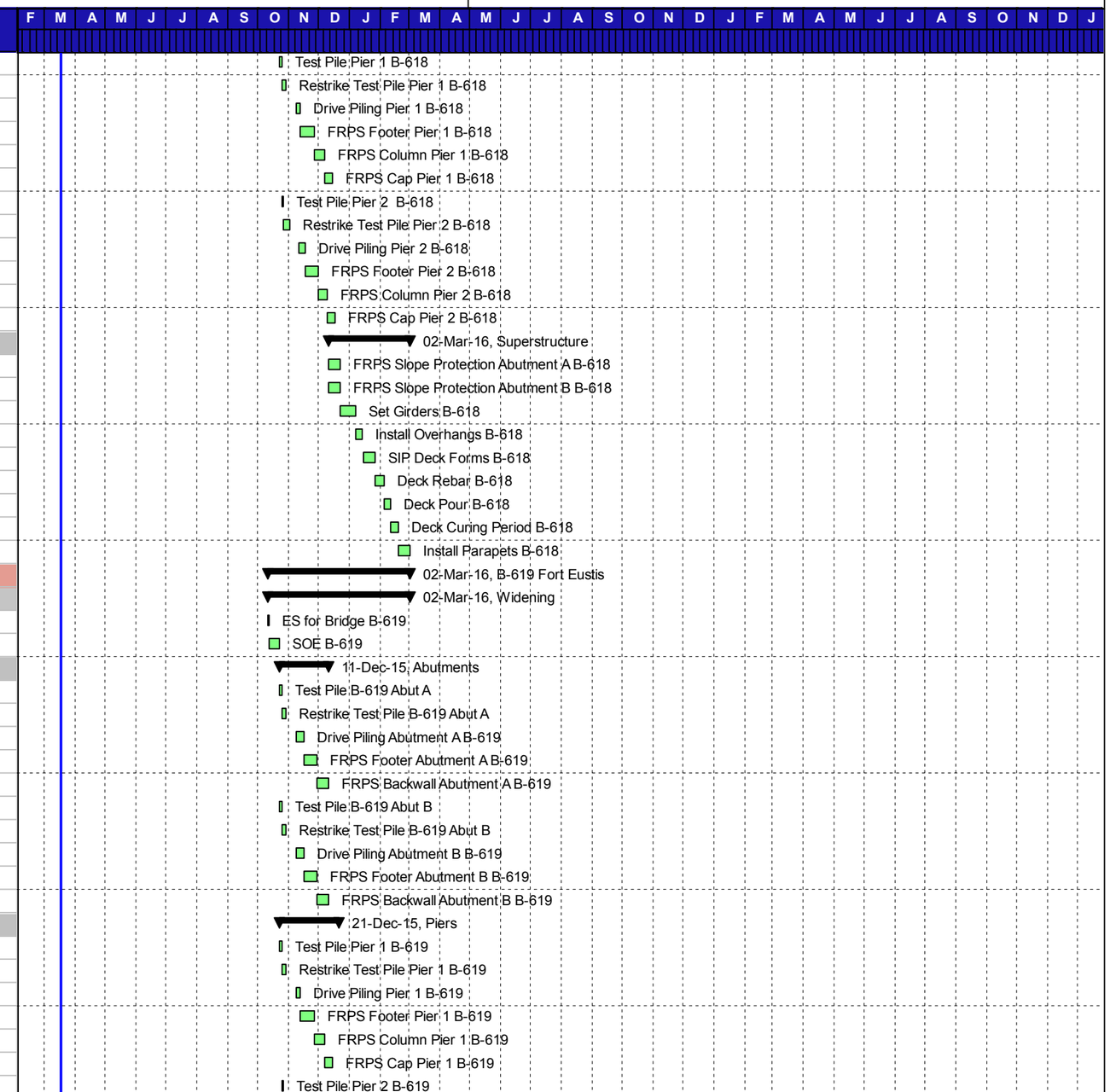
Activity ID	Activity Name	Planned Duration	Start	Finish
A4090	FRPS Backwall Abutment B B-616	7.0d	18-Dec-15	29-Dec-15
Piers		54.6d	13-Nov-15	28-Jan-16
A3828	Test Pile Pier 1 B-616	1.0d	13-Nov-15	16-Nov-15
A3829	Restrike Test Pile Pier 1 B-616	5.0d	16-Nov-15	20-Nov-15
A3830	Drive Piling Pier 1 B-616	8.0d	30-Nov-15	09-Dec-15
A3930	FRPS Footer Pier 1 B-616	10.0d	09-Dec-15	21-Dec-15
A3940	FRPS Column Pier 1 B-616	10.0d	21-Dec-15	05-Jan-16
A3950	FRPS Cap Pier 1 B-616	7.0d	05-Jan-16	12-Jan-16
A3958	Test Pile Pier 2 B-616	1.0d	16-Nov-15	17-Nov-15
A3959	Restrike Test Pile Pier 2 B-616	5.0d	17-Nov-15	23-Nov-15
A3960	Drive Piling Pier 2 B-616	7.0d	09-Dec-15	17-Dec-15
A3970	FRPS Footer Pier 2 B-616	10.0d	17-Dec-15	30-Dec-15
A3980	FRPS Column Pier 2 B-616	10.0d	30-Dec-15	12-Jan-16
A3990	FRPS Cap Pier 2 B-616	7.0d	12-Jan-16	20-Jan-16
A3998	Test Pile Pier 3 B-616	1.0d	17-Nov-15	17-Nov-15
A3999	Restrike Test Pile Pier 3 B-616	5.0d	17-Nov-15	24-Nov-15
A4000	Drive Piling Pier 3 B-616	7.0d	17-Dec-15	24-Dec-15
A4010	FRPS Footer Pier 3 B-616	10.0d	28-Dec-15	08-Jan-16
A4020	FRPS Column Pier 3 B-616	10.0d	08-Jan-16	20-Jan-16
A4030	FRPS Cap Pier 3 B-616	7.0d	21-Jan-16	28-Jan-16
Superstructure		83.0d	29-Dec-15	22-Apr-16
A4100	FRPS Slope Protection Abutment A B-616	10.0d	29-Dec-15	12-Jan-16
A4110	FRPS Slope Protection Abutment B B-616	10.0d	29-Dec-15	12-Jan-16
A4120	Set Girders B-616	10.0d	28-Jan-16	10-Feb-16
A4130	Install Overhangs B-616	7.0d	10-Feb-16	18-Feb-16
A4140	SIP Deck Forms B-616 / Form Deck	20.0d	18-Feb-16	14-Mar-16
A4150	Deck Rebar B-616	10.0d	14-Mar-16	24-Mar-16
A4160	Deck Pour B-616	8.0d	24-Mar-16	04-Apr-16
A4170	Deck Curing Period B-616	7.0d	04-Apr-16	12-Apr-16
A4180	Install Parapets B-616	10.0d	12-Apr-16	22-Apr-16
B-617 Industrial Park Dr & CSX		124.8d	02-Nov-15	22-Apr-16
Widening		124.8d	02-Nov-15	22-Apr-16
A4250	ES for Bridge B-617	1.0d	02-Nov-15	02-Nov-15
A4540	SOE B-617	10.0d	02-Nov-15	13-Nov-15
Abutments		32.4d	13-Nov-15	29-Dec-15
A4378	Test Pile B-617 Abut A	1.0d	13-Nov-15	16-Nov-15
A4379	Restrike Test Pile B-617 Abut A	5.0d	16-Nov-15	20-Nov-15
A4380	Drive Piling Abutment A B-617	7.0d	30-Nov-15	08-Dec-15
A4390	FRPS Footer Abutment A B-617	10.0d	08-Dec-15	18-Dec-15
A4400	FRPS Backwall Abutment A B-617	7.0d	18-Dec-15	29-Dec-15
A4408	Test Pile B-617 Abut B	1.0d	13-Nov-15	16-Nov-15
A4409	Restrike Test Pile B-617 Abut B	5.0d	16-Nov-15	20-Nov-15
A4410	Drive Piling Abutment B B-617	7.0d	30-Nov-15	08-Dec-15
A4420	FRPS Footer Abutment B B-617	10.0d	08-Dec-15	18-Dec-15
A4430	FRPS Backwall Abutment B B-617	5.0d	18-Dec-15	24-Dec-15



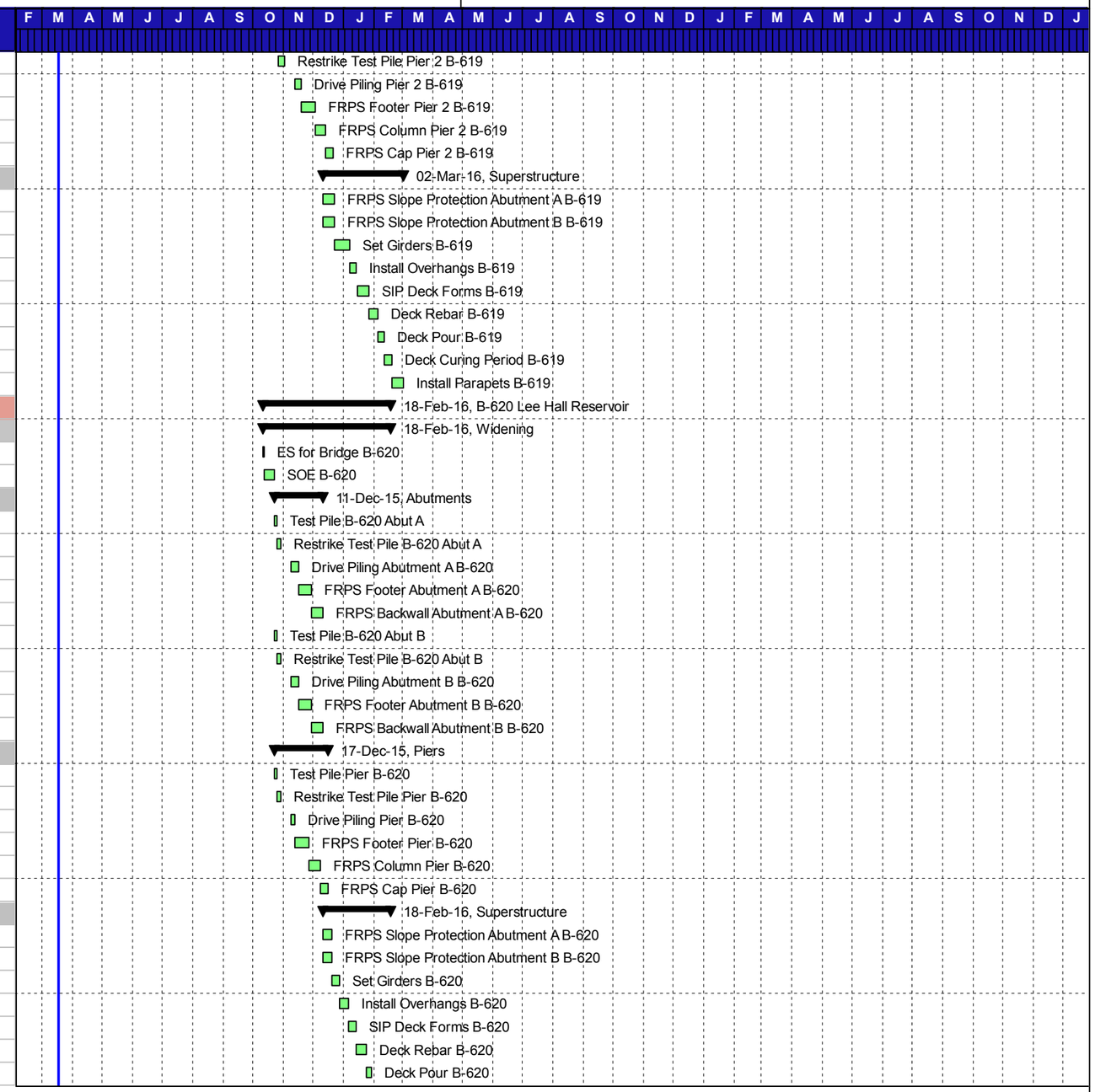
Activity ID	Activity Name	Planned Duration	Start	Finish
Piers		54.6d	13-Nov-15	28-Jan-16
A4258	Test Pile Pier 1 B-617	1.0d	13-Nov-15	16-Nov-15
A4259	Restrike Test Pile Pier 1 B-617	5.0d	16-Nov-15	20-Nov-15
A4260	Drive Piling Pier 1 B-617	8.0d	30-Nov-15	09-Dec-15
A4270	FRPS Footer Pier 1 B-617	10.0d	09-Dec-15	21-Dec-15
A4280	FRPS Column Pier 1 B-617	10.0d	21-Dec-15	05-Jan-16
A4290	FRPS Cap Pier 1 B-617	7.0d	05-Jan-16	12-Jan-16
A4298	Test Pile Pier 2 B-617	1.0d	16-Nov-15	17-Nov-15
A4299	Restrike Test Pile Pier 2 B-617	5.0d	17-Nov-15	23-Nov-15
A4300	Drive Piling Pier 2 B-617	7.0d	09-Dec-15	17-Dec-15
A4310	FRPS Footer Pier 2 B-617	10.0d	17-Dec-15	30-Dec-15
A4320	FRPS Column Pier 2 B-617	10.0d	30-Dec-15	12-Jan-16
A4330	FRPS Cap Pier 2 B-617	7.0d	12-Jan-16	20-Jan-16
A4338	Test Pile Pier 3 B-617	1.0d	17-Nov-15	17-Nov-15
A4339	Restrike Test Pile Pier 3 B-617	5.0d	17-Nov-15	24-Nov-15
A4340	Drive Piling Pier 3 B-617	7.0d	17-Dec-15	24-Dec-15
A4350	FRPS Footer Pier 3 B-617	10.0d	28-Dec-15	08-Jan-16
A4360	FRPS Column Pier 3 B-617	10.0d	08-Jan-16	20-Jan-16
A4370	FRPS Cap Pier 3 B-617	7.0d	21-Jan-16	28-Jan-16
Superstructure		84.8d	28-Dec-15	22-Apr-16
A4440	FRPS Slope Protection Abutment A B-617	10.0d	29-Dec-15	12-Jan-16
A4450	FRPS Slope Protection Abutment B B-617	10.0d	28-Dec-15	08-Jan-16
A4460	Set Girders B-617	10.0d	28-Jan-16	10-Feb-16
A4470	Install Overhangs B-617	7.0d	10-Feb-16	18-Feb-16
A4480	SIP Deck Forms B-617	20.0d	18-Feb-16	14-Mar-16
A4490	Deck Rebar B-617	10.0d	14-Mar-16	24-Mar-16
A4500	Deck Pour B-617	8.0d	24-Mar-16	04-Apr-16
A4510	Deck Curing Period B-617	7.0d	04-Apr-16	12-Apr-16
A4520	Install Parapets B-617	10.0d	12-Apr-16	22-Apr-16
B-618 Fort Eustis		103.0d	12-Oct-15	02-Mar-16
Widening		103.0d	12-Oct-15	02-Mar-16
A4610	ES for Bridge B-618	1.0d	12-Oct-15	12-Oct-15
A4890	SOE B-618	10.0d	13-Oct-15	23-Oct-15
Abutments		34.8d	23-Oct-15	11-Dec-15
A4738	Test Pile B-618 Abut A	1.0d	23-Oct-15	26-Oct-15
A4739	Restrike Test Pile B-618 Abut A	5.0d	26-Oct-15	30-Oct-15
A4740	Drive Piling Abutment A B-618	7.0d	09-Nov-15	17-Nov-15
A4750	FRPS Footer Abutment A B-618	10.0d	17-Nov-15	30-Nov-15
A4760	FRPS Backwall Abutment A B-618	10.0d	30-Nov-15	11-Dec-15
A4768	Test Pile B-618 Abut B	1.0d	23-Oct-15	26-Oct-15
A4769	Restrike Test Pile B-618 Abut B	5.0d	26-Oct-15	30-Oct-15
A4770	Drive Piling Abutment B B-618	7.0d	09-Nov-15	17-Nov-15
A4780	FRPS Footer Abutment B B-618	10.0d	17-Nov-15	30-Nov-15
A4790	FRPS Backwall Abutment B B-618	10.0d	30-Nov-15	11-Dec-15
Piers		40.3d	23-Oct-15	18-Dec-15



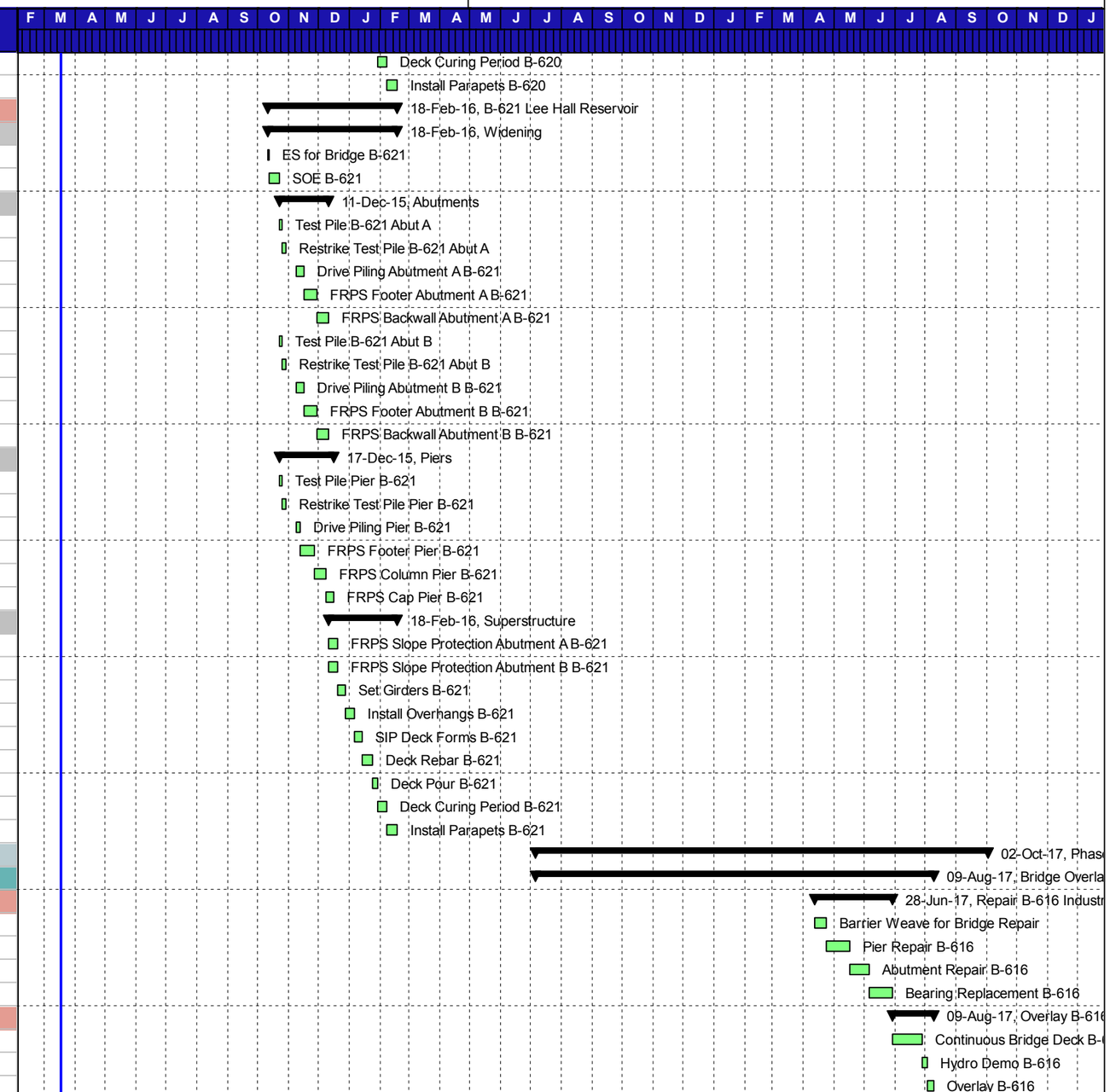
Activity ID	Activity Name	Planned Duration	Start	Finish
A4618	Test Pile Pier 1 B-618	1.0d	23-Oct-15	26-Oct-15
A4619	Restrike Test Pile Pier 1 B-618	5.0d	26-Oct-15	30-Oct-15
A4620	Drive Piling Pier 1 B-618	5.0d	09-Nov-15	13-Nov-15
A4630	FRPS Footer Pier 1 B-618	10.0d	13-Nov-15	27-Nov-15
A4640	FRPS Column Pier 1 B-618	8.0d	27-Nov-15	07-Dec-15
A4650	FRPS Cap Pier 1 B-618	7.0d	07-Dec-15	15-Dec-15
A4658	Test Pile Pier 2 B-618	1.0d	26-Oct-15	27-Oct-15
A4659	Restrike Test Pile Pier 2 B-618	5.0d	27-Oct-15	02-Nov-15
A4660	Drive Piling Pier 2 B-618	5.0d	12-Nov-15	18-Nov-15
A4670	FRPS Footer Pier 2 B-618	10.0d	18-Nov-15	01-Dec-15
A4680	FRPS Column Pier 2 B-618	8.0d	01-Dec-15	10-Dec-15
A4690	FRPS Cap Pier 2 B-618	7.0d	10-Dec-15	18-Dec-15
Superstructure		58.8d	11-Dec-15	02-Mar-16
A4800	FRPS Slope Protection Abutment A B-618	10.0d	11-Dec-15	23-Dec-15
A4810	FRPS Slope Protection Abutment B B-618	10.0d	11-Dec-15	23-Dec-15
A4820	Set Girders B-618	10.0d	23-Dec-15	07-Jan-16
A4830	Install Overhangs B-618	7.0d	07-Jan-16	14-Jan-16
A4840	SIP Deck Forms B-618	10.0d	15-Jan-16	27-Jan-16
A4850	Deck Rebar B-618	8.0d	27-Jan-16	05-Feb-16
A4860	Deck Pour B-618	5.0d	05-Feb-16	11-Feb-16
A4870	Deck Curing Period B-618	7.0d	11-Feb-16	19-Feb-16
A4880	Install Parapets B-618	10.0d	19-Feb-16	02-Mar-16
B-619 Fort Eustis		103.0d	12-Oct-15	02-Mar-16
Widening		103.0d	12-Oct-15	02-Mar-16
A4960	ES for Bridge B-619	1.0d	12-Oct-15	12-Oct-15
A5200	SOE B-619	10.0d	13-Oct-15	23-Oct-15
Abutments		34.8d	23-Oct-15	11-Dec-15
A5048	Test Pile B-619 Abut A	1.0d	23-Oct-15	26-Oct-15
A5049	Restrike Test Pile B-619 Abut A	5.0d	26-Oct-15	30-Oct-15
A5050	Drive Piling Abutment A B-619	7.0d	09-Nov-15	17-Nov-15
A5060	FRPS Footer Abutment A B-619	10.0d	17-Nov-15	30-Nov-15
A5070	FRPS Backwall Abutment A B-619	10.0d	30-Nov-15	11-Dec-15
A5078	Test Pile B-619 Abut B	1.0d	23-Oct-15	26-Oct-15
A5079	Restrike Test Pile B-619 Abut B	5.0d	26-Oct-15	30-Oct-15
A5080	Drive Piling Abutment B B-619	7.0d	09-Nov-15	17-Nov-15
A5090	FRPS Footer Abutment B B-619	10.0d	17-Nov-15	30-Nov-15
A5100	FRPS Backwall Abutment B B-619	10.0d	30-Nov-15	11-Dec-15
Piers		41.6d	23-Oct-15	21-Dec-15
A4968	Test Pile Pier 1 B-619	1.0d	23-Oct-15	26-Oct-15
A4969	Restrike Test Pile Pier 1 B-619	5.0d	26-Oct-15	30-Oct-15
A4970	Drive Piling Pier 1 B-619	5.0d	09-Nov-15	13-Nov-15
A4980	FRPS Footer Pier 1 B-619	10.0d	13-Nov-15	27-Nov-15
A4990	FRPS Column Pier 1 B-619	8.0d	27-Nov-15	07-Dec-15
A5000	FRPS Cap Pier 1 B-619	7.0d	07-Dec-15	15-Dec-15
A5008	Test Pile Pier 2 B-619	1.0d	26-Oct-15	27-Oct-15



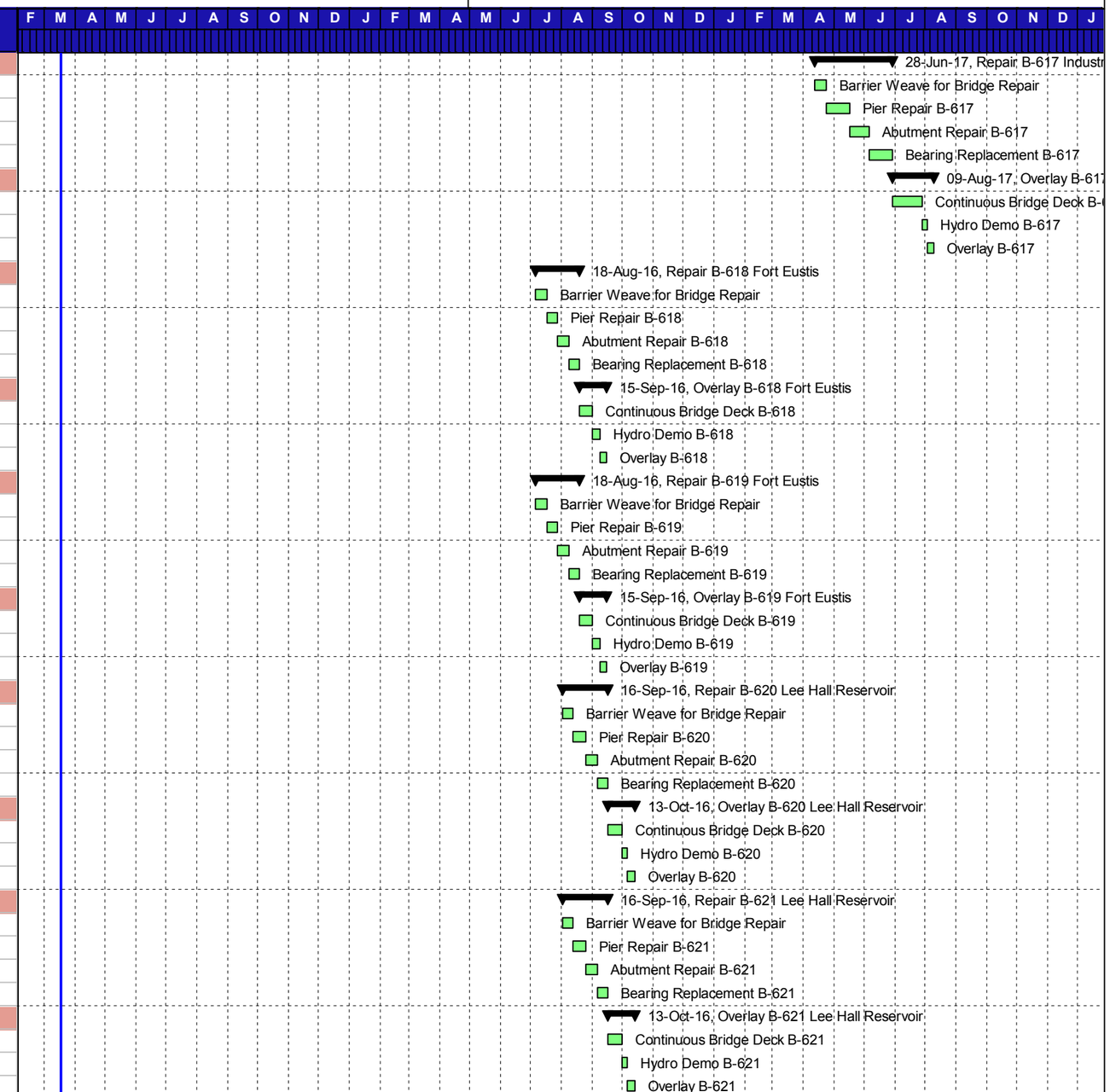
Activity ID	Activity Name	Planned Duration	Start	Finish
A5009	Restrike Test Pile Pier 2 B-619	5.0d	27-Oct-15	02-Nov-15
A5010	Drive Piling Pier 2 B-619	5.0d	13-Nov-15	19-Nov-15
A5020	FRPS Footer Pier 2 B-619	10.0d	19-Nov-15	03-Dec-15
A5030	FRPS Column Pier 2 B-619	8.0d	03-Dec-15	14-Dec-15
A5040	FRPS Cap Pier 2 B-619	7.0d	14-Dec-15	21-Dec-15
Superstructure		58.8d	11-Dec-15	02-Mar-16
A5110	FRPS Slope Protection Abutment A B-619	10.0d	11-Dec-15	23-Dec-15
A5120	FRPS Slope Protection Abutment B B-619	10.0d	11-Dec-15	23-Dec-15
A5130	Set Girders B-619	10.0d	23-Dec-15	07-Jan-16
A5140	Install Overhangs B-619	7.0d	07-Jan-16	14-Jan-16
A5150	SIP Deck Forms B-619	10.0d	15-Jan-16	27-Jan-16
A5160	Deck Rebar B-619	8.0d	27-Jan-16	05-Feb-16
A5170	Deck Pour B-619	5.0d	05-Feb-16	11-Feb-16
A5180	Deck Curing Period B-619	7.0d	11-Feb-16	19-Feb-16
A5190	Install Parapets B-619	10.0d	19-Feb-16	02-Mar-16
B-620 Lee Hall Reservoir		93.8d	12-Oct-15	18-Feb-16
Widening		93.8d	12-Oct-15	18-Feb-16
A5270	ES for Bridge B-620	1.0d	12-Oct-15	12-Oct-15
A5510	SOE B-620	10.0d	13-Oct-15	23-Oct-15
Abutments		34.8d	23-Oct-15	11-Dec-15
A5358	Test Pile B-620 Abut A	1.0d	23-Oct-15	26-Oct-15
A5359	Restrike Test Pile B-620 Abut A	5.0d	26-Oct-15	30-Oct-15
A5360	Drive Piling Abutment A B-620	7.0d	09-Nov-15	17-Nov-15
A5370	FRPS Footer Abutment A B-620	10.0d	17-Nov-15	30-Nov-15
A5380	FRPS Backwall Abutment A B-620	10.0d	30-Nov-15	11-Dec-15
A5388	Test Pile B-620 Abut B	1.0d	23-Oct-15	26-Oct-15
A5389	Restrike Test Pile B-620 Abut B	5.0d	26-Oct-15	30-Oct-15
A5390	Drive Piling Abutment B B-620	7.0d	09-Nov-15	17-Nov-15
A5400	FRPS Footer Abutment B B-620	10.0d	17-Nov-15	30-Nov-15
A5410	FRPS Backwall Abutment B B-620	10.0d	30-Nov-15	11-Dec-15
Piers		39.1d	23-Oct-15	17-Dec-15
A5318	Test Pile Pier B-620	1.0d	23-Oct-15	26-Oct-15
A5319	Restrike Test Pile Pier B-620	5.0d	26-Oct-15	30-Oct-15
A5320	Drive Piling Pier B-620	5.0d	09-Nov-15	13-Nov-15
A5330	FRPS Footer Pier B-620	10.0d	13-Nov-15	27-Nov-15
A5340	FRPS Column Pier B-620	10.0d	27-Nov-15	09-Dec-15
A5350	FRPS Cap Pier B-620	7.0d	09-Dec-15	17-Dec-15
Superstructure		49.6d	11-Dec-15	18-Feb-16
A5420	FRPS Slope Protection Abutment A B-620	7.0d	11-Dec-15	21-Dec-15
A5430	FRPS Slope Protection Abutment B B-620	7.0d	11-Dec-15	21-Dec-15
A5440	Set Girders B-620	5.0d	21-Dec-15	28-Dec-15
A5450	Install Overhangs B-620	7.0d	28-Dec-15	06-Jan-16
A5460	SIP Deck Forms B-620	7.0d	06-Jan-16	14-Jan-16
A5470	Deck Rebar B-620	8.0d	14-Jan-16	25-Jan-16
A5480	Deck Pour B-620	5.0d	25-Jan-16	29-Jan-16



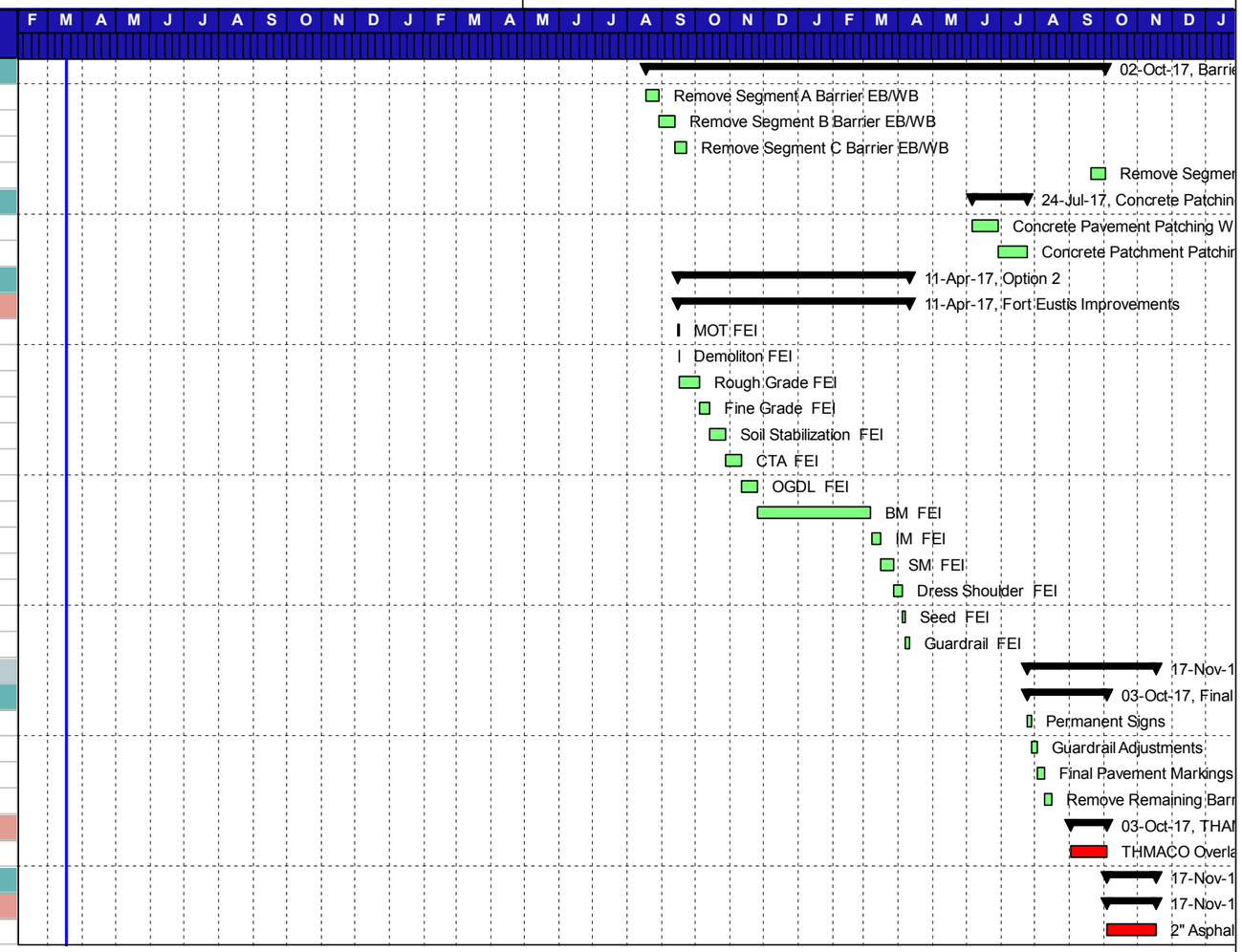
Activity ID	Activity Name	Planned Duration	Start	Finish
A5490	Deck Curing Period B-620	7.0d	29-Jan-16	08-Feb-16
A5500	Install Parapets B-620	10.0d	08-Feb-16	18-Feb-16
B-621 Lee Hall Reservoir		93.8d	12-Oct-15	18-Feb-16
Widening		93.8d	12-Oct-15	18-Feb-16
A5580	ES for Bridge B-621	1.0d	12-Oct-15	12-Oct-15
A5780	SOE B-621	10.0d	13-Oct-15	23-Oct-15
Abutments		34.8d	23-Oct-15	11-Dec-15
A5628	Test Pile B-621 Abut A	1.0d	23-Oct-15	26-Oct-15
A5629	Restrike Test Pile B-621 Abut A	5.0d	26-Oct-15	30-Oct-15
A5630	Drive Piling Abutment A B-621	7.0d	09-Nov-15	17-Nov-15
A5640	FRPS Footer Abutment A B-621	10.0d	17-Nov-15	30-Nov-15
A5650	FRPS Backwall Abutment A B-621	10.0d	30-Nov-15	11-Dec-15
A5658	Test Pile B-621 Abut B	1.0d	23-Oct-15	26-Oct-15
A5659	Restrike Test Pile B-621 Abut B	5.0d	26-Oct-15	30-Oct-15
A5660	Drive Piling Abutment B B-621	7.0d	09-Nov-15	17-Nov-15
A5670	FRPS Footer Abutment B B-621	10.0d	17-Nov-15	30-Nov-15
A5680	FRPS Backwall Abutment B B-621	10.0d	30-Nov-15	11-Dec-15
Piers		39.1d	23-Oct-15	17-Dec-15
A5588	Test Pile Pier B-621	1.0d	23-Oct-15	26-Oct-15
A5589	Restrike Test Pile Pier B-621	5.0d	26-Oct-15	30-Oct-15
A5590	Drive Piling Pier B-621	5.0d	09-Nov-15	13-Nov-15
A5600	FRPS Footer Pier B-621	10.0d	13-Nov-15	27-Nov-15
A5610	FRPS Column Pier B-621	10.0d	27-Nov-15	09-Dec-15
A5620	FRPS Cap Pier B-621	7.0d	09-Dec-15	17-Dec-15
Superstructure		49.6d	11-Dec-15	18-Feb-16
A5690	FRPS Slope Protection Abutment A B-621	7.0d	11-Dec-15	21-Dec-15
A5700	FRPS Slope Protection Abutment B B-621	7.0d	11-Dec-15	21-Dec-15
A5710	Set Girders B-621	5.0d	21-Dec-15	28-Dec-15
A5720	Install Overhangs B-621	7.0d	28-Dec-15	06-Jan-16
A5730	SIP Deck Forms B-621	7.0d	06-Jan-16	14-Jan-16
A5740	Deck Rebar B-621	8.0d	14-Jan-16	25-Jan-16
A5750	Deck Pour B-621	5.0d	25-Jan-16	29-Jan-16
A5760	Deck Curing Period B-621	7.0d	29-Jan-16	08-Feb-16
A5770	Install Parapets B-621	10.0d	08-Feb-16	18-Feb-16
Phase 3		323.6d	05-Jul-16	02-Oct-17
Bridge Overlay/Repair		286.1d	05-Jul-16	09-Aug-17
Repair B-616 Industrial Park Dr & CSX		55.6d	11-Apr-17	28-Jun-17
A116800	Barrier Weave for Bridge Repair	10.0d	11-Apr-17	24-Apr-17
A1340	Pier Repair B-616	20.0d	24-Apr-17	16-May-17
A1350	Abutment Repair B-616	15.0d	16-May-17	05-Jun-17
A1360	Bearing Replacement B-616	20.0d	05-Jun-17	28-Jun-17
Overlay B-616 Industrial Park Dr & CSX		30.6d	28-Jun-17	09-Aug-17
A1440	Continuous Bridge Deck B-616	25.0d	28-Jun-17	28-Jul-17
A1450	Hydro Demo B-616	5.0d	28-Jul-17	03-Aug-17
A1460	Overlay B-616	5.0d	03-Aug-17	09-Aug-17



Activity ID	Activity Name	Planned Duration	Start	Finish
Repair B-617 Industrial Park Dr & CSX		55.6d	11-Apr-17	28-Jun-17
A116810	Barrier Weave for Bridge Repair	10.0d	11-Apr-17	24-Apr-17
A4190	Pier Repair B-617	20.0d	24-Apr-17	16-May-17
A4200	Abutment Repair B-617	15.0d	16-May-17	05-Jun-17
A4210	Bearing Replacement B-617	20.0d	05-Jun-17	28-Jun-17
Overlay B-617 Industrial Park Dr & CSX		30.6d	28-Jun-17	09-Aug-17
A4220	Continuous Bridge Deck B-617	25.0d	28-Jun-17	28-Jul-17
A4230	Hydro Demo B-617	5.0d	28-Jul-17	03-Aug-17
A4240	Overlay B-617	5.0d	03-Aug-17	09-Aug-17
Repair B-618 Fort Eustis		32.0d	05-Jul-16	18-Aug-16
A116820	Barrier Weave for Bridge Repair	10.0d	05-Jul-16	18-Jul-16
A4550	Pier Repair B-618	10.0d	18-Jul-16	28-Jul-16
A4560	Abutment Repair B-618	8.0d	28-Jul-16	08-Aug-16
A4570	Bearing Replacement B-618	10.0d	08-Aug-16	18-Aug-16
Overlay B-618 Fort Eustis		19.4d	18-Aug-16	15-Sep-16
A4580	Continuous Bridge Deck B-618	12.0d	18-Aug-16	01-Sep-16
A4590	Hydro Demo B-618	5.0d	01-Sep-16	09-Sep-16
A4600	Overlay B-618	5.0d	09-Sep-16	15-Sep-16
Repair B-619 Fort Eustis		32.0d	05-Jul-16	18-Aug-16
A116830	Barrier Weave for Bridge Repair	10.0d	05-Jul-16	18-Jul-16
A4900	Pier Repair B-619	10.0d	18-Jul-16	28-Jul-16
A4910	Abutment Repair B-619	8.0d	28-Jul-16	08-Aug-16
A4920	Bearing Replacement B-619	10.0d	08-Aug-16	18-Aug-16
Overlay B-619 Fort Eustis		19.4d	18-Aug-16	15-Sep-16
A4930	Continuous Bridge Deck B-619	12.0d	18-Aug-16	01-Sep-16
A4940	Hydro Demo B-619	5.0d	01-Sep-16	09-Sep-16
A4950	Overlay B-619	5.0d	09-Sep-16	15-Sep-16
Repair B-620 Lee Hall Reservoir		32.9d	02-Aug-16	16-Sep-16
A116840	Barrier Weave for Bridge Repair	10.0d	02-Aug-16	12-Aug-16
A5210	Pier Repair B-620	10.0d	12-Aug-16	25-Aug-16
A5220	Abutment Repair B-620	8.0d	25-Aug-16	06-Sep-16
A5230	Bearing Replacement B-620	10.0d	06-Sep-16	16-Sep-16
Overlay B-620 Lee Hall Reservoir		18.6d	16-Sep-16	13-Oct-16
A5240	Continuous Bridge Deck B-620	12.0d	16-Sep-16	30-Sep-16
A5250	Hydro Demo B-620	5.0d	30-Sep-16	06-Oct-16
A5260	Overlay B-620	5.0d	06-Oct-16	13-Oct-16
Repair B-621 Lee Hall Reservoir		32.9d	02-Aug-16	16-Sep-16
A116850	Barrier Weave for Bridge Repair	10.0d	02-Aug-16	12-Aug-16
A5520	Pier Repair B-621	10.0d	12-Aug-16	25-Aug-16
A5530	Abutment Repair B-621	8.0d	25-Aug-16	06-Sep-16
A5540	Bearing Replacement B-621	10.0d	06-Sep-16	16-Sep-16
Overlay B-621 Lee Hall Reservoir		18.6d	16-Sep-16	13-Oct-16
A5550	Continuous Bridge Deck B-621	12.0d	16-Sep-16	30-Sep-16
A5560	Hydro Demo B-621	5.0d	30-Sep-16	06-Oct-16
A5570	Overlay B-621	5.0d	06-Oct-16	13-Oct-16



Activity ID	Activity Name	Planned Duration	Start	Finish
Barrier		292.9d	17-Aug-16	02-Oct-17
A6310	Remove Segment A Barrier EB/WB	10.0d	17-Aug-16	29-Aug-16
A6315	Remove Segment B Barrier EB/WB	10.0d	29-Aug-16	12-Sep-16
A6320	Remove Segment C Barrier EB/WB	10.0d	12-Sep-16	22-Sep-16
A6325	Remove Segment D Barrier EB/WB	10.0d	20-Sep-17	02-Oct-17
Concrete Patching		34.6d	05-Jun-17	24-Jul-17
A6420	Concrete Pavement Patching WB	20.0d	05-Jun-17	28-Jun-17
A6421	Concrete Patchment Patching EB	20.0d	28-Jun-17	24-Jul-17
Option 2		148.3d	15-Sep-16	11-Apr-17
Fort Eustis Improvements		148.3d	15-Sep-16	11-Apr-17
A10330	MOT FEI	1.0d	15-Sep-16	16-Sep-16
A10340	Demoliton FEI	1.0d	16-Sep-16	16-Sep-16
A10350	Rough Grade FEI	15.0d	16-Sep-16	05-Oct-16
A10360	Fine Grade FEI	8.0d	05-Oct-16	14-Oct-16
A10370	Soil Stabilization FEI	12.0d	14-Oct-16	28-Oct-16
A10390	CTA FEI	10.0d	28-Oct-16	11-Nov-16
A10400	OGDL FEI	8.0d	11-Nov-16	25-Nov-16
A10410	BM FEI	8.0d	25-Nov-16	07-Mar-17
A10420	IM FEI	7.0d	07-Mar-17	16-Mar-17
A10430	SM FEI	7.0d	16-Mar-17	27-Mar-17
A10440	Dress Shoulder FEI	7.0d	27-Mar-17	04-Apr-17
A10450	Seed FEI	3.0d	04-Apr-17	06-Apr-17
A10460	Guardrail FEI	3.0d	06-Apr-17	11-Apr-17
Phase 4		84.9d	24-Jul-17	17-Nov-17
Final Road Finishes		51.9d	24-Jul-17	03-Oct-17
A6550	Permanent Signs	5.0d	24-Jul-17	28-Jul-17
A6560	Guardrail Adjustments	5.0d	28-Jul-17	03-Aug-17
A6570	Final Pavement Markings	5.0d	03-Aug-17	09-Aug-17
A6580	Remove Remaining Barrier	5.0d	09-Aug-17	16-Aug-17
THAMCO		23.0d	01-Sep-17	03-Oct-17
A3770	THMACO Overlay	22.0d	01-Sep-17	03-Oct-17
Option 1		33.0d	04-Oct-17	17-Nov-17
2 " Overlay		33.0d	04-Oct-17	17-Nov-17
A3780	2" Asphalt Overlay	31.0d	04-Oct-17	17-Nov-17



4.7.2 PROPOSAL SCHEDULE NARRATIVE

Schedule Development

The Wagman Team has reviewed in detail the scope and schedule requirements outlined in the RFP documents. Numerous site visits, team meetings, attendance of pre-proposal meetings, proprietary meeting discussions and a development of a schedule task force were performed to build a comprehensive schedule for the I-64 Capacity Improvements – Segment 1. In the development of the schedule, particular attention was paid to the overall traffic volume and the impacts that traffic restrictions will place on existing traffic. The attached project schedule reflects the attention to the impacts and the solution to these impacts on The Wagman Team's schedule.

The Wagman Team is committed to providing the Department a completed Project by November 17, 2017.

Project Milestones

Activity ID	Activity Name	Planned Duration	Start	Finish	Total Float
C00104905DB75 I-64 Capacity Improvemen		698.0d	18-Mar-15	17-Nov-17	9.0d
Milestones and General Conditions		698.0d	18-Mar-15	17-Nov-17	9.0d
Milestones		698.0d	18-Mar-15	17-Nov-17	9.0d
A1000	Notice to Proceed	0.0d	18-Mar-15		79.6d
A1010	Construction Start	0.0d	15-Aug-15		839.0d
A1015	PFI Submittal -Full Project / Conc	0.0d		17-Apr-15	64.0d
A1016	Intermediate (ROW) Submission	0.0d		07-Jul-15	57.7d
A1017	Final Design Submittal	0.0d		09-Nov-15	321.9d
A1019	NTP ROW Acquisition	0.0d		28-Jul-15	273.9d
A1020	Substantial Completion of Design	0.0d		29-Nov-15	654.0d
A1060	Final Completion (Contract = 01-(	0.0d		17-Nov-17	13.0d
A1070	Start Construction B-616	0.0d	02-Nov-15		719.2d
A1080	Start Construction B-617	0.0d	02-Nov-15		719.2d
A1090	Start Construction B-618	0.0d	12-Oct-15		740.1d
A1100	Start Construction B-619	0.0d	12-Oct-15		740.1d
A1110	Start Construction B-620	0.0d	12-Oct-15		740.1d
A1120	Start Construction B-621	0.0d	12-Oct-15		740.1d
A1130	Completion of B-616	0.0d		09-Aug-17	73.2d
A1140	Completion of B-617	0.0d		09-Aug-17	73.2d
A1150	Completion of B-618	0.0d		15-Sep-16	401.8d
A1160	Completion of B-619	0.0d		15-Sep-16	401.8d
A1170	Completion of B-620	0.0d		13-Oct-16	373.9d
A1180	Completion of B-621	0.0d		13-Oct-16	373.9d
A6060	Traffic Switch Phase 1	0.0d		13-Jul-15	826.4d
A6290	Segment A Completion	0.0d		29-Aug-16	413.1d
A6350	Segment B Completion	0.0d		12-Sep-16	399.8d
A6351	Segment C Completion	0.0d		22-Sep-16	389.3d
A6352	Segment D Completion	0.0d		02-Oct-17	14.6d
General Conditions		0.0d			0.0d
Preconstruction		0.0d			0.0d
Scope Validation Period		0.0d			0.0d
Design		0.0d			0.0d
Permitting		0.0d			0.0d
ROW Aquisition		0.0d			0.0d
Utility Relocations		0.0d			0.0d
Submittals		0.0d			0.0d
Acquisition		0.0d			0.0d
Quality Control		0.0d			0.0d
Construction		0.0d			0.0d
Phase I		0.0d			0.0d
Phase 2		0.0d			0.0d
Phase 3		0.0d			0.0d
Phase 4		0.0d			0.0d

Work Breakdown Structure

The following Work Breakdown Structure provided by The Wagman Team integrates all pre-construction aspects as well as construction activities for the I-64 Capacity Improvements into the schedule. The structure follows the RFP and *Virginia Work Area Protection Manual* (VWAPM), the *Manual of Uniform Traffic Control Devices* (MUTCD), as well as, incorporating "out of the box" thinking to provide for early construction completion. The following is a summary overview of the Phases of Construction succeeded by the complete WBS layout.

Approach to Design and Construction

The Wagman Team has divided the construction of the project into four phases along with *Milestones/General Conditions and Preconstruction* activities to organize the WBS. The Wagman Team recognizes that the construction area of the corridor should be divided into four separate segments, A, B, C, and D, as shown in Figure 4.5.1. This allowed greater traffic flow, safer traffic conditions and a precise following of the VWAPM. To progress the project schedule and to utilize the numerous resources that The Wagman Team possesses, we will start work in multiple segments. This allows for maximum resource utilization, maximum schedule flexibility, and early project completion. The following is a summary overview of the Phases of Construction succeeded by the complete WBS layout.

Milestones/General Conditions and Preconstruction activities: These sections contain all non-construction related activities that are pertinent to the project. The following ten categories represent these sections:

Milestones: These are major project dates to achieve project completion for milestones.

General Conditions: Project management, punch list and closeout documentation required for the project are considered general conditions.

Scope Validation Period: This period is set aside for the discussion between VDOT and The Wagman Team for validation and approval of project scope.

Design: This period is set aside for the preliminary (PFI), right of way/roadway design, and final design of the project. The Wagman Team has broken the design into three phases to facilitate VDOT reviews and approvals to advance the start of construction. Certain permits required for construction can be obtained in advance to release The Wagman forces for construction earlier. The design also follows the segments of construction that The Wagman Team plans on constructing in order. In the schedule itself, there is an allowance for two review cycles, The Wagman Team plans on working with VDOT during the design, using over the shoulder reviews, and providing comment resolution with all submissions to reduce the second review cycle, therefore shortening design.

Permitting: This timeframe is set aside for the various permits associated with the entire project.

ROW Acquisition: This encompasses the necessary activities for the procurement of public and private property for the use as right of way.

Utility Relocations: Relocation of utilities provides for the necessary design, procurement, and construction of utilities that may be affected by construction.

Submittals: The Wagman Team will give VDOT required submittals for review and approval. Public involvement and extensive coordination with CSXT will be presented.

Acquisition: This period allows for long lead time materials and known hard-to-procure items.

Quality Control: This is for preparatory meeting necessary for information to be passed among stakeholders.

Phase 1

The first construction phase of the project will focus on the overall preparation of the project and the first stage of the MOT design. Activities under this phase will include the installation of early warning construction signs, placement of message boards, preliminary survey layout, and a large public outreach effort to alert the traveling public of the forthcoming work. The objective in this phase is to complete the preliminary activities that

must be done before the actual traffic shift and roadway median widening begin. Construction of the noise walls and selective temporary sediment basins will occur, depending upon the stage of design completion and acquisition of appropriate permits. The shoulder strengthening as referenced in the RFP will also be performed in this phase. The Wagman Team has the resources to strengthen the existing shoulders in both the eastbound and westbound lanes concurrently.

In accordance with the RFP documents, The Wagman Team will be responsible to relocate three Dynamic Message Boards, two eastbound (DMS 64-E5 & DMS 64-E6) and one westbound (DMS 64-W4) and two Travel Time Signs, both eastbound in the median (RTB-2 & RTB-1). During Phase 1 of construction, we will relocate each DMS to new span structures located in close proximity to the existing sign structures. Installation will include necessary conduit, junction boxes and cabling to successfully connect the new structures to the existing control cabinets. Our schedule includes time to only allow one eastbound direction DMS to be taken out of service at any one given time. If required by design, both Travel Time Signs will also be removed from the median and reinstalled on to new support structures and infrastructure on the eastbound shoulder during Phase 1 construction. Impacts from the relocation of signs will be minimal, and service will be provided within 24 hours from taking any sign out of service. Design, materials, and procedures for all new foundations, structures, infrastructure, conduit, junction boxes, and cabling will be submitted to VDOT for review and approval.

Phase 2

All median widening construction will be completed in Phase 2. The first activity of Phase 2 will be the construction of the temporary acceleration and deceleration lanes required to provide access to and from work spaces. Each work segment, as described earlier, will have a minimum of one of these lanes. Specifically, the acceleration and deceleration lanes for each segment will be located approximately as follows: Segment A – EB station 1539 to 1557; Segment B - EB station 2278 to 2296; Segment C – EB station 1623 to 1641 and WB station 2623 to 2641; and Segment D – EB station 1701 to 1719 and WB station 2701 to 2719. To assure sight distance and length requirements are met, exact locations of these lanes will be determined during final design. Beginning at the inside of the existing edge of pavement, each temporary acceleration/deceleration lane will be constructed at an approximate 12' width towards the median. The acceleration/deceleration lanes will be asphalt paved to accommodate safe ingress and egress at speed to and from the interstate, as well as assist in prevention of tracking conditions during construction. Following installation of the acceleration and deceleration lanes and the acquisition of appropriate permits and plan approvals, median construction will commence. The general construction sequence for each segment will be installation of initial E&S measures, followed by clearing and grubbing activities. Simultaneously, construction of the segment's detention ponds will begin in order to serve as sediment basins until the segment reaches completion. These ponds can also be constructed separately and ahead of the start of any particular segment. This is possible because the majority of the ponds can be accessed from adjacent City of Newport News access trails and do not need to be accessed from I-64. After clearing and grubbing is complete, topsoil will be stripped and rough grading activities will commence. As the basins and rough grading activities are completed, storm sewer construction, inclusive of the pipe jack and bores/rehabilitations, will start. Roadway construction activities will follow sequentially to completion. These activities include, but are not limited to, soil rehabilitation/stabilization as necessary, underdrain, subbase, asphalt, topsoil replacement, seeding, and guardrail. All structure widening will be performed at the same time the roadway median work is being done and will start as soon as practical following the completion of access preparations needed for each site. With the completion of each bridge widening, the barrier will be placed to form a weave for the bridges to construct the bridge repairs and overlay. The weave will only be placed when the adjacent segments are complete, as to provide the new pavement for the traffic to run on during the weave.

While the above describes the general sequence of construction for each segment, the Wagman Team plans to work in multiple segments simultaneously in order to complete the Project by November 17, 2017. Specifically, construction of Segment A/C will start first. As each task is completed in Segment A/C, then the

specific group performing that task will move to Segment B/D and perform similar work. For example, upon completion of the clearing and grubbing in Segment A/C, the clearing and grubbing crew will move to Segment B/D; and as soon as the topsoil has been stripped and moved offsite and the segment has been rough graded in Segment A/C, then that crew will move to Segment B/D; and so forth through all the activities – storm drainage, fine grading, subbase placement, etc. Upon completion of a sufficient area within a segment that will allow an acceleration and deceleration lane to be incorporated onto the newly constructed widened median pavement, the initial temporary acceleration and deceleration lanes will be removed. After removal, the areas of these previous temporary acceleration and deceleration lanes will be built to permanent design requirements. The barrier in each segment shall be removed as the segment has reached final completion.

Ultimately, work in all segments will be ongoing concurrently albeit at different stages of completion. This concurrent staged construction plan will allow for maximum efficiency and schedule flexibility and will also allow optimization and compression of the overall Project schedule. The flexibility created with the ability to independently construct each of these segments minimizes the potential delays to construction should one segment experience unexpected delays due to right of way, permitting, stakeholder/owner approval, or utility relocation issues.

Phase 3

Bridge rehab work for all of the existing bridge decks will be performed in Phase 3. Additionally, any concrete pavement patching not performed in Phases 2 and 3 during localized settlement correction will be performed. Some of this work may require lane closures with said work performed during non-peak hours. All work zones during Phase 3 construction will be coordinated and phased to meet the RFP documents and 2011 VWAPM requirements. Should Option 2 be selected by VDOT, the extensions of the acceleration and deceleration lanes at the Fort Eustis Boulevard interchange will be completed during this phase. As mentioned previously, the weave for the bridge repairs/overlay will only be done when the adjacent segments are complete to ensure compliance with the VWAPM and traffic controls.

Phase 4

The final phase of the project will consist of THMACO placement, permanent sign installation, final guardrail adjustments, permanent pavement markings installation, and final project cleanup. Should Option 1 be selected by VDOT, the 2” asphalt overlay will be completed during this phase.

Project Work Breakdown Structure

WBS Code	WBS Name
C00104905DB75-ADD 4	C00104905DB75 I-64 Capacity Improvements - Segment 1 Add 4
C00104905DB75-ADD 4.1	Milestones and General Conditions
C00104905DB75-ADD 4.1.1	Milestones
C00104905DB75-ADD 4.1.1.1	Project Milestones
C00104905DB75-ADD 4.1.1.2	Segment Milestones
C00104905DB75-ADD 4.1.1.3	Bridge Milestones
C00104905DB75-ADD 4.1.4	General Conditions
C00104905DB75-ADD 4.1.4.1	Entire Project
C00104905DB75-ADD 4.2	Preconstruction
C00104905DB75-ADD 4.2.8	Scope Validation Period
C00104905DB75-ADD 4.2.8.1	Enitre Project
C00104905DB75-ADD 4.2.6	Design
C00104905DB75-ADD 4.2.6.1	Preliminary Design
C00104905DB75-ADD 4.2.6.1.1	PFI
C00104905DB75-ADD 4.2.6.1.5	ROW/Roadway Plans
C00104905DB75-ADD 4.2.6.1.5.1	All Segments
C00104905DB75-ADD 4.2.6.1.6	Bridges
C00104905DB75-ADD 4.2.6.1.6.6	CSX/Ind Park Bridge (616,617)
C00104905DB75-ADD 4.2.6.1.6.5	Fort Eustis Bridge (618, 619)
C00104905DB75-ADD 4.2.6.1.6.4	Reservoir Bridge (620,621)
C00104905DB75-ADD 4.2.6.1.6.3	Culverts
C00104905DB75-ADD 4.2.6.1.4	Geotechnical Research
C00104905DB75-ADD 4.2.6.6	Survey
C00104905DB75-ADD 4.2.6.6.1	Entire Project
C00104905DB75-ADD 4.2.6.5	Final Design
C00104905DB75-ADD 4.2.6.5.1	Roadway
C00104905DB75-ADD 4.2.6.5.1.1	All Segments
C00104905DB75-ADD 4.2.6.5.2	Bridges
C00104905DB75-ADD 4.2.6.5.2.4	CSX/Ind Park Bridge (616,617)
C00104905DB75-ADD 4.2.6.5.2.5	Fort Eustis Bridge (618, 619)
C00104905DB75-ADD 4.2.6.5.2.6	Reservoir Bridge (620,621)
C00104905DB75-ADD 4.2.6.5.2.3	Culverts
C00104905DB75-ADD 4.2.6.5.4	Geotechnical Research
C00104905DB75-ADD 4.2.6.7	Nosie Analysis
C00104905DB75-ADD 4.2.6.7.3	Entire Project
C00104905DB75-ADD 4.2.5	Permitting
C00104905DB75-ADD 4.2.2	ROW Aquisition
C00104905DB75-ADD 4.2.2.4	Entire Project
C00104905DB75-ADD 4.2.4	Utility Relocations
C00104905DB75-ADD 4.2.4.1	Newport News Water Works
C00104905DB75-ADD 4.2.4.2	AT&T
C00104905DB75-ADD 4.2.4.3	Cox
C00104905DB75-ADD 4.2.4.4	Dominion Power Transmission
C00104905DB75-ADD 4.2.4.5	Dominion Power Distribution
C00104905DB75-ADD 4.2.4.6	Level 3
C00104905DB75-ADD 4.2.4.7	Hampton Roads Sanitation District
C00104905DB75-ADD 4.2.4.8	Newport News Public School Fiber

WBS Code	WBS Name
C00104905DB75-ADD 4.2.4.9	Sprint
C00104905DB75-ADD 4.2.4.10	Verizon
C00104905DB75-ADD 4.2.4.11	Colonial Pipeline
C00104905DB75-ADD 4.2.7	Submittals
C00104905DB75-ADD 4.2.7.1	Roadway
C00104905DB75-ADD 4.2.7.2	Bridges
C00104905DB75-ADD 4.2.7.2.1	B-616/617 Industrial Park Drive / CSX
C00104905DB75-ADD 4.2.7.2.3	B-618/619 Fort Eustis
C00104905DB75-ADD 4.2.7.2.5	B-619/620 Lee Hall Reservoir
C00104905DB75-ADD 4.2.3	Acquisition
C00104905DB75-ADD 4.2.3.1	Roadway
C00104905DB75-ADD 4.2.3.2	Bridges
C00104905DB75-ADD 4.2.3.2.1	B-616/617
C00104905DB75-ADD 4.2.3.2.2	B-618/619
C00104905DB75-ADD 4.2.3.2.3	B-620/621
C00104905DB75-ADD 4.2.1	Quality Control
C00104905DB75-ADD 4.2.1.1	Preparatory Meetings
C00104905DB75-ADD 4.5	Construction
C00104905DB75-ADD 4.5.9	Phase I
C00104905DB75-ADD 4.5.9.4	Project Signage
C00104905DB75-ADD 4.5.9.1	Pavement Strengthening / Barrier / Settlement Repair / Marking
C00104905DB75-ADD 4.5.9.1.5	East Bound Pavement Strengthening / Barrier / Settlement Repair / M
C00104905DB75-ADD 4.5.9.1.5.3	Segment A (EB Sta 1501+23 - 1559+06)
C00104905DB75-ADD 4.5.9.1.5.1	Segment B (EB Sta 1560+04 - 1600+90)
C00104905DB75-ADD 4.5.9.1.5.9	Segment C (EB Sta 1602+62 - 1654+64)
C00104905DB75-ADD 4.5.9.1.5.2	Segment D (EB Sta 1657+16 - 1800+44)
C00104905DB75-ADD 4.5.9.1.4	West Bound Pavement Strengthening / Barrier / Settlement Repair / M
C00104905DB75-ADD 4.5.9.1.4.2	Segment D (EB Sta 1800+44 - 1657+16)
C00104905DB75-ADD 4.5.9.1.4.9	Segment C (EB Sta 1654+64 - 1602+62)
C00104905DB75-ADD 4.5.9.1.4.1	Segment B (EB Sta 1600+90 - 1560+04)
C00104905DB75-ADD 4.5.9.1.4.3	Segment A (EB Sta 1559+06 - 1501+23)
C00104905DB75-ADD 4.5.9.5	Acceleration / Deceleration Lanes
C00104905DB75-ADD 4.5.9.5.1	Segment A
C00104905DB75-ADD 4.5.9.5.2	Segment B
C00104905DB75-ADD 4.5.9.5.3	Segment C
C00104905DB75-ADD 4.5.9.5.4	Segment D
C00104905DB75-ADD 4.5.9.2	Sediment Basin Construction
C00104905DB75-ADD 4.5.9.2.15	Segment A Basins
C00104905DB75-ADD 4.5.9.2.15.10	TSP/BMP "A"
C00104905DB75-ADD 4.5.9.2.15.12	TSP/BMP "B"
C00104905DB75-ADD 4.5.9.2.10	Segment B Basins
C00104905DB75-ADD 4.5.9.2.10.1	TSP/BMP "C"
C00104905DB75-ADD 4.5.9.2.10.2	TSP/BMP "D"
C00104905DB75-ADD 4.5.9.2.10.4	TSP/BMP "E"
C00104905DB75-ADD 4.5.9.2.1	Segment C Basins
C00104905DB75-ADD 4.5.9.2.1.5	TSP/BMP "F"
C00104905DB75-ADD 4.5.9.2.1.6	TSP/BMP "G"

WBS Code	WBS Name
C00104905DB75-ADD 4.5.9.2.2	Segment D Basins
C00104905DB75-ADD 4.5.9.2.2.9	TSP/BMP "H"
C00104905DB75-ADD 4.5.9.2.2.7	TSP/BMP "I"
C00104905DB75-ADD 4.5.9.2.2.14	TSP/BMP "J"
C00104905DB75-ADD 4.5.9.2.2.13	TSP/BMP "K"
C00104905DB75-ADD 4.5.9.2.2.1	TSP/BMP "L"
C00104905DB75-ADD 4.5.9.6	Noise Walls
C00104905DB75-ADD 4.5.9.6.1	Wall #46
C00104905DB75-ADD 4.5.9.6.2	Wall #47/ #48
C00104905DB75-ADD 4.5.9.3	Dynamic Message Signs / Travel Time Signs
C00104905DB75-ADD 4.5.9.3.1	Dynamic Message Signs
C00104905DB75-ADD 4.5.9.3.1.1	DMS 64-E5
C00104905DB75-ADD 4.5.9.3.1.2	DMS 64-W4
C00104905DB75-ADD 4.5.9.3.1.3	DMS 64-E6
C00104905DB75-ADD 4.5.9.3.2	Travel Time Signs
C00104905DB75-ADD 4.5.7	Phase 2
C00104905DB75-ADD 4.5.7.4	Roadway Segments
C00104905DB75-ADD 4.5.7.4.1	Roadway Segment A (1501+23 - 1559+06)
C00104905DB75-ADD 4.5.7.4.1.3	Median Improvements
C00104905DB75-ADD 4.5.7.4.1.3.1	MIA-1 (Sta 1501+23 - 1541+00)
C00104905DB75-ADD 4.5.7.4.1.3.1.1	Grading
C00104905DB75-ADD 4.5.7.4.1.3.1.2	Storm Sewer
C00104905DB75-ADD 4.5.7.4.1.3.1.3	Paving
C00104905DB75-ADD 4.5.7.4.1.3.1.4	Median Treatment
C00104905DB75-ADD 4.5.7.4.1.3.2	MIA-2 (Sta 1541+00 - 1559+06) Accel / Decel
C00104905DB75-ADD 4.5.7.4.1.3.2.1	Grading
C00104905DB75-ADD 4.5.7.4.1.3.2.2	Storm Sewer
C00104905DB75-ADD 4.5.7.4.1.3.2.3	Paving
C00104905DB75-ADD 4.5.7.4.1.3.2.4	Median Treatment
C00104905DB75-ADD 4.5.7.4.2	Roadway Segment B (1560+04 - 1600+90)
C00104905DB75-ADD 4.5.7.4.2.1	Median Improvements
C00104905DB75-ADD 4.5.7.4.2.1.1	MIB-1 (1560+04 - 1581+00)
C00104905DB75-ADD 4.5.7.4.2.1.1.1	Grading
C00104905DB75-ADD 4.5.7.4.2.1.1.2	Storm Sewer
C00104905DB75-ADD 4.5.7.4.2.1.1.3	Paving
C00104905DB75-ADD 4.5.7.4.2.1.1.4	Median Treatment
C00104905DB75-ADD 4.5.7.4.2.1.2	MIB-2 (1581+00 - 1600+90) Accel / Decel
C00104905DB75-ADD 4.5.7.4.2.1.2.1	Grading
C00104905DB75-ADD 4.5.7.4.2.1.2.2	Storm Sewer
C00104905DB75-ADD 4.5.7.4.2.1.2.3	Paving
C00104905DB75-ADD 4.5.7.4.2.1.2.4	Median Treatment
C00104905DB75-ADD 4.5.7.4.3	Roadway Segment C (1602+62 - 1654+64)
C00104905DB75-ADD 4.5.7.4.3.1	Median Improvements
C00104905DB75-ADD 4.5.7.4.3.1.1	MIC -1 (1602+62 - 1623+00)
C00104905DB75-ADD 4.5.7.4.3.1.1.1	Grading
C00104905DB75-ADD 4.5.7.4.3.1.1.2	Storm Sewer
C00104905DB75-ADD 4.5.7.4.3.1.1.3	Paving

WBS Code	WBS Name
C00104905DB75-ADD 4.5.7.4.3.1.1.4	Median Treatment
C00104905DB75-ADD 4.5.7.4.3.1.5	MIC-2 (1623+00 - 1638+00) Accel / Decel
C00104905DB75-ADD 4.5.7.4.3.1.5.1	Grading
C00104905DB75-ADD 4.5.7.4.3.1.5.2	Storm Sewer
C00104905DB75-ADD 4.5.7.4.3.1.5.3	Paving
C00104905DB75-ADD 4.5.7.4.3.1.5.4	Median Treatment
C00104905DB75-ADD 4.5.7.4.3.1.2	MIC-3 (1638+00 - 1654+64)
C00104905DB75-ADD 4.5.7.4.3.1.2.1	Grading
C00104905DB75-ADD 4.5.7.4.3.1.2.2	Storm Sewer
C00104905DB75-ADD 4.5.7.4.3.1.2.3	Paving
C00104905DB75-ADD 4.5.7.4.3.1.2.4	Median Treatment
C00104905DB75-ADD 4.5.7.4.4	Roadway Segment D (1657+16 - 1782+50)
C00104905DB75-ADD 4.5.7.4.4.1	Median Improvements
C00104905DB75-ADD 4.5.7.4.4.1.1	MID-1 (1657+16 - 1702+00)
C00104905DB75-ADD 4.5.7.4.4.1.1.1	Grading
C00104905DB75-ADD 4.5.7.4.4.1.1.2	Storm Sewer
C00104905DB75-ADD 4.5.7.4.4.1.1.3	Paving
C00104905DB75-ADD 4.5.7.4.4.1.1.4	Median Treatment
C00104905DB75-ADD 4.5.7.4.4.1.2	MID-2 (1702+00 - 1717+00) Accel / Decel
C00104905DB75-ADD 4.5.7.4.4.1.2.1	Grading
C00104905DB75-ADD 4.5.7.4.4.1.2.2	Storm Sewer
C00104905DB75-ADD 4.5.7.4.4.1.2.3	Paving
C00104905DB75-ADD 4.5.7.4.4.1.2.4	Median Treatment
C00104905DB75-ADD 4.5.7.4.4.1.3	MID-3 (1717+00 - 1782+50)
C00104905DB75-ADD 4.5.7.4.4.1.3.1	Grading
C00104905DB75-ADD 4.5.7.4.4.1.3.2	Storm Sewer
C00104905DB75-ADD 4.5.7.4.4.1.3.3	Paving
C00104905DB75-ADD 4.5.7.4.4.1.3.4	Median Treatment
C00104905DB75-ADD 4.5.7.2	Bridge Widening
C00104905DB75-ADD 4.5.7.2.5	B-616 Industrial Park Dr & CSX
C00104905DB75-ADD 4.5.7.2.5.2	Widening
C00104905DB75-ADD 4.5.7.2.5.2.1	Abutments
C00104905DB75-ADD 4.5.7.2.5.2.2	Piers
C00104905DB75-ADD 4.5.7.2.5.2.3	Superstructure
C00104905DB75-ADD 4.5.7.2.1	B-617 Industrial Park Dr & CSX
C00104905DB75-ADD 4.5.7.2.1.2	Widening
C00104905DB75-ADD 4.5.7.2.1.2.1	Abutments
C00104905DB75-ADD 4.5.7.2.1.2.2	Piers
C00104905DB75-ADD 4.5.7.2.1.2.3	Superstructure
C00104905DB75-ADD 4.5.7.2.7	B-618 Fort Eustis
C00104905DB75-ADD 4.5.7.2.7.2	Widening
C00104905DB75-ADD 4.5.7.2.7.2.1	Abutments
C00104905DB75-ADD 4.5.7.2.7.2.2	Piers
C00104905DB75-ADD 4.5.7.2.7.2.3	Superstructure
C00104905DB75-ADD 4.5.7.2.4	B-619 Fort Eustis
C00104905DB75-ADD 4.5.7.2.4.2	Widening
C00104905DB75-ADD 4.5.7.2.4.2.1	Abutments

WBS Code	WBS Name
C00104905DB75-ADD 4.5.7.2.4.2.2	Piers
C00104905DB75-ADD 4.5.7.2.4.2.3	Superstructure
C00104905DB75-ADD 4.5.7.2.2	B-620 Lee Hall Reservoir
C00104905DB75-ADD 4.5.7.2.2.2	Widening
C00104905DB75-ADD 4.5.7.2.2.2.1	Abutments
C00104905DB75-ADD 4.5.7.2.2.2.2	Piers
C00104905DB75-ADD 4.5.7.2.2.2.3	Superstructure
C00104905DB75-ADD 4.5.7.2.6	B-621 Lee Hall Reservoir
C00104905DB75-ADD 4.5.7.2.6.2	Widening
C00104905DB75-ADD 4.5.7.2.6.2.1	Abutments
C00104905DB75-ADD 4.5.7.2.6.2.2	Piers
C00104905DB75-ADD 4.5.7.2.6.2.3	Superstructure
C00104905DB75-ADD 4.5.8	Phase 3
C00104905DB75-ADD 4.5.8.3	Bridge Overlay/Repair
C00104905DB75-ADD 4.5.8.3.1	Repair B-616 Industrial Park Dr & CSX
C00104905DB75-ADD 4.5.8.3.2	Overlay B-616 Industrial Park Dr & CSX
C00104905DB75-ADD 4.5.8.3.6	Repair B-617 Industrial Park Dr & CSX
C00104905DB75-ADD 4.5.8.3.3	Overlay B-617 Industrial Park Dr & CSX
C00104905DB75-ADD 4.5.8.3.4	Repair B-618 Fort Eustis
C00104905DB75-ADD 4.5.8.3.5	Overlay B-618 Fort Eustis
C00104905DB75-ADD 4.5.8.3.7	Repair B-619 Fort Eustis
C00104905DB75-ADD 4.5.8.3.8	Overlay B-619 Fort Eustis
C00104905DB75-ADD 4.5.8.3.9	Repair B-620 Lee Hall Reservoir
C00104905DB75-ADD 4.5.8.3.10	Overlay B-620 Lee Hall Reservoir
C00104905DB75-ADD 4.5.8.3.11	Repair B-621 Lee Hall Reservoir
C00104905DB75-ADD 4.5.8.3.12	Overlay B-621 Lee Hall Reservoir
C00104905DB75-ADD 4.5.8.2	Barrier
C00104905DB75-ADD 4.5.8.6	Concrete Patching
C00104905DB75-ADD 4.5.8.5	Option 2
C00104905DB75-ADD 4.5.8.5.1	Fort Eustis Improvements
C00104905DB75-ADD 4.5.1	Phase 4
C00104905DB75-ADD 4.5.1.2	Final Road Finishes
C00104905DB75-ADD 4.5.1.2.1	THAMCO
C00104905DB75-ADD 4.5.1.3	Option 1
C00104905DB75-ADD 4.5.1.3.1	2" Overlay

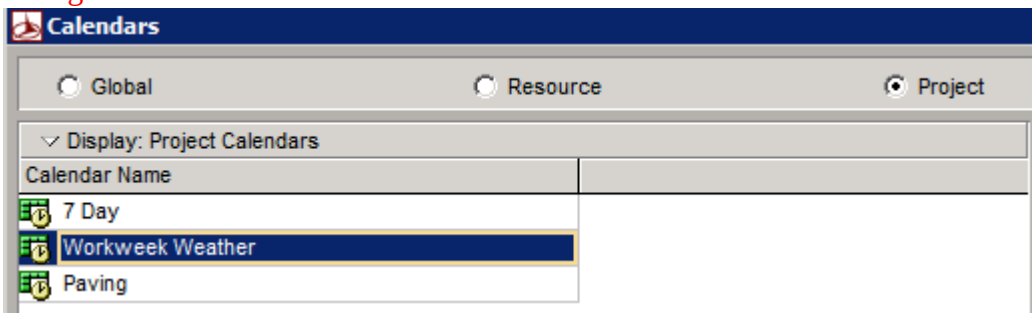
Calendars

The Wagman Team has incorporated four calendars into the project schedule. Each calendar takes into account State Holidays as well as the Wagman Team Holidays.

Work week Weather: This calendar is the base calendar for construction activities. It incorporates a standard work week, including weather days. The Wagman Team derived an average number of days per month for weather related occurrences and incorporated time into the schedule for this. This information was calculated from historical records for the last three years from the National Weather Service NOAA Office Wakefield, Virginia.

7 Day: This calendar holds every day as a working day. This calendar is only attached to non-production activities, such as cure time.

Paving: This calendar is present for applications that are constrained by temperature restrictions by The Department. Additionally, paving operations are further affected by asphalt lay down temperature restrictions and material availability interruptions due to subcontractor plant shut downs. Such restrictions have been recognized within this calendar.



Design

The Wagman Team will advance the design from the current RFP documents and incorporate new design elements into final design and construction documents. Design activities will include surveying, roadway design, bridge design, traffic control devices, maintenance of traffic plans, signs, guardrail, pavement markings, drainage design, design of stormwater management facilities, geotechnical investigation including borings and analysis, materials analysis, hydraulic design and pavement design. The project will be delivered by completing three phases of design – preliminary design (PFI), right of way/roadway design, and final design – followed by the construction phase. Design related activities to be performed during each phase are as follows:

Preliminary design activities will focus on expanding the RFP documents and preparing a set of preliminary plans and reports for submission to VDOT for review and approval. The Wagman Team will perform a number of independent studies of the information contained in the RFP documents to confirm that the information provided to date is correct and suitable for use in designing the project. The additional studies will include performing supplemental field surveying to confirm horizontal and vertical control of key project features verifying type and location of existing subsurface utilities; performing legal research to confirm existing right of way and property limits; and performing a thorough geotechnical field investigation to confirm geotechnical conditions for the bridge foundation and roadway design. Emphasis will be placed on the environmental aspect of the design in this phase in hopes that an early release package can be submitted to allow the environmental permitting process to start prior to the final plan development stage. The findings of these additional studies will be summarized in a series of reports and, if discrepancies occur between the information in the RFP documents and The Wagman Team studies, these results will be presented to VDOT for review and evaluation as outlined in the Scope Validation process for the project. After confirming the information provided in the RFP documents is valid or after receiving agreement from VDOT of any discovered changes, preliminary roadway plans will be developed including performing geometric design; preparing cross sections and defining limits of construction; completing stormwater management and erosion and sediment control design; preparing plans for traffic control devices as well as a Transportation Management Plan; and completing the preliminary bridge plans working closely with the geotechnical engineers and utility coordinator. Required right of way limits will be evaluated and depicted on the plans and preliminary utility relocation plans will be prepared.

Right of way/roadway design submittal will occur after receiving preliminary plan (PFI) approval from VDOT. The right of way, environmental coordination and approval, and utility relocation plan activities will be separated and developed for individual submissions to VDOT and other regulatory agencies for review and approval. The preliminary bridge and roadway plans within this submission will be fully detailed and ready for the commencement of construction activities. A Geotechnical Report based on the geotechnical recommendations for the project will also be completed during the right of way/roadway design phase.

Final design submittal will occur after receiving right of way/roadway design plan approval from VDOT. The Wagman Team will then submit the final design plans and reports to VDOT for review and approval.

Critical Path

The critical path for the project begins with the preparation of the PFI for the full project concept SWM/E&S plan. It then follows the submission and approval process for these plans and ultimately leads into the VSMP permitting process. Once the erosion control permitting is in place, the critical path follows the typical operations starting with erosion control measures, stripping topsoil, rough grading, and it continues on through the construction sequence mentioned earlier starting with Segment C. Once Segment C is completed, it then moves into Segments D. Once all of the roadway and bridge widening is complete it ultimately ends up with the surface asphalt/THMACO placement.

Critical Path Breakdown

Activity ID	Activity Name	Planned Duration	Start	Finish	Total Float
C00104905DB75 I-64 Capacity Improvemen		698.0d	18-Mar-15	17-Nov-17	9.0d
Milestones and General Conditions		698.0d	18-Mar-15	17-Nov-17	9.0d
A1000	Notice to Proceed	0.0d	18-Mar-15		79.6d
A1060	Final Completion (Contract = 01-I	0.0d		17-Nov-17	13.0d
Preconstruction		108.0d	18-Mar-15	14-Aug-15	57.0d
A10270	Prepare PFI Submittal -Full Projec	30.0d	18-Mar-15	16-Apr-15	80.9d
A14820	Incoporate VDOT Review Comme	30.0d	17-Apr-15	16-May-15	80.9d
E7	VSMP	90.0d	17-May-15	14-Aug-15	80.9d
Construction		590.0d	17-Aug-15	17-Nov-17	9.0d
A12270	E/S C	1.0d	17-Aug-15	17-Aug-15	66.2d
A12280	Strip Topsoil C	2.0d	17-Aug-15	19-Aug-15	66.2d
A12290	Rough Grade C	4.0d	19-Aug-15	24-Aug-15	66.2d
A12300	Fine Grade C	2.0d	24-Aug-15	26-Aug-15	66.2d
A12310	BM C	1.0d	26-Aug-15	27-Aug-15	54.1d
A12320	IM C	1.0d	27-Aug-15	28-Aug-15	54.1d
A13500	Strip Topsoil C1	4.0d	15-Oct-15	20-Oct-15	66.3d
A13520	Rough Grade / Cut to Fill C1 (2,6(	12.0d	20-Oct-15	03-Nov-15	66.3d
A13530	Fine Grade C1	5.0d	10-Dec-15	16-Dec-15	66.3d
A13540	Soil Stabilization C1	4.0d	16-Dec-15	21-Dec-15	66.3d
A13550	Underdrain C1	3.0d	01-Dec-15	04-Dec-15	80.3d
A13560	CTA C1	6.0d	01-Mar-16	08-Mar-16	8.0d
A13570	OGDL C1	4.0d	09-Mar-16	14-Mar-16	8.0d
A13580	BM C1	9.0d	15-Mar-16	25-Mar-16	8.0d
A13590	IM C1	3.0d	28-Mar-16	30-Mar-16	8.0d
A13600	SM C1	3.0d	31-Mar-16	04-Apr-16	8.0d
A13650	Raised Concrete Median Barrier (	15.0d	30-Nov-15	16-Dec-15	70.3d
A13660	Jack Bore C-1 (120 LF)	7.0d	04-Nov-15	12-Nov-15	66.3d
A13740	Structures C1, C2, C3, C4	3.0d	12-Nov-15	16-Nov-15	66.3d
A13750	RCP 24" (650 LF)	10.0d	16-Nov-15	27-Nov-15	66.3d
A13760	Structures C5, C6, C7	2.0d	30-Nov-15	01-Dec-15	66.3d
A13770	RCP 24" (510 LF)	8.0d	01-Dec-15	10-Dec-15	66.3d
A13860	E/S D1	4.0d	21-Apr-16	26-Apr-16	9.5d
A13870	Clearing/ Grubbing/ Demo D1	20.0d	27-Apr-16	19-May-16	9.5d
A13880	Strip Topsoil D1	10.0d	19-May-16	02-Jun-16	9.5d
A13900	Rough Grade D1	20.0d	02-Jun-16	27-Jun-16	9.5d
A14120	E/S D2	5.0d	21-Jun-17	27-Jun-17	9.6d
A14130	Remove / Move Accel Lane	15.0d	27-Jun-17	17-Jul-17	9.6d
A14140	Strip Topsoil D2	5.0d	17-Jul-17	21-Jul-17	9.6d
A14160	Rough Grade D2	5.0d	21-Jul-17	27-Jul-17	9.6d
A14170	Fine Grade D2	5.0d	23-Aug-17	29-Aug-17	9.6d
A14180	Soil Stabilization D2	3.0d	29-Aug-17	01-Sep-17	9.6d
A14460	Structures D29, D30, D31, D32, D	7.0d	27-Jul-17	04-Aug-17	9.6d
A14470	RCP 24" (975 LF)	15.0d	04-Aug-17	23-Aug-17	9.6d
A14480	Structures D42, D43, D44, D45, D	6.0d	12-Aug-16	19-Aug-16	9.5d

Activity ID	Activity Name	Planned Duration	Start	Finish	Total Float
A14490	RCP 24" (720 LF)	11.0d	19-Aug-16	02-Sep-16	9.5d
A14500	Structures D53, D54, D55, D56, D	6.0d	02-Sep-16	12-Sep-16	9.5d
A14510	RCP 24" (660 LF)	10.0d	12-Sep-16	22-Sep-16	9.5d
A14520	Structures D63, D64, D65, D66, D	5.0d	22-Sep-16	28-Sep-16	9.5d
A14530	RCP 24" (570 LF)	9.0d	28-Sep-16	10-Oct-16	9.5d
A14540	Structures D73, D74, D75, D76, D	7.0d	10-Oct-16	18-Oct-16	9.5d
A14550	RCP 24" (870 LF)	14.0d	18-Oct-16	03-Nov-16	9.5d
A14560	Structures D85, D86, D87, D88, D	10.0d	03-Nov-16	15-Nov-16	9.5d
A14570	RCP 24" (1580 LF)	25.0d	15-Nov-16	15-Dec-16	9.5d
A14600	Strip Topsoil D3	15.0d	27-Jun-16	14-Jul-16	9.5d
A14620	Rough Grade D3	25.0d	14-Jul-16	12-Aug-16	9.5d
A14630	Fine Grade D3	15.0d	27-Jan-17	15-Feb-17	9.5d
A14640	Soil Stabilization D3	18.0d	15-Feb-17	08-Mar-17	9.5d
A14660	CTA D3	20.0d	08-Mar-17	05-Apr-17	8.0d
A14670	OGDL D3	10.0d	05-Apr-17	19-Apr-17	8.0d
A14680	BM D3	20.0d	19-Apr-17	17-May-17	8.0d
A14690	IM D3	12.0d	17-May-17	05-Jun-17	8.0d
A14700	SM D3	12.0d	05-Jun-17	21-Jun-17	8.0d
A14760	Structures D104, D105, D106	2.0d	15-Dec-16	19-Dec-16	9.5d
A14770	RCP 24" (640 LF)	10.0d	19-Dec-16	30-Dec-16	9.5d
A14780	Structures D107, D108, D109, D1	3.0d	30-Dec-16	05-Jan-17	9.5d
A14790	RCP 24" (600 LF)	9.0d	05-Jan-17	17-Jan-17	9.5d
A14800	Structures D111, D112, D113, D11	2.0d	17-Jan-17	18-Jan-17	9.5d
A14810	RCP 24" (580 LF)	8.0d	18-Jan-17	27-Jan-17	9.5d
A14828	Remove/Move Accel Lane	15.0d	05-Apr-16	21-Apr-16	9.5d
A14920	Clearing/ Grubbing/ Demo C3	15.0d	28-Aug-15	17-Sep-15	66.3d
A14940	Strip Topsoil C3	4.0d	17-Sep-15	22-Sep-15	66.3d
A14950	Rough Grade / Cut to Fill C3 (16,(	20.0d	22-Sep-15	15-Oct-15	66.3d
A3770	THMACO Overlay	22.0d	01-Sep-17	03-Oct-17	8.0d
A3780	2" Asphalt Overlay	31.0d	04-Oct-17	17-Nov-17	8.0d

Environmental Coordination and Approvals

Preliminary environmental activities will begin soon after receiving Notice to Proceed and will include a thorough environmental evaluation and confirmation of the information provided in the RFP documents. The Wagman Team will prepare a comprehensive environmental management plan that includes a matrix of environmental commitments and compliance requirements; identifies milestone dates and integrates those into the project schedule; identifies the responsible party; and summarizes requirements. The Wagman Team will provide VDOT with the results of the preliminary environmental design efforts in order to obtain an early release package for the permitting process.

Final environmental activities will begin immediately after receiving preliminary plan approval from VDOT. At this point in the design, the "footprint" for the project will be firmly established and The Wagman Team will identify the final environmental impacts required to construct the project in its entirety. The Wagman Team will make every effort to avoid and minimize environmental impacts. A Stormwater Pollution Prevention Plan (SWPPP) will be developed and the registration statement for the Virginia Stormwater Management Permit will be submitted immediately following the SWPPP development.

The Wagman Team will assist VDOT during the Document Re-evaluations for Right of way Authorization and the preparation of the Environmental Certification/Commitments Checklist. The Wagman Team will also conduct compliance monitoring and reporting during the construction as required by VDOT and the DCR. Avoidance and minimization efforts will continue through construction. All monitoring reports will be submitted to VDOT.

Right of Way

After preliminary designs have been performed for the roadway, bridge, drainage, and utilities, The Wagman Team will evaluate the proposed ROW, permanent easements, and temporary easements as shown on the plans. If changes are required, either due to a change in the required ROW or a change based on the results of legal research, the Team will prepare updated preliminary ROW plans and a ROW data sheet and will submit to VDOT for review and approval. Preliminary ROW activities will begin soon after receiving Notice to Proceed. The Wagman Team will begin performing the legal research for the identified parcels on the preliminary plans at the same time that our survey crew is validating the survey information provided in the RFP package. As we advance our design effort, we will continue to look for opportunities to reduce right of way acquisitions.

Schedule & Project Management

The schedule is the most important tool in the construction process. It is the way to communicate the intended sequence and progress of the project to the construction team as well as the project stakeholders. The schedule is used to monitor the progress of the project and help identify potential deficiencies and problem areas before they develop into a critical impact.

The project management team will continually review and monitor the schedule and use the information gathered to develop mitigation strategies for any activities that are identified as potential impacts. This pro-active approach will ensure that the project continues to move forward and that any potential delays are addressed immediately. A number of different tools will be put in place to assist with this process and some are as follows:

- Weekly schedule and task force meetings between the engineering and construction team members during the design phase
- Weekly construction scheduling meetings throughout the duration of the construction process with the construction team (including management)
- Monthly progress meetings to include all project stakeholders, project team members, and subcontractors
- Three week look ahead schedules
- RFI logs
- Submittal logs
- Subcontract/purchase order logs
- Shop drawing tracking logs
- Weekly manpower & equipment reviews

All of the above referenced tools will be utilized simultaneously to provide a current and realistic picture of the progress and status at any given time. Information will be presented at meetings to all who are involved for the opportunity to discuss and address any concerns in front of all that are affected. This keeps the line of communication open and allows resolutions and recovery strategies to be developed at an early stage, therefore preventing any further conflict.

Schedule Recovery

Unexpected issues and unforeseen conditions will occur throughout the construction process. The Wagman Team includes a number of experienced and well respected members in the design-build field who have the ability to recognize and react to these unforeseen issues. The Wagman Team will aggressively manage the project and mitigate any issues that affect the construction schedule. A schedule recovery strategy will be developed in these cases and immediately implemented. These recovery strategies will be closely monitored and followed until the situation has been successfully resolved.

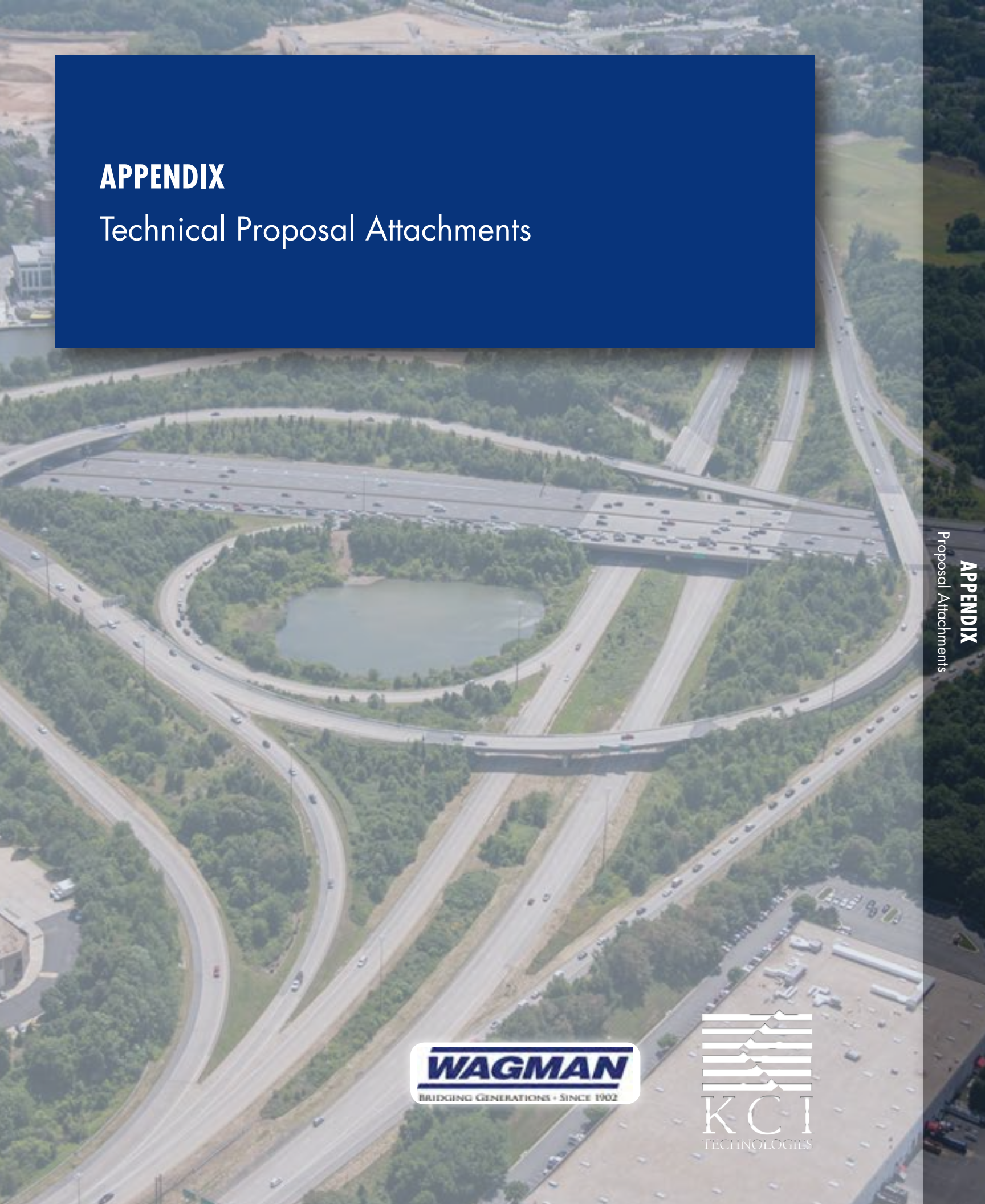
Subcontractor Scheduling

Subcontractors are a critical part of the project schedule that is why The Wagman Team will closely evaluate each subcontractor based on quality, performance, and reputation. Starting with the initial subcontract paperwork, each subcontractor will be intimately involved with every aspect of the project schedule and their

input will be vital. This includes progress meetings, weekly look-ahead schedules, material submittals, and recovery strategies if needed. Accountability is the key to effective subcontractor management and it will be perfectly clear that they will be accountable for all aspects of their work from quality to schedule. Should a situation occur where subcontractor performance is deemed unacceptable, measures will already be in place in place to remedy the situation and prevent any schedule impacts.

APPENDIX

Technical Proposal Attachments

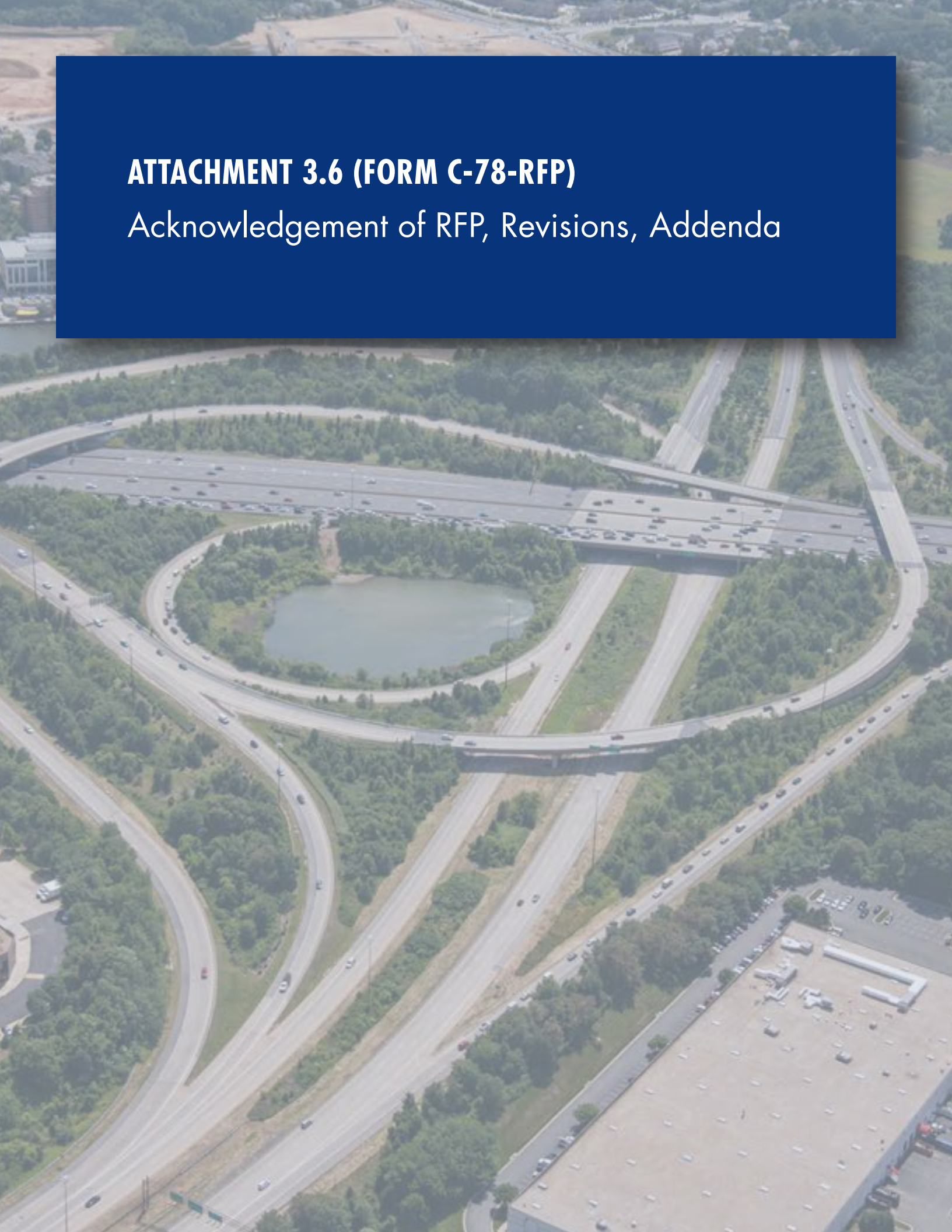


WAGMAN
BRIDGING GENERATIONS • SINCE 1902

KCI
TECHNOLOGIES

ATTACHMENT 3.6 (FORM C-78-RFP)

Acknowledgement of RFP, Revisions, Addenda



Form C-78-RFP

ATTACHMENT 3.6

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION

RFP NO. C00104905DB75

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 June 24, 2014 – RFP
   (Date)
2. Cover letter of August 22, 2014 – RFP Addendum No. 1
   (Date)
3. Cover letter of September 10, 2014 – RFP Addendum No. 2
   (Date)
4. Cover letter of October 31, 2014 – RFP Addendum No. 3
   (Date)
5. Cover letter of November 14, 2014 – RFP Addendum No. 4
   (Date)

David W. Lyle
SIGNATURE

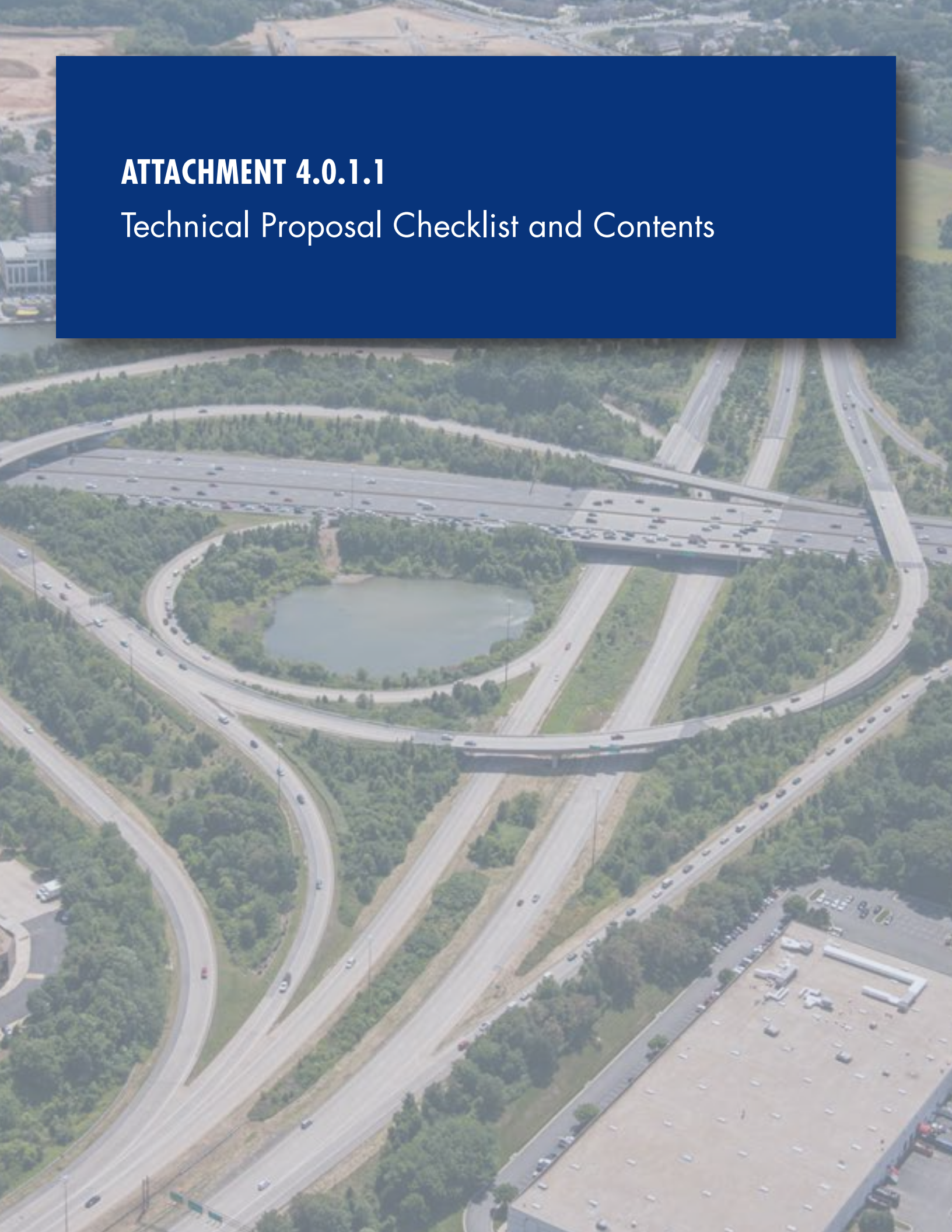
12/1/2014
DATE

DAVID W. LYLE
PRINTED NAME

VICE PRESIDENT, DIVISION MANAGER
TITLE

ATTACHMENT 4.0.1.1

Technical Proposal Checklist and Contents



ATTACHMENT 4.0.1.1

I-64 CAPACITY IMPROVEMENTS – SEGMENT 1

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	Appendix
Acknowledgement of RFP, Revisions, and/or Addenda	Attachment 3.6 (Form C-78-RFP)	Sections 3.6, 4.0.1.1	no	Appendix
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	Appendix
Certification Regarding Debarment Forms	Attachment 11.8.6(a) Attachment 11.8.6(b)	Section 4.1.8	no	Appendix
Offeror's Qualifications	NA	Section 4.2		

ATTACHMENT 4.0.1.1

I-64 CAPACITY IMPROVEMENTS – SEGMENT 1

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	4
Organizational chart with any updates since the SOQ submittal clearly identified to include contractor(s) responsible to perform concrete patching and overlay of existing I-64 pavement.	NA	Section 4.2.2	yes	6
Revised narrative when organizational chart includes updates since the SOQ submittal and a description of contractors' qualifications and previous experience with concrete patching and overlay on interstate projects.	NA	Section 4.2.2	yes	4-5
Identify on the Work History Form one relevant construction project completed by the contractor responsible for concrete patching of the existing interstate pavement.	4.2.2	Section 4.2.2	no	Appendix
Design Concept	NA	Section 4.3		
Conceptual Roadway Plans and description	NA	Section 4.3.1.1	yes	8-13 48-76 (Vol II)
Conceptual Structural Plans and description	NA	Section 4.3.1.2	yes	13-14 77-85 (Vol II)
Project Approach	NA	Section 4.4		

ATTACHMENT 4.0.1.1

I-64 CAPACITY IMPROVEMENTS – SEGMENT 1

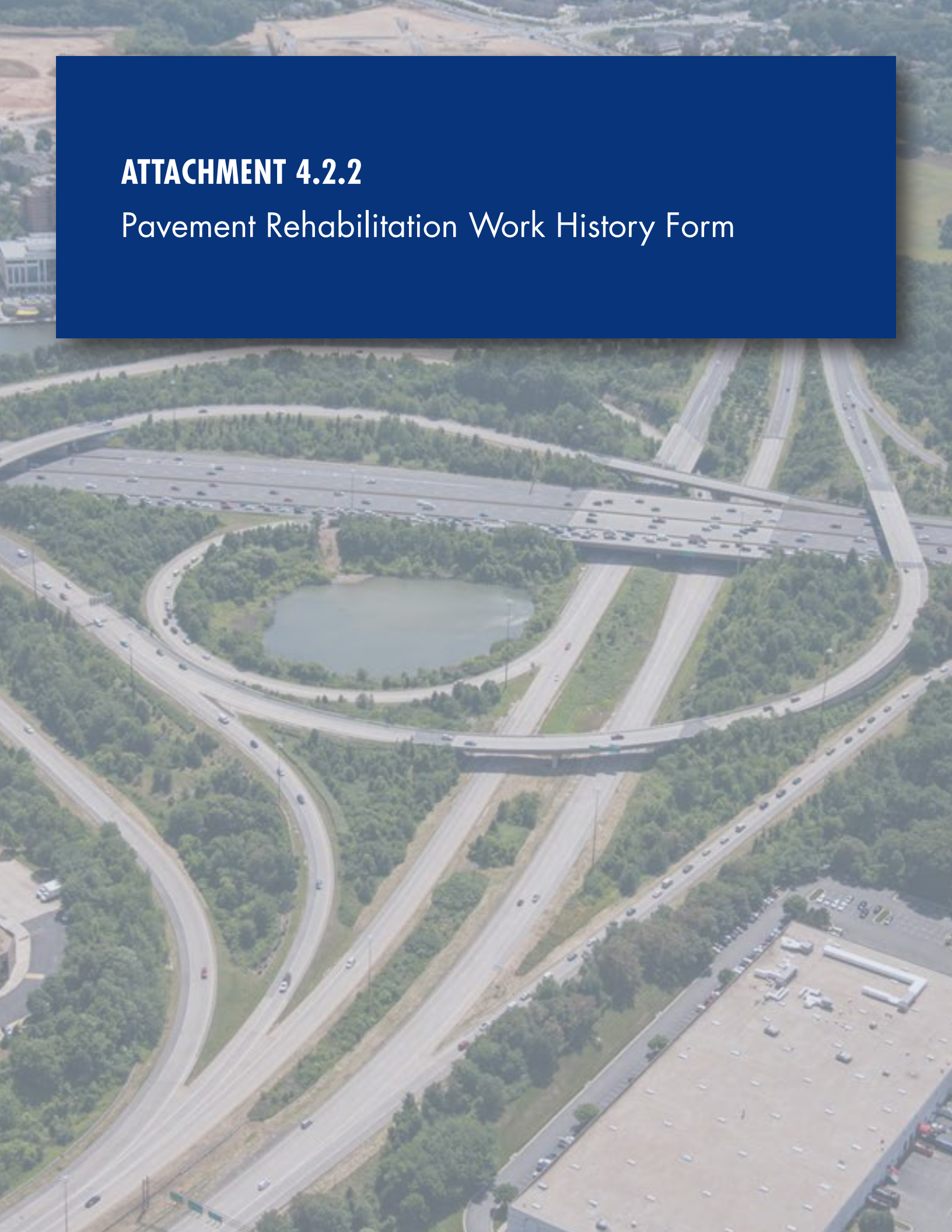
VDOT PROJECT NO.: 0064-965-264

TECHNICAL PROPOSAL CHECKLIST AND CONTENTS

Technical Proposal Component	Form (if any)	RFP Part 1 Cross Reference	Included within page limit?	Technical Proposal Page Reference
Environmental Management	NA	Section 4.4.1	yes	15-17
Utilities	NA	Section 4.4.2	yes	17-22
Geotechnical	NA	Section 4.4.3	yes	22-23
Quality Assurance/ Quality Control (QA/QC)	NA	Section 4.4.4	yes	24-32
Construction of Project	NA	Section 4.5		
Sequence of Construction	NA	Section 4.5.1	yes	33-41
Transportation Management Plan	NA	Section 4.5.2	yes	41-46
Disadvantaged Business Enterprises (DBE)	NA	Section 4.6		
Written statement of 12 percent DBE participation	NA	Section 4.6	yes	47
Proposal Schedule	NA	Section 4.7		
Proposal Schedule	NA	Section 4.7	no	N/A
Proposal Schedule Narrative	NA	Section 4.7	no	Schedule-1-Schedule-14
Proposal Schedule in electronic format (CD-ROM)	NA	Section 4.7	no	N/A

ATTACHMENT 4.2.2

Pavement Rehabilitation Work History Form



ATTACHMENT 4.2.2

WORK HISTORY FORM

(LIMIT 1 PAGE PER PROJECT)

a. Project Name & Location	b. Name of the prime/ general contractor responsible for overall construction of the project.	c. Contact information of the Client and their Project Manager who can verify Firm's responsibilities.	d. Construction Contract Completion Date (Original)	e. Construction Contract Completion Date (Actual or Estimated)	f. Contract Value (in thousands)		g. Design Fee for the Work Performed by the Firm identified as the Lead Designer for this procurement.(in thousands)
					Construction Contract Value (Original)	Construction Contract Value (Actual or Estimated)	
Name: **I-664 Pavement Rehabilitation between Marshall Ave & Powhatan Parkway** Location: **Hampton/ Newport News, VA**	Name: **Denton Concrete Services**	Name of Client./ Owner: **VDOT/Williamsburg Residency** Phone: **757-592-6068** Project Manager: **Fred Durr** Phone: **757-592-4032** Email: **Mr. Durr is retired. Tom Tate: thomas.tate@vdot.virginia.gov**	**04/2011**	**03/2011**	**$12,928**	**$13,621**	**This project was not Design-Build. It was designed by VDOT and was bid by VDOT.**

h. Narrative describing the Work Performed by the Firm responsible for concrete patching of the existing interstate pavement for this procurement.

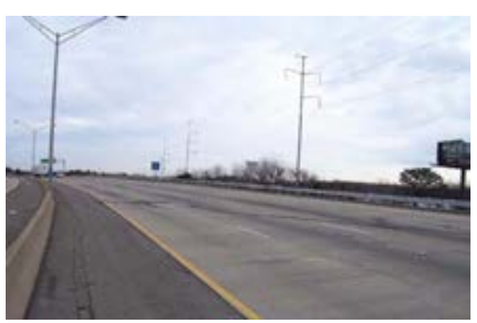
Denton Concrete Services was the prime contractor on this concrete pavement project that consisted of rehabilitation of 3.15 miles of I-664 from 0.32 miles north of Marshall Ave. to 0.33 miles north of Powhatan Parkway. This section of I-664 is a six-lane divided major urban highway connecting Newport News, VA and Suffolk, VA via the Monitor Merrimac Memorial Bridge Tunnel. In 2010, the estimated average annual daily traffic was 74,000 vehicles with six percent trucks. The original concrete pavement was constructed circa 1983 using 8" thick continuously reinforced concrete pavement (CRCP) for the mainline, and 9" thick jointed concrete pavement (JCP) for the accel/decel lanes and ramps. As of 2007, after 24 years of service with minimal maintenance, the concrete pavement was in need of rehabilitation. The majority of the distress was associated with spalling and faulting along longitudinal cracks in the lanes, as well as occasional punchouts. VDOT had successfully used two general types of pavement rehabilitation for CRCP. One has been to repair existing punchouts and other failures with full depth concrete patches, and overlay the CRCP with five to seven inches of asphalt concrete. The other rehabilitation method also includes use of full depth concrete patching, and then grinding of the pavement surface to restore smoothness. For this project the use of full depth concrete patches and grinding of the pavement surface was selected to preserve existing grades which enhanced its cost effectiveness.

The work required was concrete pavement repair, installation of pavement edge drain, grinding of concrete pavement, placement of new asphalt shoulders, upgrading of guiderail and placement of pavement markers. Denton Concrete Services performed all of the concrete pavement repair on this project. In general, Denton's scope of work included:

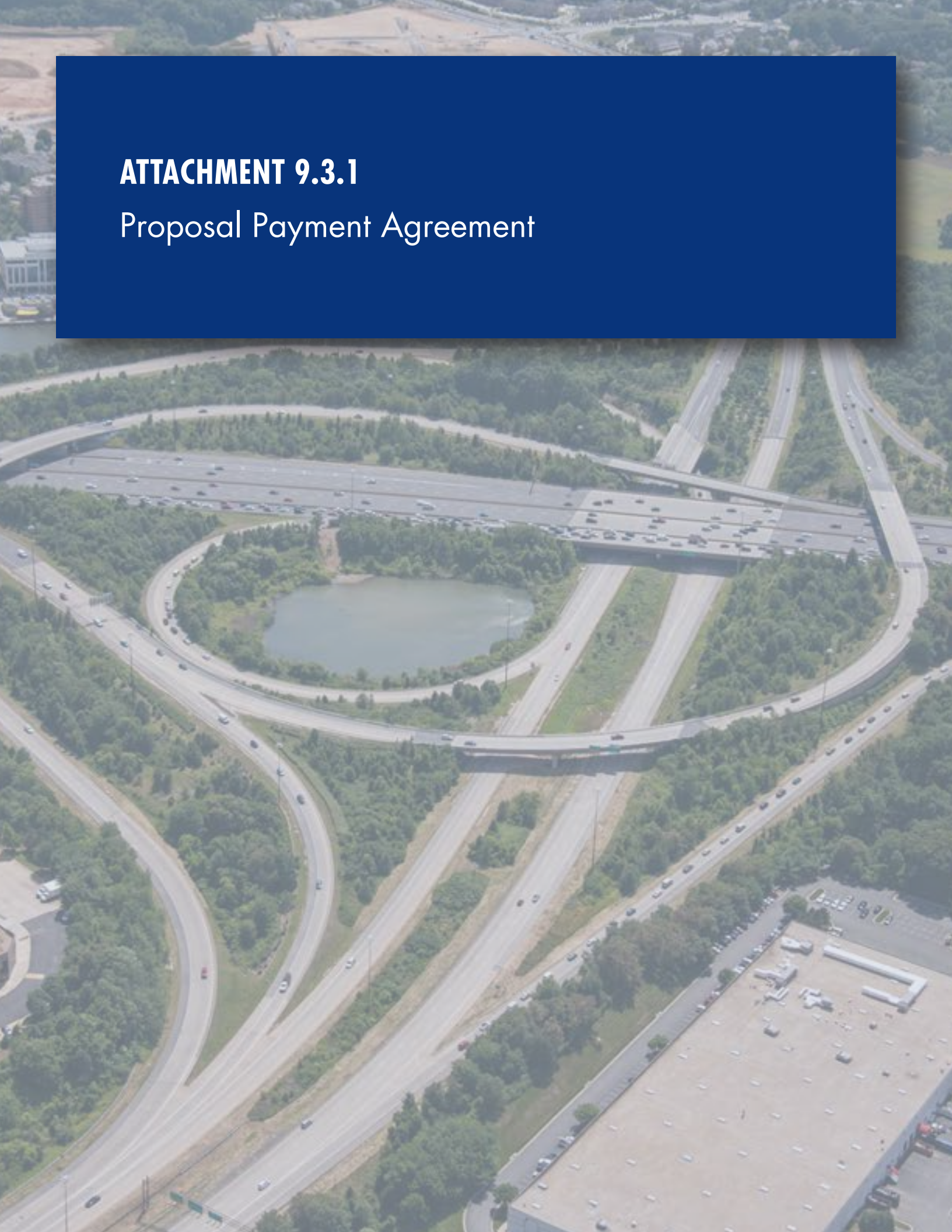
- Full depth concrete patching – 54,000 SY of CRCP and JCP (1,800 repairs)
- 110,000 SY of CRCP grinding
- Remove/Replace 800 LF of misaligned barrier wall
- Installation of approximately 21,000 LF of edge drain
- Mill and replace approximately 12,000 tons of shoulder HMA
- 175,000 LF of joint/crack resealing
- Maintenance of Traffic

The repair work required significant concrete plant coordination, as lane closures were only allowed between 7:00 pm and 5:00 am when the traffic volumes were lower. Close coordination was required between the concrete plant and placement crews to ensure the proper amount of concrete was provided wihin a time frame that would provide adequate cure time. The mix had to be proportioned in a manner that provided workability but still would set up in a rapid time frame to allow the placement of traffic on the repaired areas at the end of the work shift.

This project received the National Award of Excellence from the American Concrete Pavement Association, Gold Level, in the category of Concrete Pavement Restoration for 2011.



*For multiple phase projects, only a single phase of construction (or single contract) will be considered as a Project. If additional phases are shown under the same Work History Form, only the first phase (or contract) listed will be evaluated.



ATTACHMENT 9.3.1

Proposal Payment Agreement

ATTACHMENT 9.3.1
PROPOSAL PAYMENT AGREEMENT

THIS PROPOSAL PAYMENT AGREEMENT (this "Agreement") is made and entered into as of this 1st day of DECEMBER 2014, by and between the Virginia Department of Transportation ("VDOT"), and G.A. + F.C. WAGMAN, INC. ("Offeror").

WITNESSETH:

WHEREAS, Offeror is one of the entities who submitted Statements of Qualifications ("SOQs") pursuant to VDOT's **March 14, 2014** 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 I, 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 **Seventy Thousand and 00/100 Dollars ($70,000.00)** ("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: _____

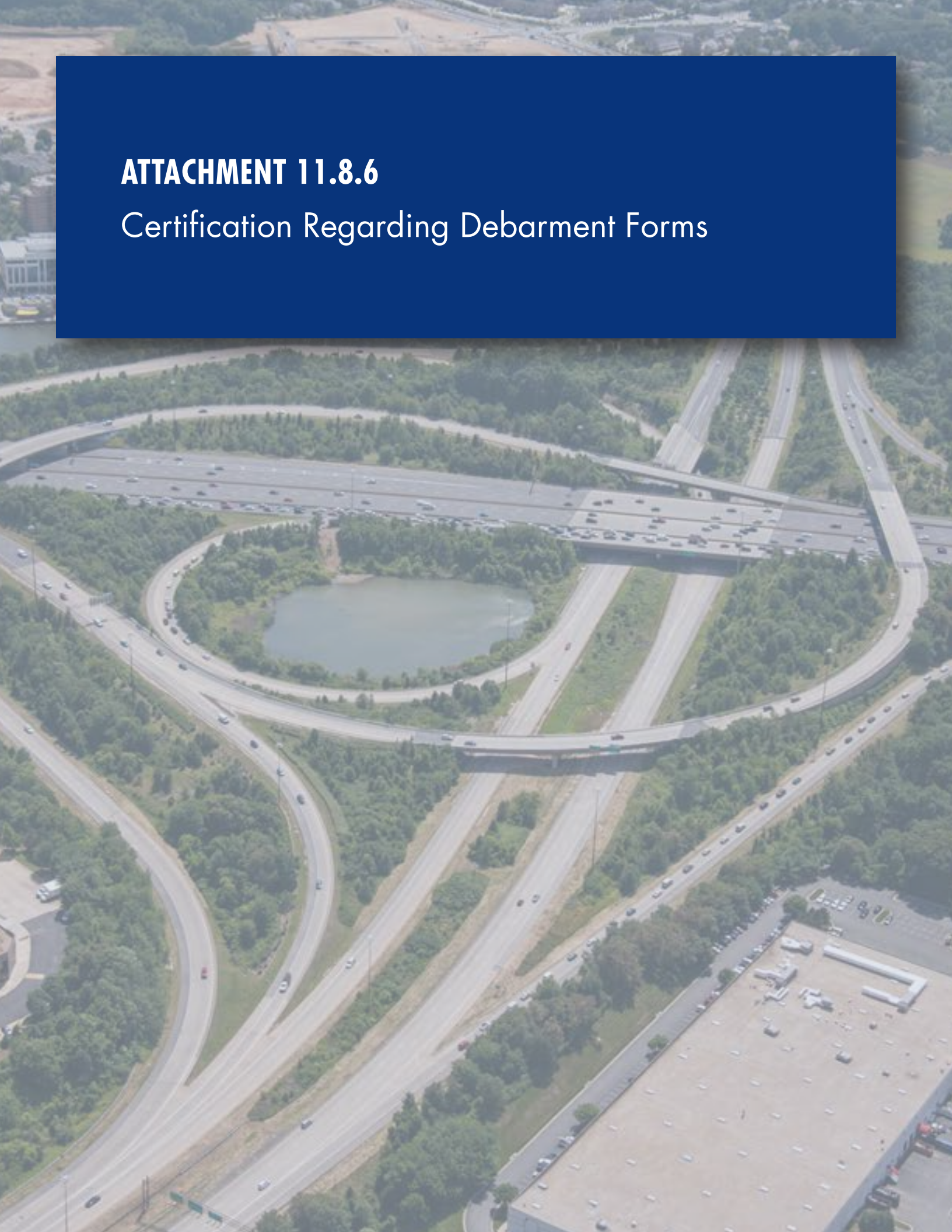
Title: _____

[Insert Offeror's Name]

By: David W. Lyle

Name: DAVID W. LYLE

Title: VICE PRESIDENT, DIVISION MANAGER



ATTACHMENT 11.8.6

Certification Regarding Debarment Forms

ATTACHMENT 11.8.6(a)
CERTIFICATION REGARDING DEBARMENT
PRIMARY COVERED TRANSACTIONS

Project No.: 0064-965-264

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.

David W. Lyle
Signature Date

VICE PRESIDENT, DIVISION MANAGER
Title

G.A. & F.C. WAGMAN, INC.
Name of Firm

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

Project No.: 0064-965-264

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.

W. Mark K 11/26/14 VICE PRESIDENT

Signature Date Title

KCI TECHNOLOGIES, INC.

Name of Firm

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

Project No.: 0064-965-264

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.

James C. Wiggins 12/1/2014 CHIEF EXECUTIVE OFFICER
Signature Date Title

McCORMICK TAYLOR, INC.
Name of Firm

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

Project No.: 0064-965-264

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.

Dennis C Morrison 11/24/14 Senior Vice President
Signature Date Title

Volkert, Inc.
Name of Firm

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

Project No.: 0064-965-264

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.

Edward G. Drahos November 24, 2014 Senior Vice President
Signature Date Title

Schnabel Engineering Consultants, Inc.
Name of Firm

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

Project No.: 0064-965-264

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.

J. Randy Wirt 11/24/14 CHIEF ENGINEER / 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

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.

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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.

11/24/14
Signature Date

Corporate Secretary
Title

McCarthy Improvement Company
Name of Firm

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

Project No.: 0064-965-264

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.

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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	11/24/2014 Date	Michael A. Retton, PE, PS, Senior Principal Title

Stantec Consulting Services Inc.
Name of Firm

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

Project No.: 0064-965-264

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.

Signature	Date	Title
	11-26-2014	Principal

Dominion Realty Advisors, Inc.
Name of Firm

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

Project No.: 0064-965-264

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.

R Scott B November 27, 2014 Managing Partner

Signature Date Title

Appraisal Review Specialists, LLC

Name of Firm

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

Project No.: 0064-965-264

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.

James M Tarr	11-24-14	President
Signature	Date	Title

Denton Concrete Services Company
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.

By: DeMartino Co., LLC, General Partner

	11-24-14	John M. DeMartino, President
Signature	Date	Title

E.J. Breneman, L.P.

Name of Firm

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

Project No.: 0064-965-264

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.

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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 November 25, 2014 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

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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.

Kunal Ganguly 11/24/14 — First Executive VP

Signature Date — Title

EBA Engineering, 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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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.

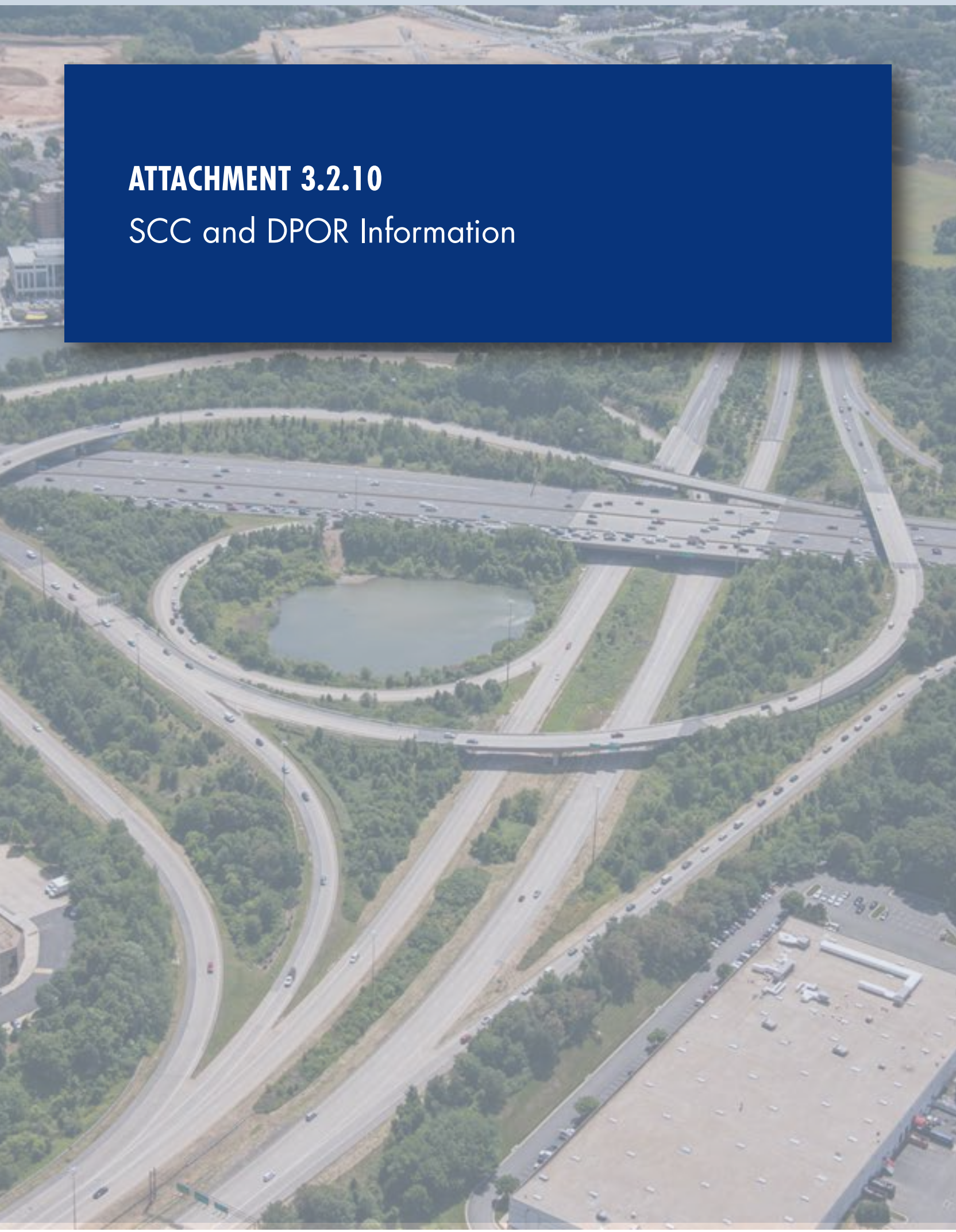
The undersigned makes the foregoing statements to be filed with the proposal submitted on behalf of the Offeror for contracts to be let by the Commonwealth Transportation Board.

Signature Date 11-24-2014 Title Operations Manager

Fishburne Drilling Inc
Name of Firm

ATTACHMENT 3.2.10

SCC and DPOR Information



ATTACHMENT 3.2.10

State Project No. 0064-965-264

SCC and DPOR Information

Offerors shall complete the table and include the required state registration and licensure information. By completing this table, Offerors certify that their team complies with the requirements set forth in Section 3.2.10 and that all businesses and individuals listed are active and in good standing.

SCC & DPOR INFORMATION FOR BUSINESSES							
Business Name	**SCC Information**			**DPOR Information**			
	SCC Number	**SCC Type of Corporation**	**SCC Status**	**DPOR Registered Address**	**DPOR Registration Type**	**DPOR Registration Number**	**DPOR Expiration Date**
Denton Concrete Services Company	F0414948	Foreign Corporation	Active	2220 S Waterside Cir Lanexa, VA 23089	Contractor Class A	2701019957	01-31-2016
E. J. Breneman, L.P.	M0089484	Foreign Limited Partnership	Active	1117 Snyder Rd Reading, PA 19609	Contractor Class A	2705088053	09-30-2016
Quinn Consulting Services Incorporated	04925517	Corporation	Active	1801 Pleasure House Rd, Ste 101 & 012 Virginia Beach, VA 23455	Business Entity Branch Office Registration	0411001133	02-29-2016
EBA Engineering, Inc.	F1239005	Foreign Corporation	Active	311 North Madison Rd Orange, VA 22960	Business Entity Branch Office Registration	0411001032	02-29-2016
Fishburne Drilling, Inc.	03080959	Corporation	Active	3219 South Military Highway Chesapeake, VA 23323	Contractor Class A	2705004508	04-30-2016

Commonwealth of Virginia

State Corporation Commission

CERTIFICATE OF GOOD STANDING

I Certify the Following from the Records of the Commission:

That DENTON CONCRETE SERVICES COMPANY, a corporation incorporated under the law of Michigan, is authorized to transact business in the Commonwealth of Virginia;

That it obtained a certificate of authority to transact business in Virginia from the Commission on August 31, 1982; and

That the corporation is in good standing in the Commonwealth of Virginia as of the date set forth below.

Nothing more is hereby certified.

Signed and Sealed at Richmond on this Date:

September 3, 2014

Joel H. Peck, Clerk of the Commission

CISECOM
Document Control Number: 1409035933

Commonwealth of Virginia

STATE CORPORATION COMMISSION

Richmond, March 22, 2000

This is to certify that a certificate of limited partnership was this day admitted to record in this office for

E. J. BRENEMAN, L.P.,

a limited partnership organized under the laws of PENNSYLVANIA, and that the said limited partnership is authorized to transact business in Virginia, subject to all Virginia laws applicable to the limited partnership and its business.

State Corporation Commission
Attest:

Joel H. Peck

Clerk of the Commission

CIS0436

Commonwealth of Virginia

State Corporation Commission

CERTIFICATE OF GOOD STANDING

I Certify the Following from the Records of the Commission:

That QUINN CONSULTING SERVICES INCORPORATED is duly incorporated under the law of the Commonwealth of Virginia;

That the date of its incorporation is October 24, 1997;

That the period of its duration is perpetual; and

That the corporation is in existence and in good standing in the Commonwealth of Virginia as of the date set forth below.

Nothing more is hereby certified.

Signed and Sealed at Richmond on this Date:

August 4, 2014

Joel H. Peck, Clerk of the Commission

CISECOM
Document Control Number: 1408045740

Commonwealth of Virginia

STATE CORPORATION COMMISSION

Richmond, January 2, 1996

This is to certify that a certificate of authority to transact business in Virginia was this day issued and admitted to record in this office for

EBA Engineering, Inc.

a corporation organized under the laws of MARYLAND
and that the said corporation is authorized to transact business in Virginia, subject to all Virginia laws applicable to the corporation and its business.

State Corporation Commission

Attest:

William J. Bridge

Clerk of the Commission

Commonwealth of Virginia

State Corporation Commission

I Certify the Following from the Records of the Commission:

FISHBURNE DRILLING, INC. is a corporation existing under and by virtue of the laws of Virginia, and is in good standing.

The date of incorporation is August 13, 1987.

Nothing more is hereby certified.

Signed and Sealed at Richmond on this Date:
January 24, 2011

Joel H. Peck

Joel H. Peck, Clerk of the Commission

CISCDB

1 hb 96 VBN

03080959

DEPARTMENT OF PROFESSIONAL AND OCCUPATIONAL REGULATION
COMMONWEALTH OF VIRGINIA

9960 Mayland Dr., Suite 400, Richmond, VA 23233
Telephone: (804) 367-8500

EXPIRES ON
01-31-2016

NUMBER
2701019957

BOARD FOR CONTRACTORS
CLASS A CONTRACTOR
CLASSIFICATIONS H/H

DENTON CONCRETE SERVICE COMPANY
22003 HARPER AVE
SAINT CLAIR SHORES , MI 48080

Gordon N. Dixon, Director

ALTERATION OF THIS DOCUMENT, USE AFTER EXPIRATION, OR USE BY PERSONS OR FIRMS OTHER THAN THOSE NAMED MAY RESULT IN CRIMINAL PROSECUTION UNDER THE CODE OF VIRGINIA.

(SEE REVERSE SIDE FOR NAME AND/OR ADDRESS CHANGE)

(POCKET CARD)

COMMONWEALTH OF VIRGINIA
CLASS A BOARD FOR CONTRACTORS
CONTRACTOR

CLASSIFICATIONS H/H
NUMBER: 2701019957 EXPIRES: 01-31-2016

DENTON CONCRETE SERVICE COMPANY
22003 HARPER AVE
SAINT CLAIR SHORES , MI 48080

(DETACH HERE)

DEPARTMENT OF PROFESSIONAL AND OCCUPATIONAL REGULATION
9960 Mayland Dr., Suite 400, Richmond, VA 23233

(FOLD)

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DEPARTMENT OF PROFESSIONAL AND OCCUPATIONAL REGULATION
COMMONWEALTH OF VIRGINIA

9960 Mayland Dr., Suite 400, Richmond, VA 23233
Telephone: (804) 367-8500

EXPIRES ON
09-30-2014

NUMBER
2705088053

BOARD FOR CONTRACTORS
CLASS A CONTRACTOR
CLASSIFICATIONS H/H

E J BRENEMAN L P
1117 SNYDER RD
READING, PA 19609

Gordon N. Dixon, Director

ALTERATION OF THIS DOCUMENT, USE AFTER EXPIRATION, OR USE BY PERSONS OR FIRMS OTHER THAN THOSE NAMED MAY RESULT IN CRIMINAL PROSECUTION UNDER THE CODE OF VIRGINIA.

(SEE REVERSE SIDE FOR NAME AND/OR ADDRESS CHANGE)

(POCKET CARD)

COMMONWEALTH OF VIRGINIA
CLASS A BOARD FOR CONTRACTORS
CONTRACTOR

CLASSIFICATIONS H/H
NUMBER: 2705088053 EXPIRES: 09-30-2014

E J BRENEMAN L P
1117 SNYDER RD
READING, PA 19609

(FOLD)

(DETACH HERE)

DEPARTMENT OF PROFESSIONAL AND OCCUPATIONAL REGULATION
9960 Mayland Dr., Suite 400, Richmond, VA 23233

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DEPARTMENT OF PROFESSIONAL AND OCCUPATIONAL REGULATION
COMMONWEALTH OF VIRGINIA

9960 Mayland Dr., Suite 400, Richmond, VA 23233
Telephone: (804) 367-8500

EXPIRES ON
02-29-2016

NUMBER
0411001133

BOARD FOR ARCHITECTS, PROFESSIONAL ENGINEERS, LAND SURVEYORS, CERTIFIED INTERIOR DESIGNERS AND LANDSCAPE ARCHITECTS
BUSINESS ENTITY BRANCH OFFICE REGISTRATION

PROFESSIONS: ENG

QUINN CONSULTING SERVICES INC
1801 PLEASURE HOUSE RD
STE 101 & 102
VIRGINIA BEACH, VA 23455

Jay W. DeBoer, Director

ALTERATION OF THIS DOCUMENT, USE AFTER EXPIRATION, OR USE BY PERSONS OR FIRMS OTHER THAN THOSE NAMED MAY RESULT IN CRIMINAL PROSECUTION UNDER THE CODE OF VIRGINIA.

(SEE REVERSE SIDE FOR NAME AND/OR ADDRESS CHANGE)

(POCKET CARD)

COMMONWEALTH OF VIRGINIA

BOARD FOR APELSCIDLA
BUSINESS ENTITY BRANCH OFFICE REGISTRATION
NUMBER: 0411001133 EXPIRES: 02-29-2016
PROFESSIONS: ENG
QUINN CONSULTING SERVICES INC
1801 PLEASURE HOUSE RD
STE 101 & 102
VIRGINIA BEACH, VA 23455

(FOLD)

(DETACH HERE)

DEPARTMENT OF PROFESSIONAL AND OCCUPATIONAL REGULATION
9960 Mayland Dr., Suite 400, Richmond, VA 23233

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10010 (7/11) 107028-3

DEPARTMENT OF PROFESSIONAL AND OCCUPATIONAL REGULATION
COMMONWEALTH OF VIRGINIA

9960 Mayland Dr., Suite 400, Richmond, VA 23233
Telephone: (804) 367-8500

EXPIRES ON
02-29-2016

NUMBER
0411001032

BOARD FOR ARCHITECTS, PROFESSIONAL ENGINEERS, LAND SURVEYORS, CERTIFIED INTERIOR DESIGNERS AND LANDSCAPE ARCHITECTS
BUSINESS ENTITY BRANCH OFFICE REGISTRATION

PROFESSIONS: ENG

EBA ENGINEERING INC
311 NORTH MADISON RD
ORANGE, VA 22960

Gordon N. Dixon, Director

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(SEE REVERSE SIDE FOR NAME AND/OR ADDRESS CHANGE)

DEPARTMENT OF PROFESSIONAL AND OCCUPATIONAL REGULATION
COMMONWEALTH OF VIRGINIA

EXPIRES ON
04-30-2016

9960 Mayland Dr., Suite 400, Richmond, VA 23233
Telephone: (804) 367-8500

NUMBER
2705004508

BOARD FOR CONTRACTORS
CLASS A CONTRACTOR
CLASSIFICATIONS EMW WWP

FISHBURNE DRILLING INC
3219 SOUTH MILITARY HIGHWAY
CHESAPEAKE, VA 23323

Nick A. Christner
Nick A. Christner, Interim Director

ALTERATION OF THIS DOCUMENT, USE AFTER EXPIRATION, OR USE BY PERSONS OR FIRMS OTHER THAN THOSE NAMED MAY RESULT IN CRIMINAL PROSECUTION UNDER THE CODE OF VIRGINIA.

(SEE REVERSE SIDE FOR NAME AND/OR ADDRESS CHANGE)

(POCKET CARD)

COMMONWEALTH OF VIRGINIA
CLASS A BOARD FOR CONTRACTORS
CONTRACTOR

CLASSIFICATIONS EMW WWP
NUMBER: 2705004508 EXPIRES: 04-30-2016

FISHBURNE DRILLING INC
3219 SOUTH MILITARY HIGHWAY
CHESAPEAKE, VA 23323

(FOLD)

(DETACH HERE)

DEPARTMENT OF PROFESSIONAL AND OCCUPATIONAL REGULATION
9960 Mayland Dr., Suite 400, Richmond, VA 23233

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ORIGINAL

Technical Proposal: Volume II

INTERSTATE 64 CAPACITY IMPROVEMENTS – SEGMENT I

Newport News, Virginia

State Project No.: 0064-965-264, P101, R201, C501, B616, B617, B618, B619, B620, B621, D601, D602
Federal Project No.: NHS-064-3
Contract ID Number: C00104905DB75

SUBMITTED BY:

WAGMAN
BRIDGING GENERATIONS · SINCE 1902

KCI

FOR INDEX OF SHEETS SEE SHEET 1B

FHWA - 534 DATA 3A103

STATE	FEDERAL AID PROJECT	STATE ROUTE	STATE PROJECT	SHEET NO.
VA.	NHS-064-3( ) (SEE TABULATION BELOW FOR SECTION NUMBERS)	64	(FO) 0064-965-264 (SEE TABULATION BELOW FOR SECTION NUMBERS)	1

THIS PROJECT WAS DEVELOPED UTILIZING THE DEPARTMENT'S ENGINEERING DESIGN PACKAGE (GEOPAK).
GEOPAK Computer Identification No. 104905

COMMONWEALTH OF VIRGINIA

DEPARTMENT OF TRANSPORTATION

PLAN AND PROFILE OF PROPOSED STATE HIGHWAY

CITY OF NEWPORT NEWS
I-64 CAPACITY IMPROVEMENTS - SEGMENT 1
FROM: 0.50 MILES EAST OF ROUTE 238 (YORKTOWN ROAD)
TO: 1.55 MILES WEST OF ROUTE 143 (JEFFERSON AVENUE)

PROJ. 0064-965-264, P-101, R-201, C-501, B-616, B-617, B-618, B-619, B-620, B-621, D-601, D-602

FUNCTIONAL CLASSIFICATION AND TRAFFIC DATA	
Interstate - Urban Principal Arterial - 70 MPH Min. Design Speed	
	FROM: 0.50 MILES EAST OF ROUTE 238 (YORKTOWN ROAD) TO: 1.55 MILES WEST OF ROUTE 143 (JEFFERSON AVENUE)
ADT (2014)	100,000
ADT (2036)	136,000
DHV	11,000
D (%) (design hour)	50%
T (%) (design hour)	3%
V (MPH)	*

* See plan and profile sheets for horizontal and vertical curve design speeds

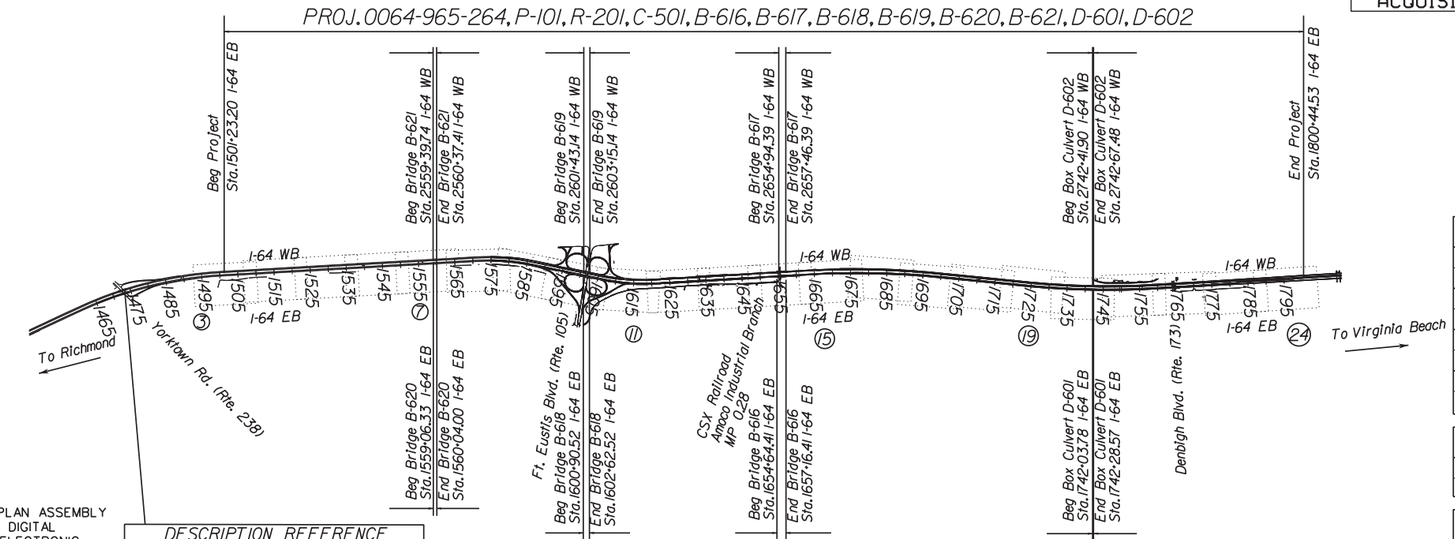
WAGMAN TEAM PLANS
DECEMBER 2, 2014
THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

PROJECT MANAGER Janet M. Hendrick, P.E. (757) 494-5478 (Hampton Roads District)
SURVEYED BY, DATE Rice Associates (757) 306-4260
DESIGN BY Stephen Drumm, P.E. (410) 316-7960 (KCI)
SUBSURFACE UTILITY BY, DATE JMT (757) 499-1895

CONVENTIONAL SIGNS

STATE LINE
COUNTY LINE
CITY, TOWN OR VILLAGE
RIGHT OF WAY LINE
FENCE LINE
UNFENCED PROPERTY LINE
FENCED PROPERTY LINE
WATER LINE
SANITARY SEWER LINE
GAS LINE
ELECTRIC UNDERGROUND CABLE
TRAVELED WAY
GUARD RAIL
RETAINING WALL
RAILROADS
BASE OR SURVEY LINE

LEVEE OR EMBANKMENT
BRIDGES
CULVERTS
DROP INLET
POWER POLES
TELEPHONE OR TELEGRAPH POLES
TELEPHONE OR TELEGRAPH LINES
HEDGE
TREES
HEAVY WOODS
GROUND ELEVATION
GRADE ELEVATION



DESCRIPTION REFERENCE
I-64 EB STA.1473+27.16 CONSTR.BL
Yorktown Road (RTE. 238)

City of Newport News Population 180,916 (2010 Census)

SCALE
0 2000' 4000'

TIER 2 PROJECT

RECOMMENDED FOR APPROVAL FOR RIGHT OF WAY ACQUISITION	
DATE	PROGRAMMING DIVISION DIRECTOR
DATE	STATE LOCATION AND DESIGN ENGINEER
DATE	CHIEF OF PROGRAMMING AND PLANNING
DATE	CHIEF ENGINEER

APPROVED FOR RIGHT OF WAY ACQUISITION	
DATE	CHIEF OF POLICY

RECOMMENDED FOR APPROVAL FOR CONSTRUCTION	
DATE	PROGRAMMING DIVISION DIRECTOR
DATE	STATE LOCATION AND DESIGN ENGINEER
DATE	STATE STRUCTURE AND BRIDGE ENGINEER
DATE	CHIEF OF PROGRAMMING AND PLANNING

APPROVED FOR CONSTRUCTION	
DATE	CHIEF ENGINEER

APPROVED	
DATE	DIVISION ADMINISTRATOR FEDERAL HIGHWAY ADMINISTRATION U.S. DEPARTMENT OF TRANSPORTATION

THE COMPLETE ELECTRONIC PDF VERSION OF THE PLAN ASSEMBLY AS AWARDED, HAS BEEN SEALED AND SIGNED USING DIGITAL SIGNATURES AND THE OFFICIAL PLAN ASSEMBLY IN ELECTRONIC FORMAT IS STORED IN THE VDOT CENTRAL OFFICE PLAN LIBRARY, INCLUDING ALL SUBSEQUENT REVISIONS, WILL BE THE OFFICIAL CONSTRUCTION PLANS. FOR INFORMATION RELATIVE TO ELECTRONIC FILES AND LAYERED PLANS, SEE THE GENERAL NOTES.

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

THIS PROJECT IS TO BE CONSTRUCTED IN ACCORDANCE WITH THE DEPARTMENT'S 2007 ROAD AND BRIDGE SPECIFICATIONS, 2008 ROAD AND BRIDGE STANDARDS, 2009 MUTCD, 2011 VIRGINIA SUPPLEMENT TO THE MUTCD, 2011 VIRGINIA WORK AREA PROTECTION MANUAL AND AS AMENDED BY CONTRACT PROVISIONS AND THE COMPLETE ELECTRONIC PDF VERSION OF THE PLAN ASSEMBLY.

ALL CURVES ARE TO BE SUPERELEVATED, TRANSITIONED AND WIDENED IN ACCORDANCE WITH STANDARD TC-5.11R, EXCEPT WHERE OTHERWISE NOTED.

THE ORIGINAL APPROVED TITLE SHEET(S), INCLUDING ORIGINAL SIGNATURES, ARE FILED IN THE VDOT CENTRAL OFFICE PLAN LIBRARY. ANY MISUSE OF ELECTRONIC FILES, INCLUDING SCANNED SIGNATURES, IS ILLEGAL AND ENFORCED TO THE FULL EXTENT OF THE LAW.

STATE PROJECT NO.	SECTION	FEDERAL AID PROJECT NO.	TYPE CODE	UPC NO.	EQUALITIES FEET	LENGTH INCLUDING BRIDGE(S) FEET	LENGTH INCLUDING BRIDGE(S) MILES	LENGTH EXCLUDING BRIDGE(S) FEET	LENGTH EXCLUDING BRIDGE(S) MILES	BRIDGE PROJECT NO.	TYPE PROJECT	DESCRIPTION
0064-965-264	P-101	NHS-064-3(479)	PENG	104905	NONE	29921.33	5.667	29399.66	5.568		Prelim. Engr.	FROM: 0.50 MILES EAST OF ROUTE 238 (YORKTOWN ROAD) TO: 1.55 MILES WEST OF ROUTE 143 (JEFFERSON AVENUE)
	R-201	NHS-064-3(479)	ROWA	104905	NONE	29921.33	5.667	29399.66	5.568		Right of Way	
	C-501	NHS-064-3(479)		104905	NONE	29921.33	5.667	29399.66	5.568		Construction	
	B-616	NHS-064-3(479)	X531	104905	NONE	252.00	0.048				Constr. - Rehab.	64 EB Bridge @ Industrial Park Dr. & CSX
	B-617	NHS-064-3(479)	X531	104905	NONE	252.00	0.048				Constr. - Rehab.	64 WB Bridge @ Industrial Park Dr. & CSX
	B-618	NHS-064-3(479)	X231	104905	NONE	172.00	0.033				Constr. - Rehab.	64 EB Bridge @ Fort Eustis Blvd.
	B-619	NHS-064-3(479)	X231	104905	NONE	172.00	0.033				Constr. - Rehab.	64 WB Bridge @ Fort Eustis Blvd.
	B-620	NHS-064-3(479)	X081	104905	NONE	97.67	0.018				Constr. - Rehab.	64 EB Bridge Lee Hall Reservoir
	B-621	NHS-064-3(479)	X081	104905	NONE	97.67	0.018				Constr. - Rehab.	64 WB Bridge Lee Hall Reservoir
	D-601	NHS-064-3(479)	X028	104905	NONE	24.79	0.004				Constr. - Rehab.	64 EB Box Culvert @ Stony Run
	D-602	NHS-064-3(479)	X028	104905	NONE	25.58	0.004				Constr. - Rehab.	64 WB Box Culvert @ Stony Run

Project Lengths are based on I-64 EB Construction Baseline.

REVISED

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PROJECT MANAGER Janet M. Hendrick, P.E. (757) 494-5478 (Hampton Roads District)
SURVEYED BY, DATE Rice Associates (757) 306-4260
DESIGN BY Stephen Drumm, P.E. (410) 316-7960 (KCI)
SUBSURFACE UTILITY BY, DATE Rice Associates (757) 306-4260

WAGAMAN TEAM PLANS
DECEMBER 2, 2014
THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

TYPICAL SECTIONS
I-64 MAINLINE

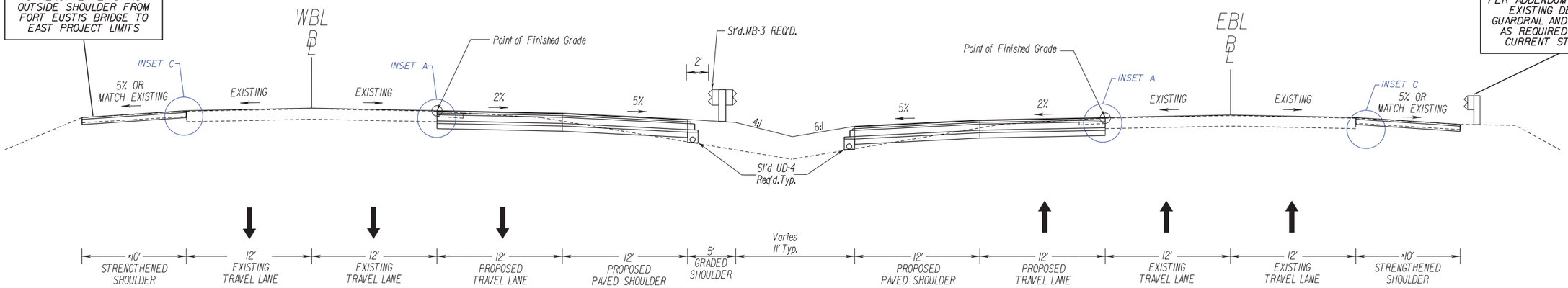
REVISED	STATE	ROUTE	PROJECT	SHEET NO.
	VA.	64	0064-965-264, R-201, C-501	2

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

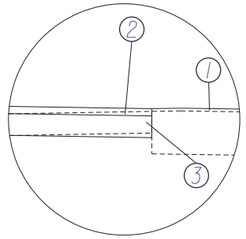
VDOT (Division) or Co. Name (Location), Virginia (TECHNICAL DISCIPLINE)

RFP REQUIREMENT
PER ADDENDUM #3: STRENGTHEN EXISTING OUTSIDE SHOULDER FROM FORT EUSTIS BRIDGE TO EAST PROJECT LIMITS

RFP REQUIREMENT
PER ADDENDUM #1: UPGRADE EXISTING DEFICIENT GUARDRAIL AND TERMINALS AS REQUIRED TO MEET CURRENT STANDARDS



INSET C
PAVEMENT SECTION - SHOULDER STRENGTHENING



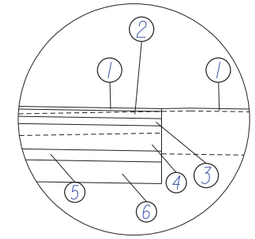
NOT TO SCALE

1. 0.75" Thin Hot Mix Asphalt Concrete Overlay (THMACO)
2. 2" Asphalt Concrete, IM-19.0A
3. 4" Asphalt Concrete, BM-25.0D

STATION TO STATION

(I-64 WB)	(I-64 EB)
2501+79 - 2559+40	1501+45 - 1559+06
2589+30 - 2601+43	1588+75 - 1600+91
*2610+60 - 2613+70	*1610+10 - 1613+25
*2756+10 - 2763+95	*1755+75 - 1763+65
*2765+55 - 2796+40	*1765+20 - 1796+05

INSET A
PAVEMENT SECTION - BASE BID



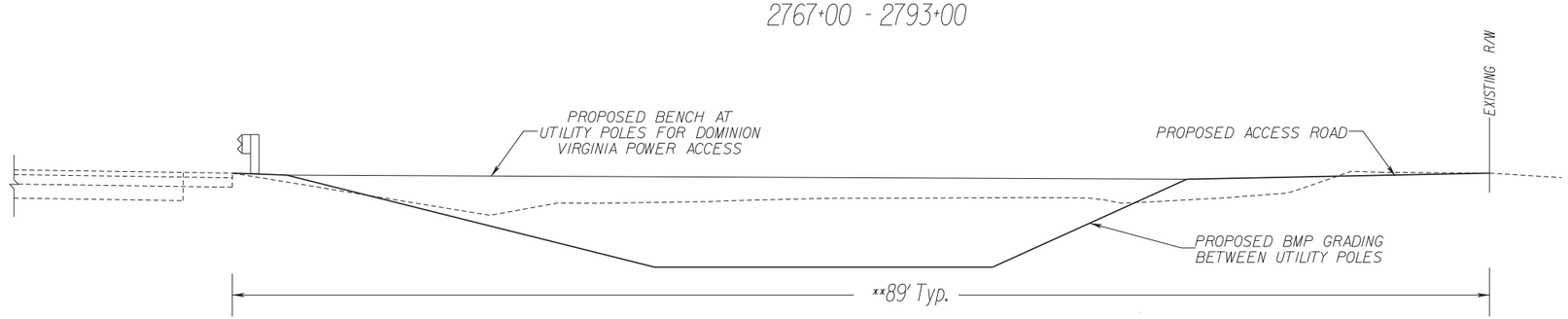
NOT TO SCALE

1. 0.75" Thin Hot Mix Asphalt Concrete Overlay (THMACO)
2. 2" Asphalt Concrete, SMA-12.5 PG76-22
3. 2" Asphalt Concrete, SMA-19.0 PG76-22
4. 7" Asphalt Concrete, BM-25.0D
5. 3" Open Graded Drainage Layer - Asphalt or Cement Stabilized
6. 6" Cement Stabilized Aggregate, Type I, No. 21A, 4% Cement, pugmill

I-64 PROPOSED BMP "K & L"
STATION TO STATION
(I-64 WB)

2767+00 - 2793+00

** NOTE: HORIZONTAL OFFSET VARIES SEE PLAN VIEW FOR ALIGNMENT



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

LIMITED ACCESS HIGHWAY

By Resolution of Highway Commission dated October 4, 1956

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DECEMBER 2, 2014

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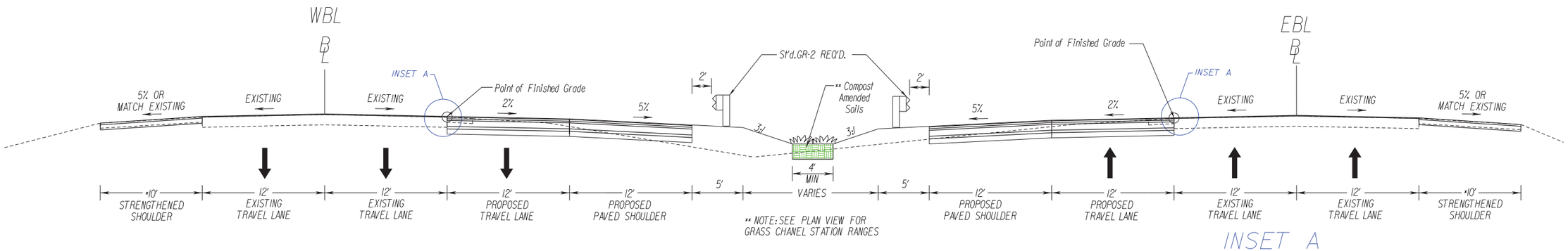
TYPICAL SECTIONS
I-64 MAINLINE

VDOT (Division) or Co. Name (Location), Virginia (TECHNICAL DISCIPLINE)

VDOT (Division) or Co. Name (Location), Virginia (TECHNICAL DISCIPLINE)

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

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



STATION TO STATION

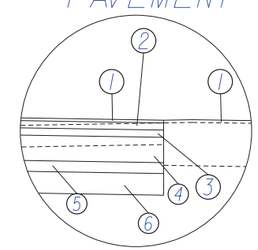
(I-64 WB)

*2674+75 - 2688+35

(I-64 EB)

*1674+40 - 1687+98

INSET A
PAVEMENT SECTION - BASE BID



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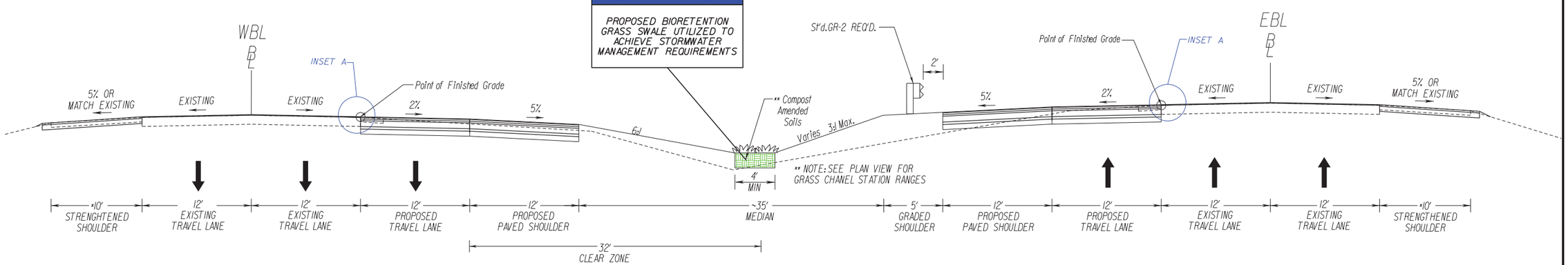
2. 2" Asphalt Concrete, SMA-12.5 PG76-22
3. 2" Asphalt Concrete, SMA-19.0 PG76-22
4. 7" Asphalt Concrete, BM-25.0D
5. 3" Open Graded Drainage Layer - Asphalt Stabilized
6. 6" Cement Stabilized Aggregate, Type I, No. 21A, 4% Cement, pugmill

DESIGN CONCEPT

PROPOSED BIORETENTION GRASS SWALE UTILIZED TO ACHIEVE STORMWATER MANAGEMENT REQUIREMENTS



STATION TO STATION

(I-64 WB)

*2652+31 - 2654+18

*2670+45 - 2674+75

(I-64 EB)

*1652+00 - 1653+89

*1670+15 - 1674+40

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

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TYPICAL SECTIONS
I-64 MAINLINE

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

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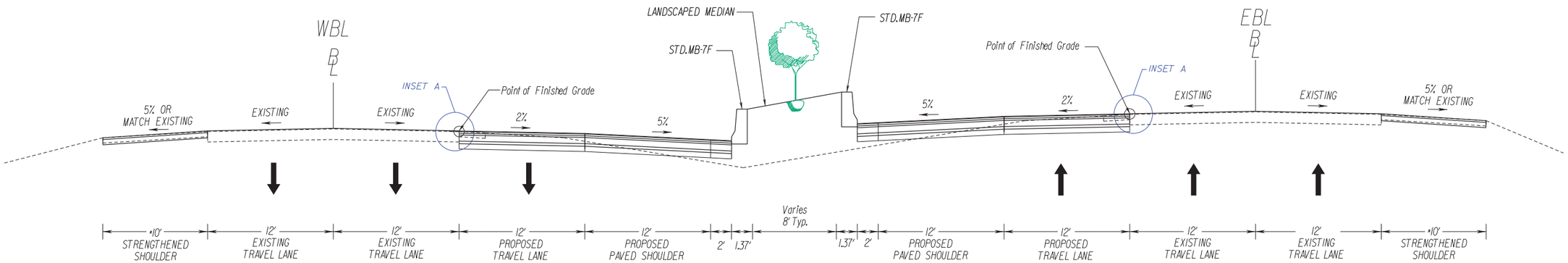
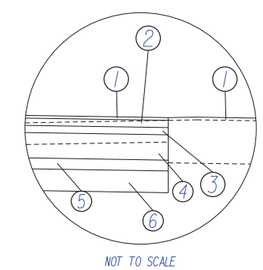


STATION TO STATION

(I-64 WB)	(I-64 EB)
2560+37 - 2589+30	1560+04 - 1588+75
*2603+15 - 2610+10	*1602+63 - 1610+10
*2688+35 - 2756+10	*1687+95 - 1755+75
*2763+95 - 2765+55	*1763+65 - 1765+20

INSET A
PAVEMENT SECTION - BASE BID



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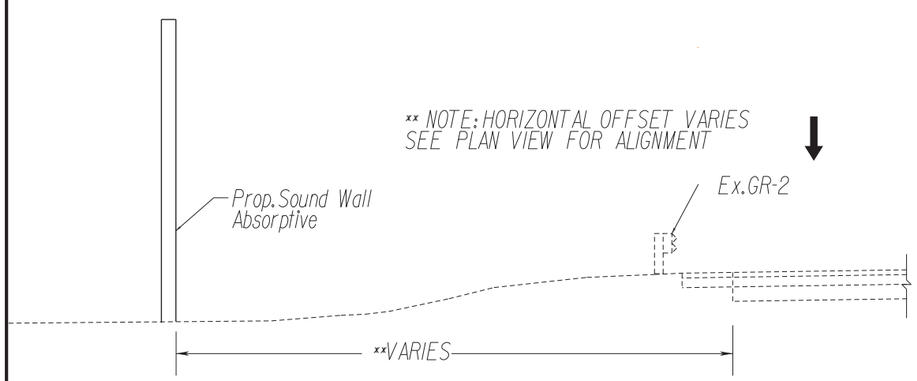
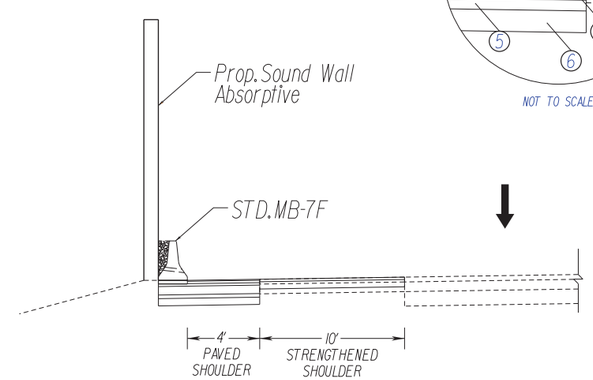


PROP. I-64 SOUND BARRIER WALL
STATION TO STATION

(I-64 WB)	(I-64 EB)
2610+90 - 2655+50	1610+40 - 1655+00
2684+28 - 2732+61	1683+32 - 1732+19
2746+17 - 2764+13	1745+35 - 1763+27



PROP. I-64 SOUND BARRIER WALL
STATION TO STATION

(I-64 WB)	(I-64 EB)
2732+61 - 2746+17	1732+19 - 1745+35

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

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

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TYPICAL SECTIONS
I-64 MAINLINE

VDOT (Division) or Co. Name (Location), Virginia
(TECHNICAL DISCIPLINE)

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

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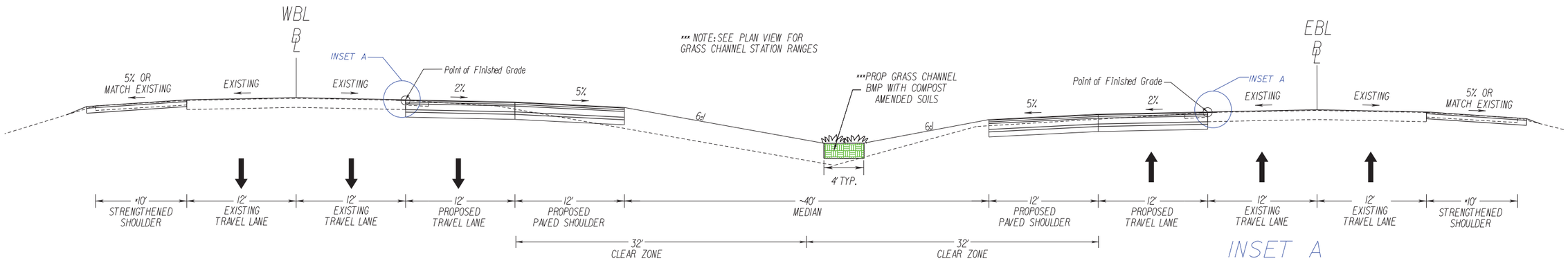
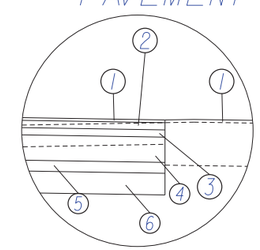


STATION TO STATION

(I-64 WB)	(I-64 EB)
*2613+72 - 2627+00	*1613+27 - 1626+69
*2644+81 - 2652+31	*1644+50 - 1652+00
*2660+09 - 2669+97	*1657+16 - 1670+15

INSET A
PAVEMENT SECTION - BASE BID



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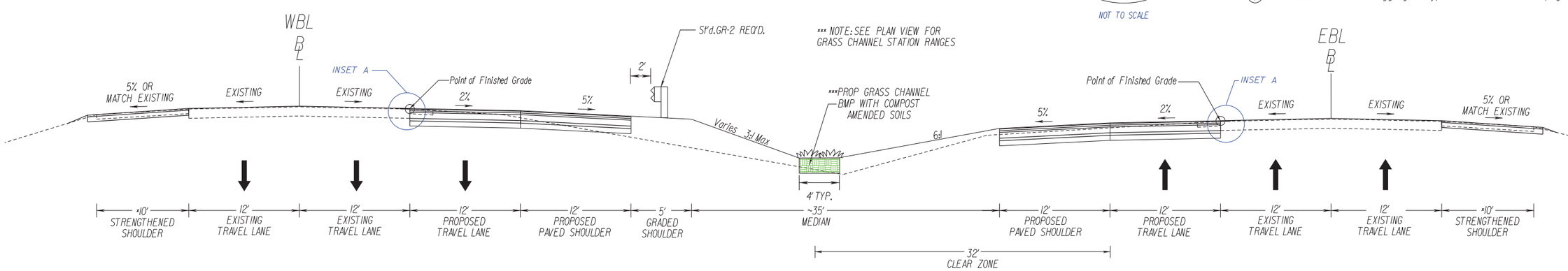

STATION TO STATION

(I-64 WB)	(I-64 EB)
*2607+19 - 2613+22	*1606+64 - 1613+27
*2627+00 - 2644+81	*1626+70 - 1644+50
*2658+16 - 2660+09	*1657+86 - 1659+80

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	VA.	64	0064-965-264, R-201, C-501	2D

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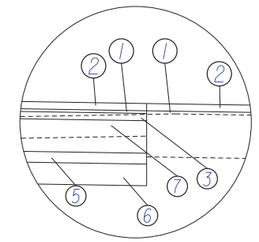

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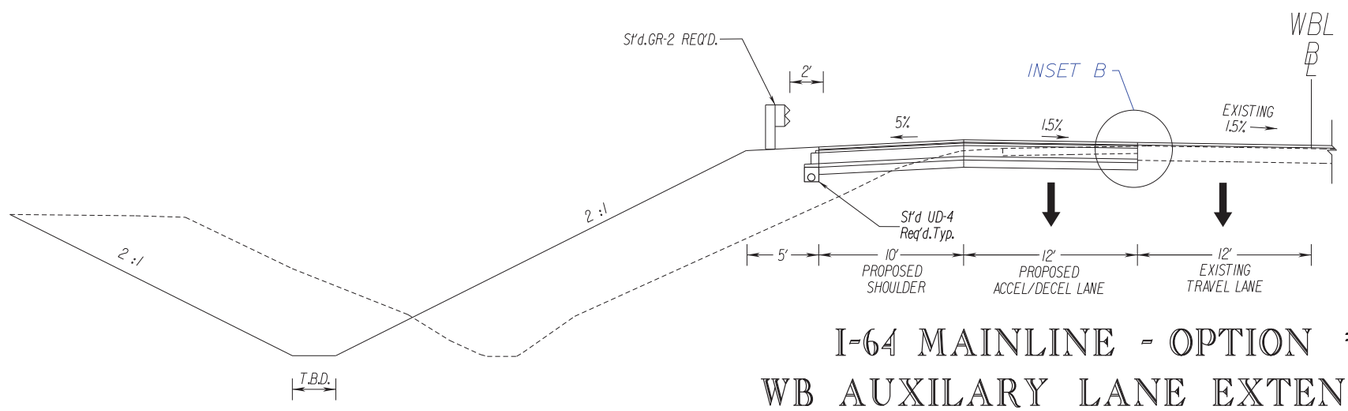
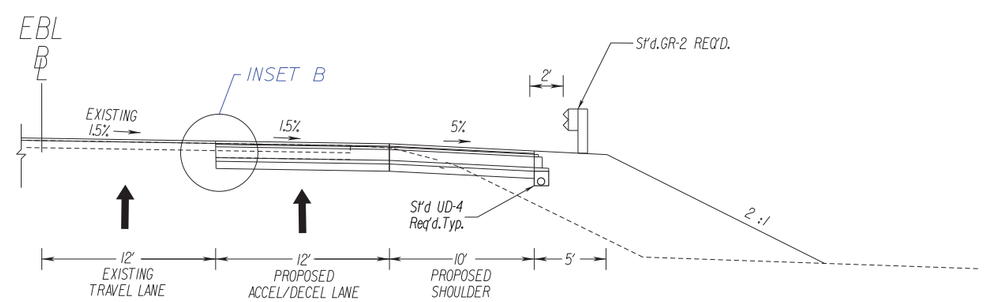
7. 9" Asphalt Concrete, BM-25.0D

I-64 - OPTION #1
PAVEMENT SECTION



I-64 MAINLINE - OPTION #2
WB AUXILARY LANE EXTENSIONS



I-64 MAINLINE - OPTION #2
EB AUXILARY LANE EXTENSIONS

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

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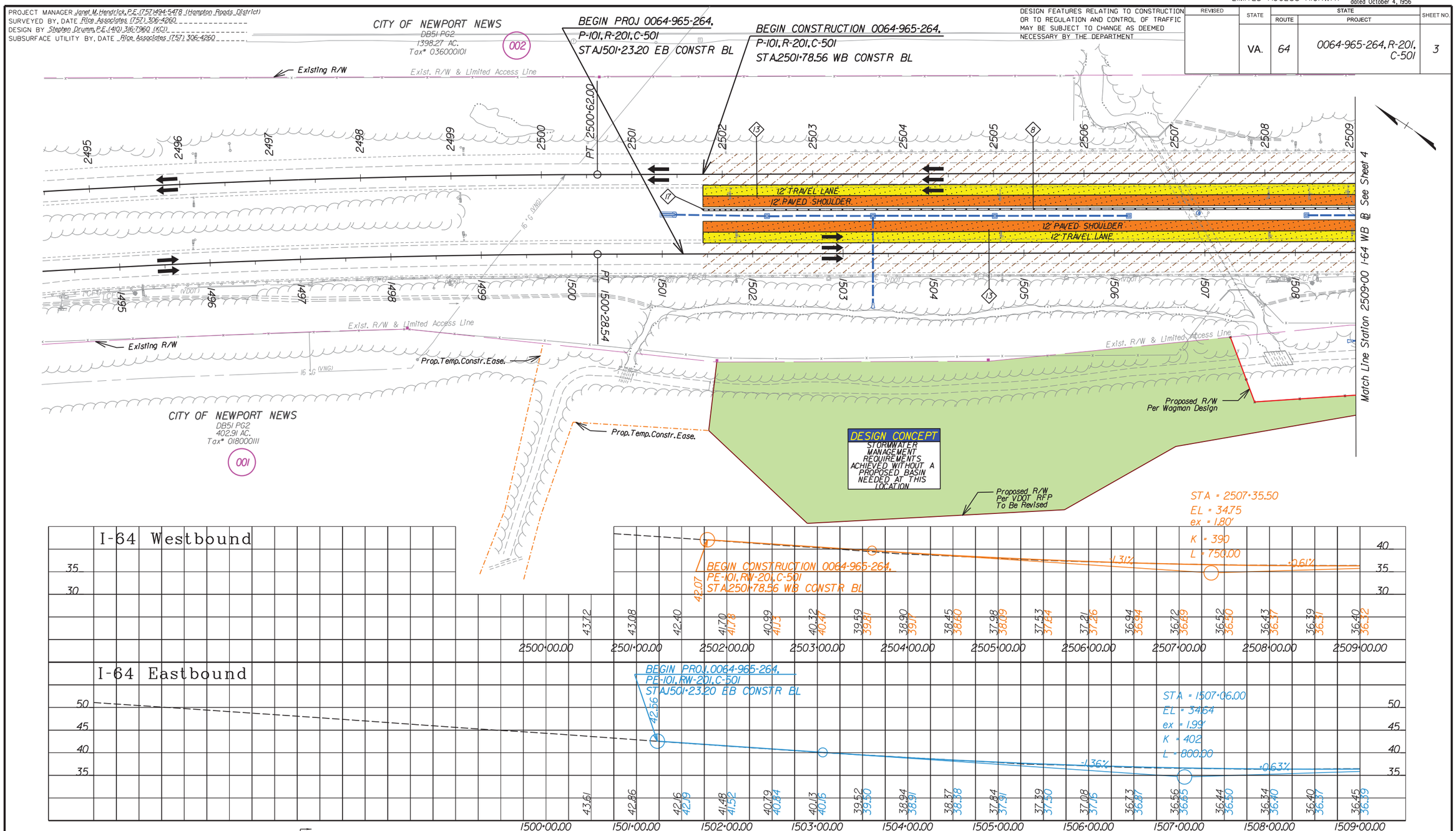
	VA.	64	0064-965-264, R-201, C-501	3



WAGMAN TEAM PLANS
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C — Denotes Construction Limits In Cuts
F — Denotes Construction Limits In Fills
Proposed Right of Way (VDOT RFP Concept Design)
Proposed Right of Way (Wagman Team Concept Design)
Proposed Right of Way Reduction
Proposed Pavement Overlay
Proposed Full Depth Pavement
Proposed Grass Channel BMP

1. Std. GR-2 Guardrail Req'd.
2. Std. GR-6 Guardrail Terminal Req'd.
3. Reset Existing GR-2 Guardrail Height
4. Std. GR-9 Guardrail Terminal Req'd.
5. Std. GR-11 Guardrail Terminal Req'd.
6. Std. GR-FOA-2 Type I Fixed Object Attachment Req'd.
7. Std. GR-FOA-2 Type II Fixed Object Attachment Req'd.
8. Std. MB-3 W-Beam Median Barrier Req'd.
9. Std. MB-7F Single Face Barrier Req'd.
10. Remove Existing Guardrail
11. Remove Existing Guardrail Terminal
12. Std. RW-2 Retaining Wall Req'd.
13. Std. UD-4 Underdrain Req'd.
14. Std. CD-2 Cross Drain Req'd.
15. Std. EW-12 Endwall Req'd.
16. Proposed Saw Cut Line
17. CAT or BRAKEMASTER Median Terminal Req'd
18. Existing Overhead Sign Structure To Remain Update Sign Panel as Req'd.

SCALE	PROJECT	SHEET NO.
0 50' 100'	0064-965-264	3

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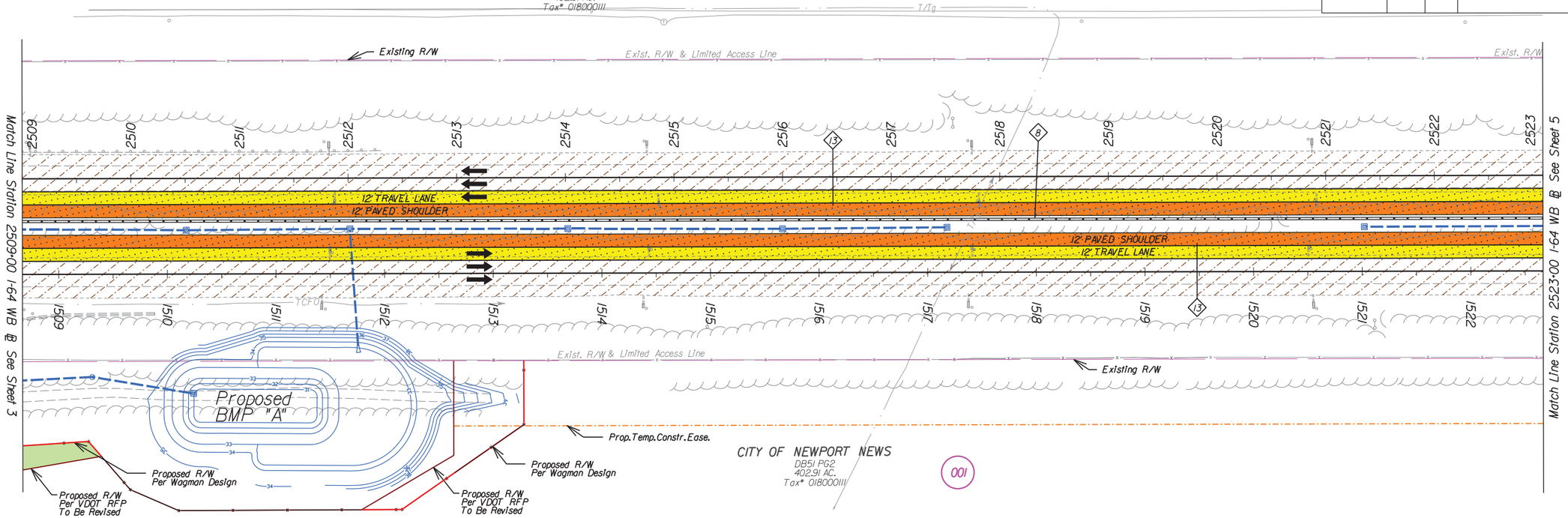
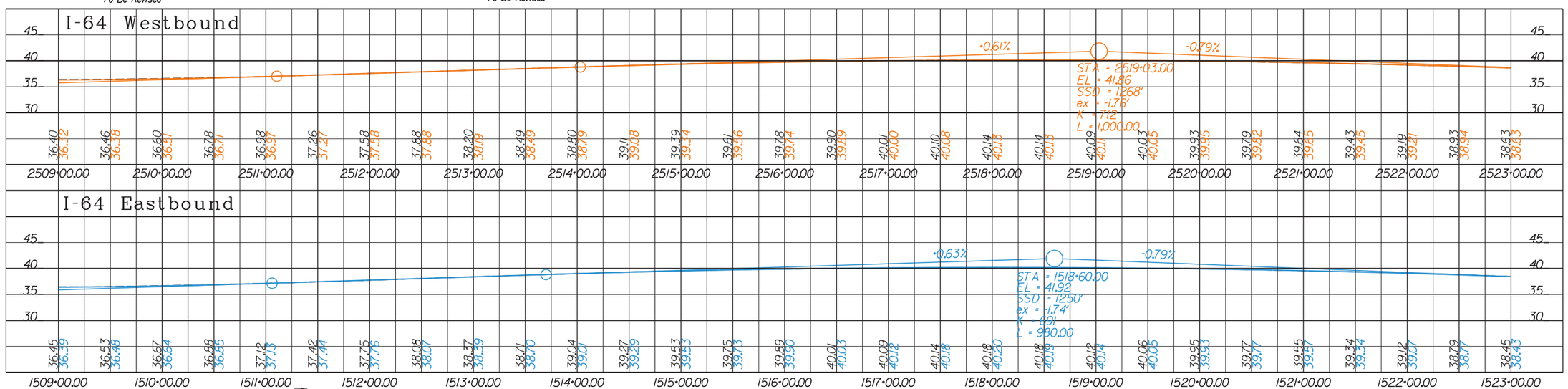
	VA.	64	0064-965-264, R-201, C-501	4





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- Proposed Right of Way Reduction
- Proposed Pavement Overlay
- Proposed Full Depth Pavement
- Proposed Grass Channel BMP

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2. Std.GR-6 Guardrail Terminal Req'd.
3. Reset Existing GR-2 Guardrail Height
4. Std.GR-9 Guardrail Terminal Req'd.
5. Std.GR-11 Guardrail Terminal Req'd.
6. Std.GR-FOA-2 Type I Fixed Object Attachment Req'd.
7. Std.GR-FOA-2 Type II Fixed Object Attachment Req'd.
8. Std.MB-3 W-Beam Median Barrier Req'd.
9. Std.MB-7F Single Face Barrier Req'd.
10. Remove Existing Guardrail
11. Remove Existing Guardrail Terminal
12. Std.RW-2 Retaining Wall Req'd.
13. Std.UD-4 Underdrain Req'd.
14. Std.CD-2 Cross Drain Req'd.
15. Std.EW-12 Endwall Req'd.
16. Proposed Saw Cut Line
17. CAT or BRAKEMASTER Median Terminal Req'd
18. Existing Overhead Sign Structure To Remain Update Sign Panel as Req'd.

SCALE 0 50' 100'

PROJECT	SHEET NO.
0064-965-264	4

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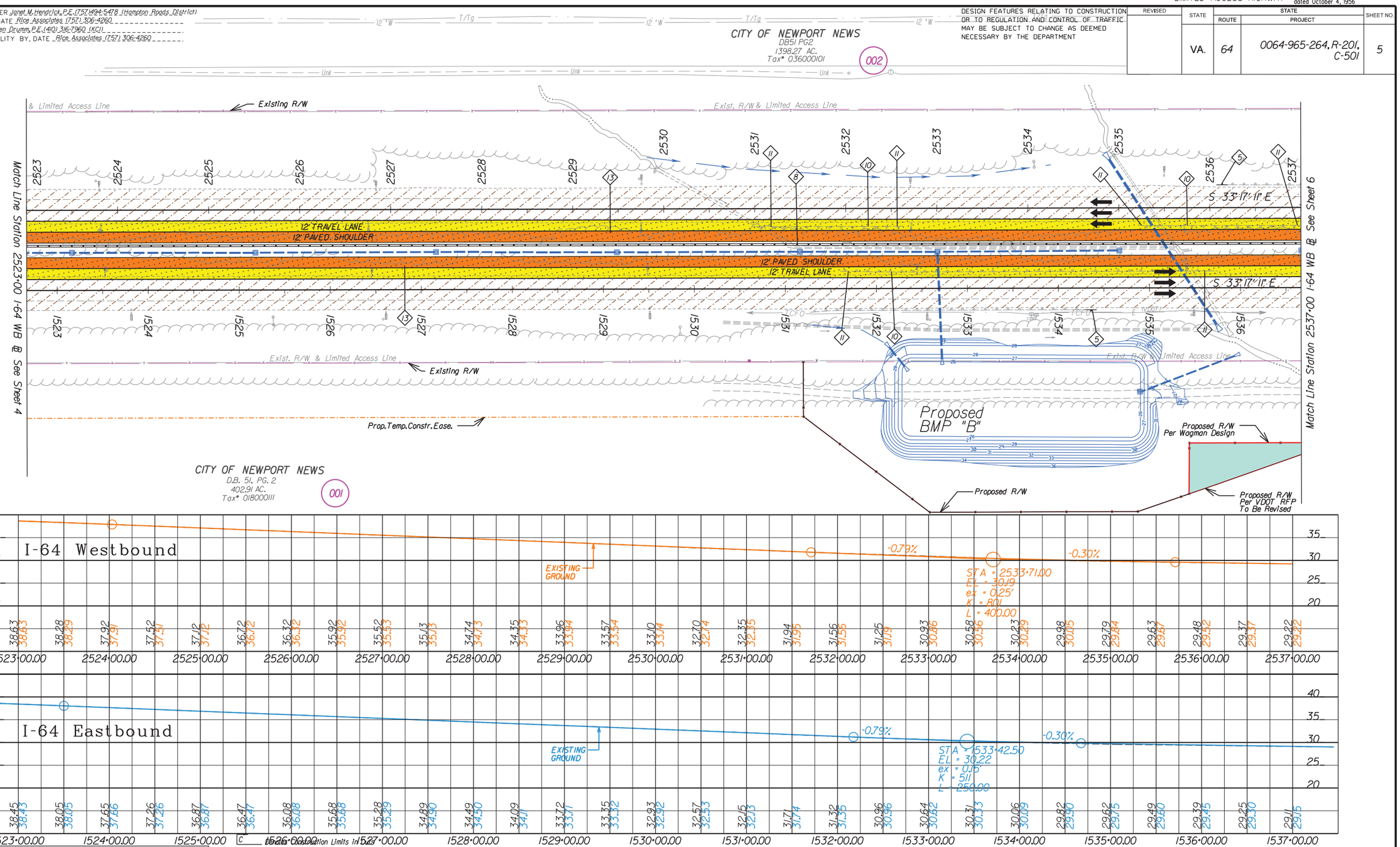

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17. CAT or BRAKEMASTER Median Terminal Req'd
18. Existing Overhead Sign Structure To Remain Update Sign Panel as Req'd.

SCALE 0 50' 100'

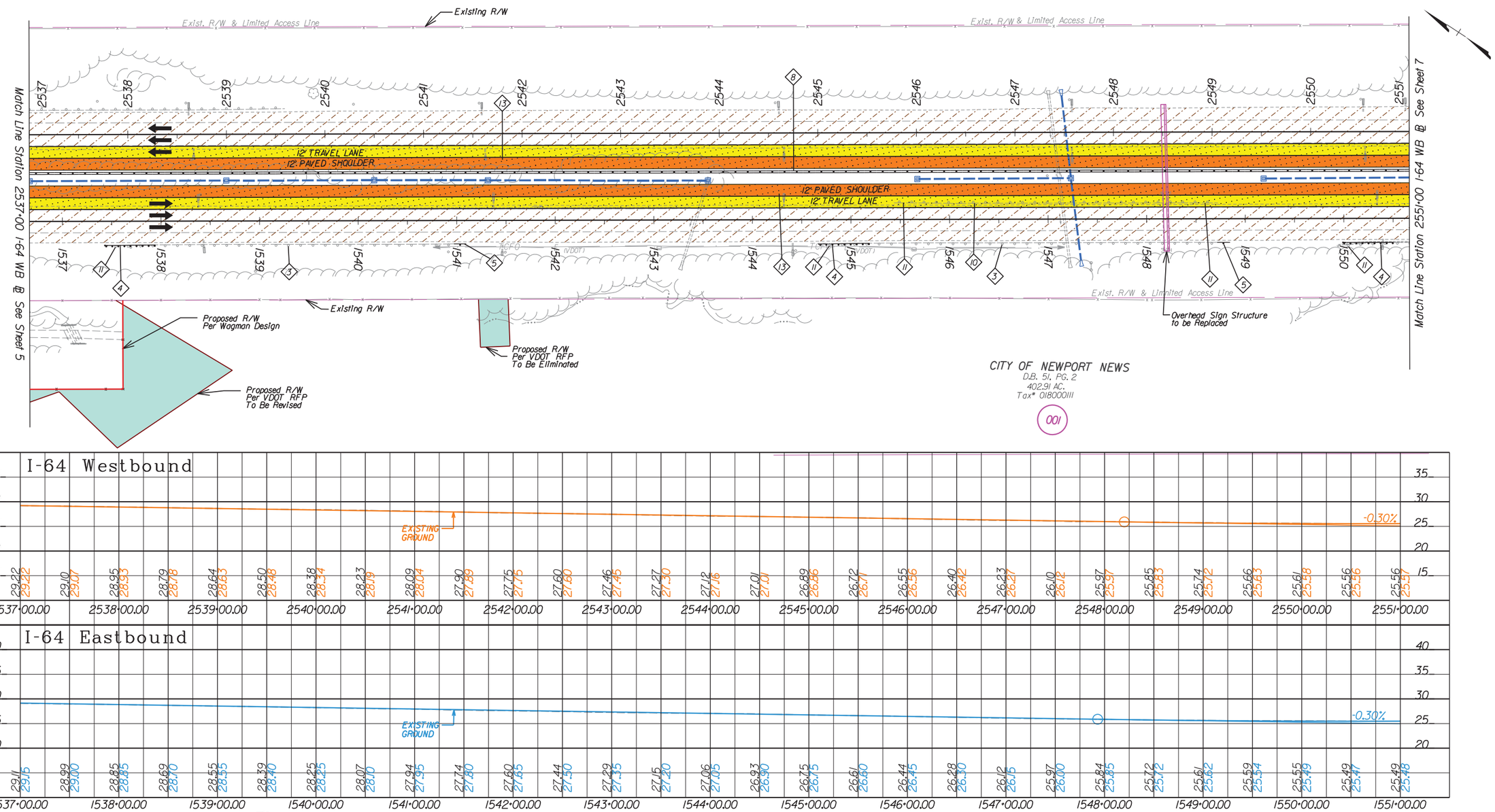
PROJECT	SHEET NO.
0064-965-264	5

PROJECT MANAGER Janet M. Hendrick, P.E. (757) 494-5478 (Hampton Roads District)
SURVEYED BY, DATE Rice Associates (757) 306-4260
DESIGN BY Stephen Drumm, P.E. (410) 316-7960 (KCI)
SUBSURFACE UTILITY BY, DATE Rice Associates (757) 306-4260

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

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

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



WAGMAN TEAM PLANS
DECEMBER 2, 2014

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16. Proposed Saw Cut Line
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SCALE 0 50' 100'

PROJECT	SHEET NO.
0064-965-264	6

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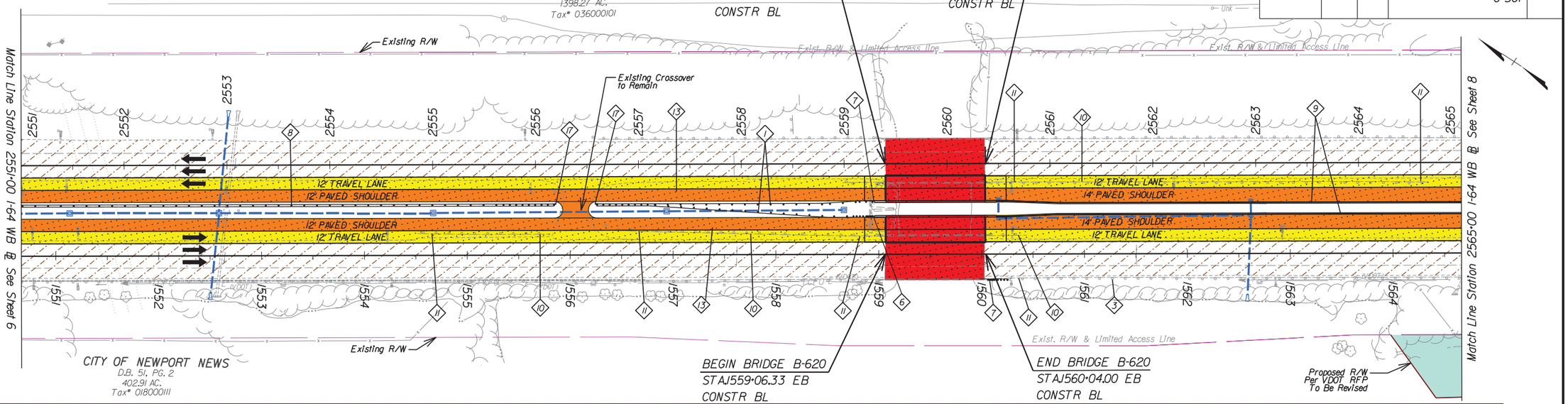
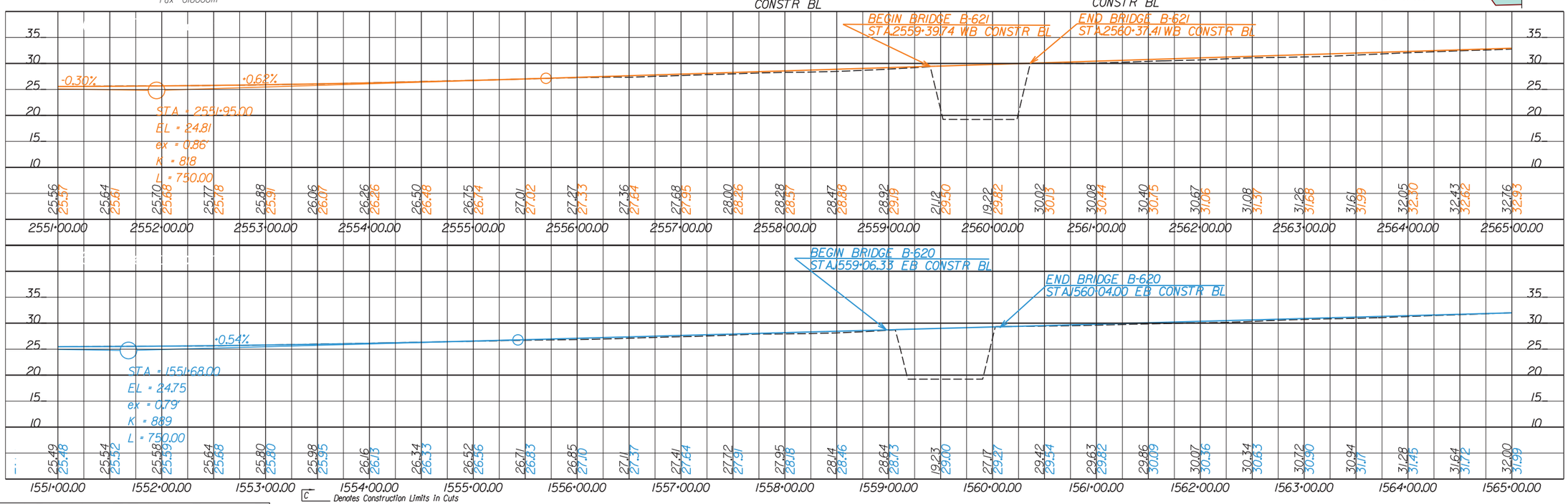
REVISED	STATE	ROUTE	PROJECT	SHEET NO.
	VA.	64	0064-965-264, R-201, C-501	7





WAGMAN TEAM PLANS
DECEMBER 2, 2014

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SCALE	PROJECT	SHEET NO.
0 50' 100'	0064-965-264	7

PROJECT MANAGER Janet M. Hendrick, P.E. (757) 494-5478 (Hampton Roads District)
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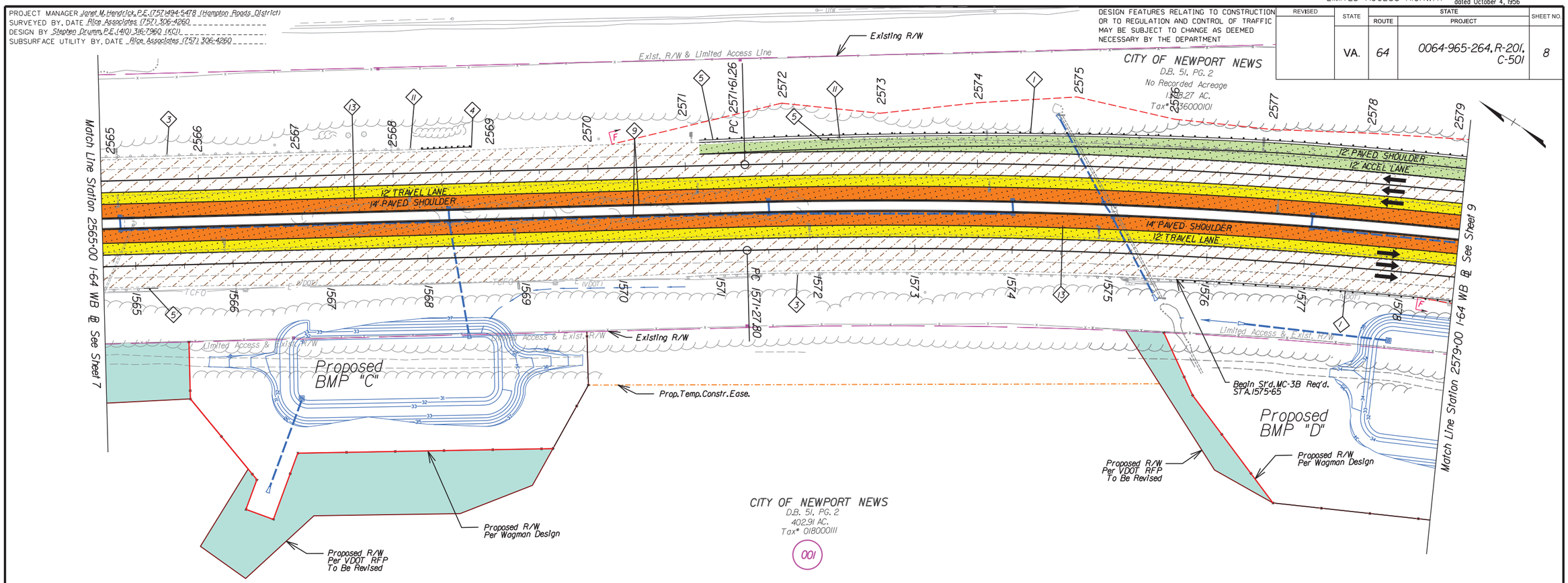
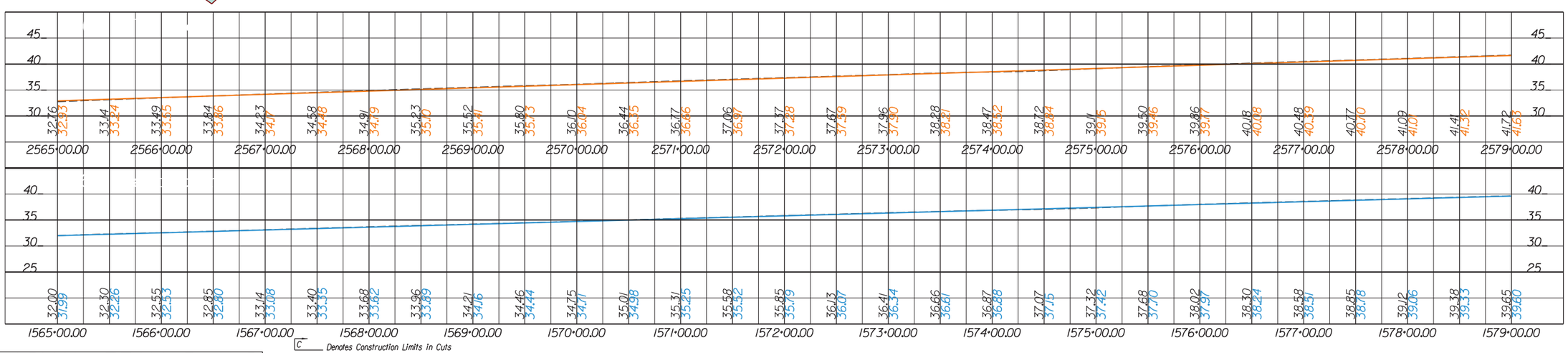
LIMITED ACCESS HIGHWAY — By Resolution of Highway Commission dated October 4, 1956

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





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Proposed Grass Channel BMP
Proposed Full Depth Pavement Option #2

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SCALE 0 50' 100'

PROJECT	SHEET NO.
0064-965-264	8

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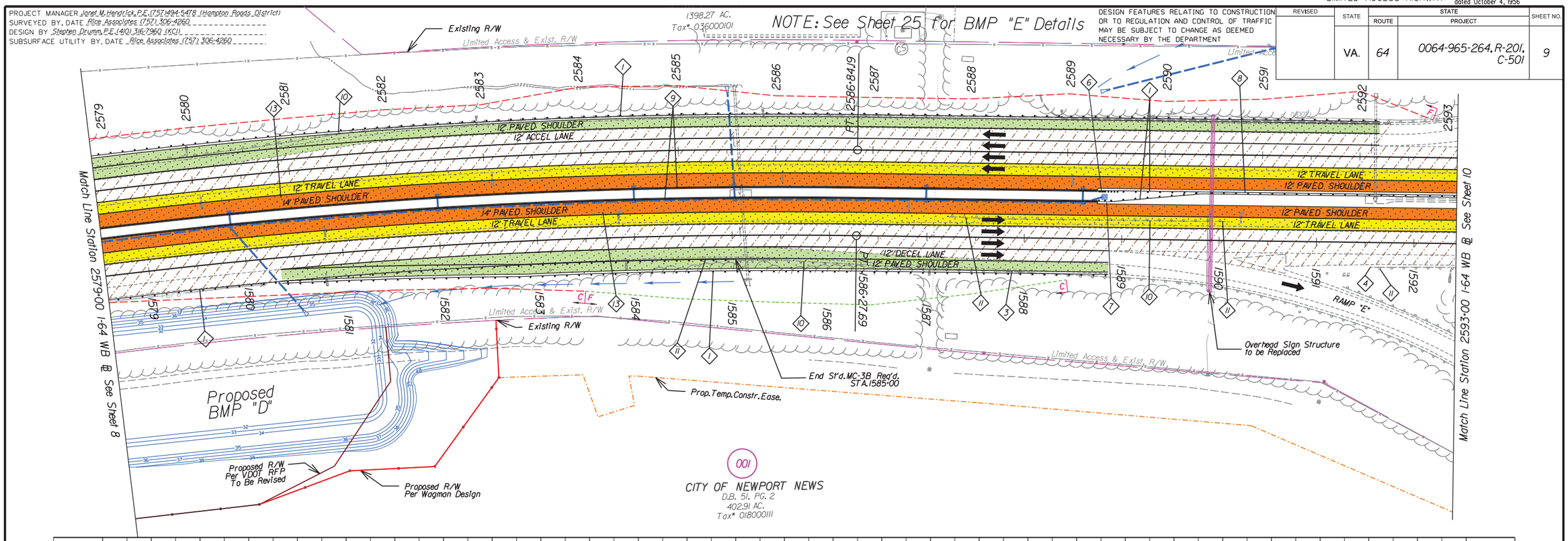
REVISED	STATE	ROUTE	PROJECT	SHEET NO.
	VA.	64	0064-965-264, R-201, C-501	9



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DECEMBER 2, 2014

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SCALE 0 50' 100'

PROJECT	SHEET NO.
0064-965-264	9

PROJECT MANAGER Janet M. Hendrick, P.E. (757) 494-5478 (Hampton Roads District)
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SUBSURFACE UTILITY BY, DATE Rice Associates (757) 306-4260

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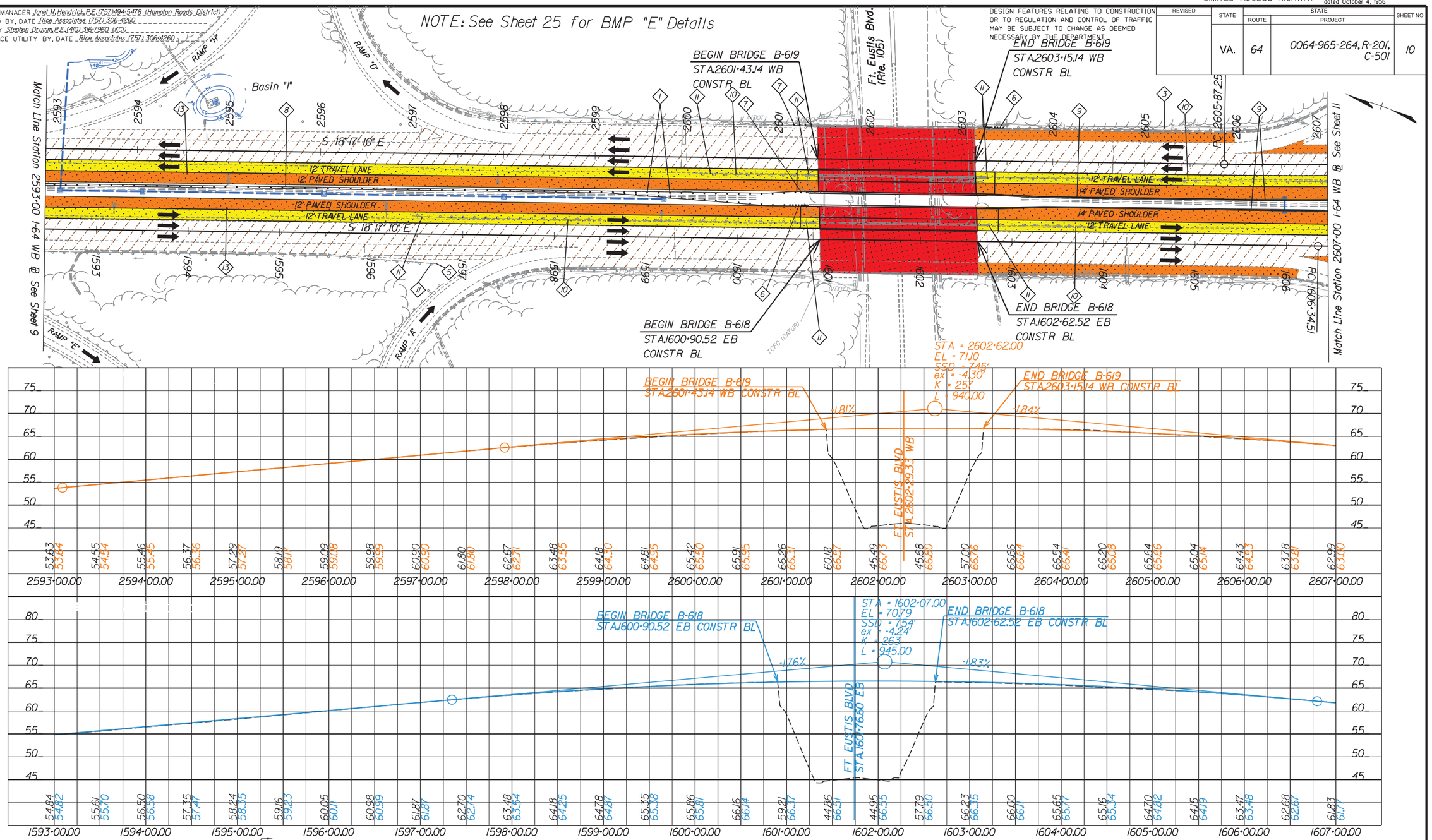
REVISED	STATE	ROUTE	PROJECT	SHEET NO.
	VA.	64	0064-965-264, R-201, C-501	10

NOTE: See Sheet 25 for BMP "E" Details



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SCALE 0 — 50' — 100'

PROJECT	SHEET NO.
0064-965-264	10

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

PROJECT MANAGER Janet M. Hendrick, P.E. (757) 494-5478 (Hampton Roads District)
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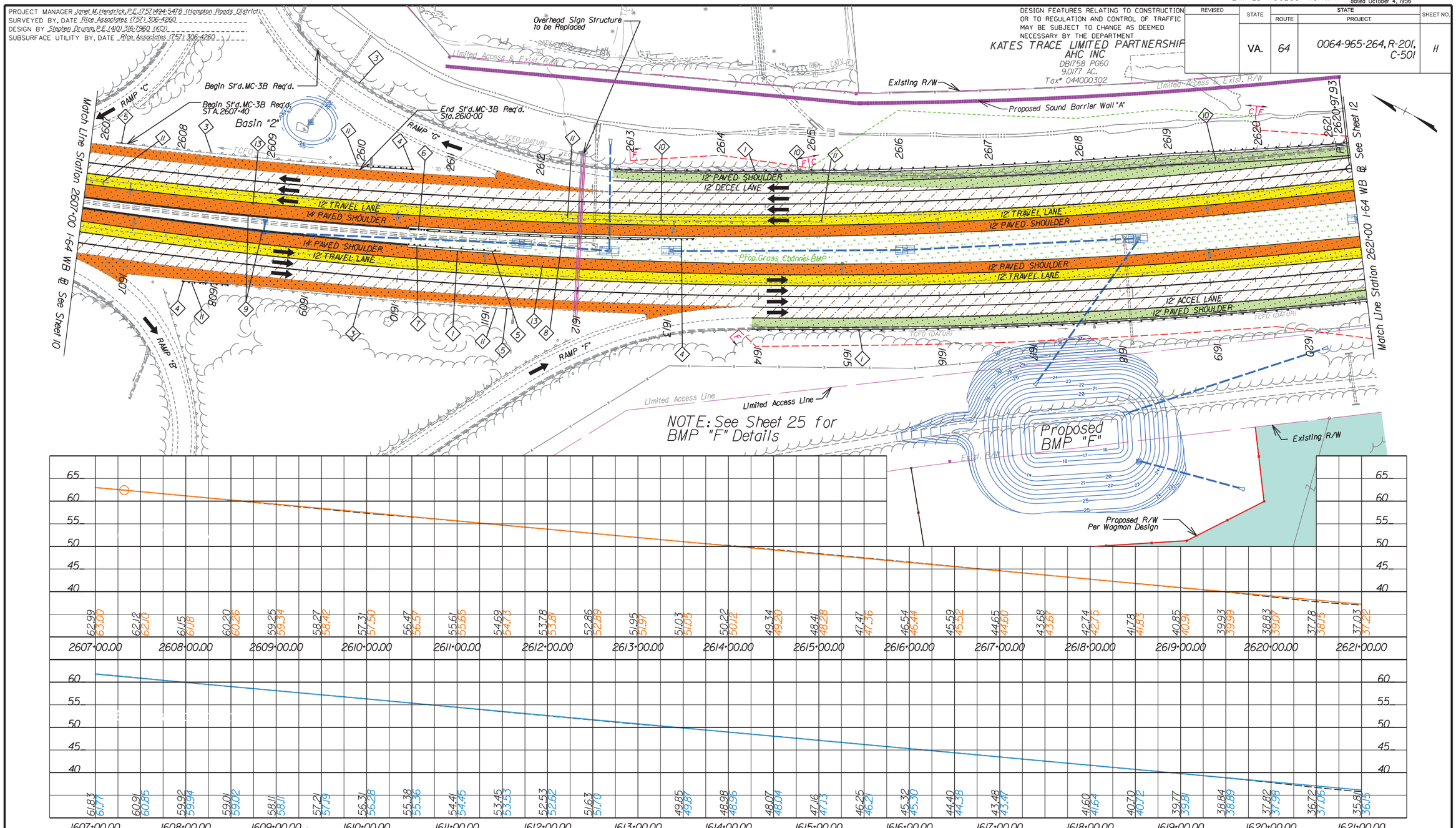
REVISED	STATE	ROUTE	PROJECT	SHEET NO.
	VA.	64	0064-965-264, R-201, C-501	11



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SCALE	PROJECT	SHEET NO.
0 50' 100'	0064-965-264	11

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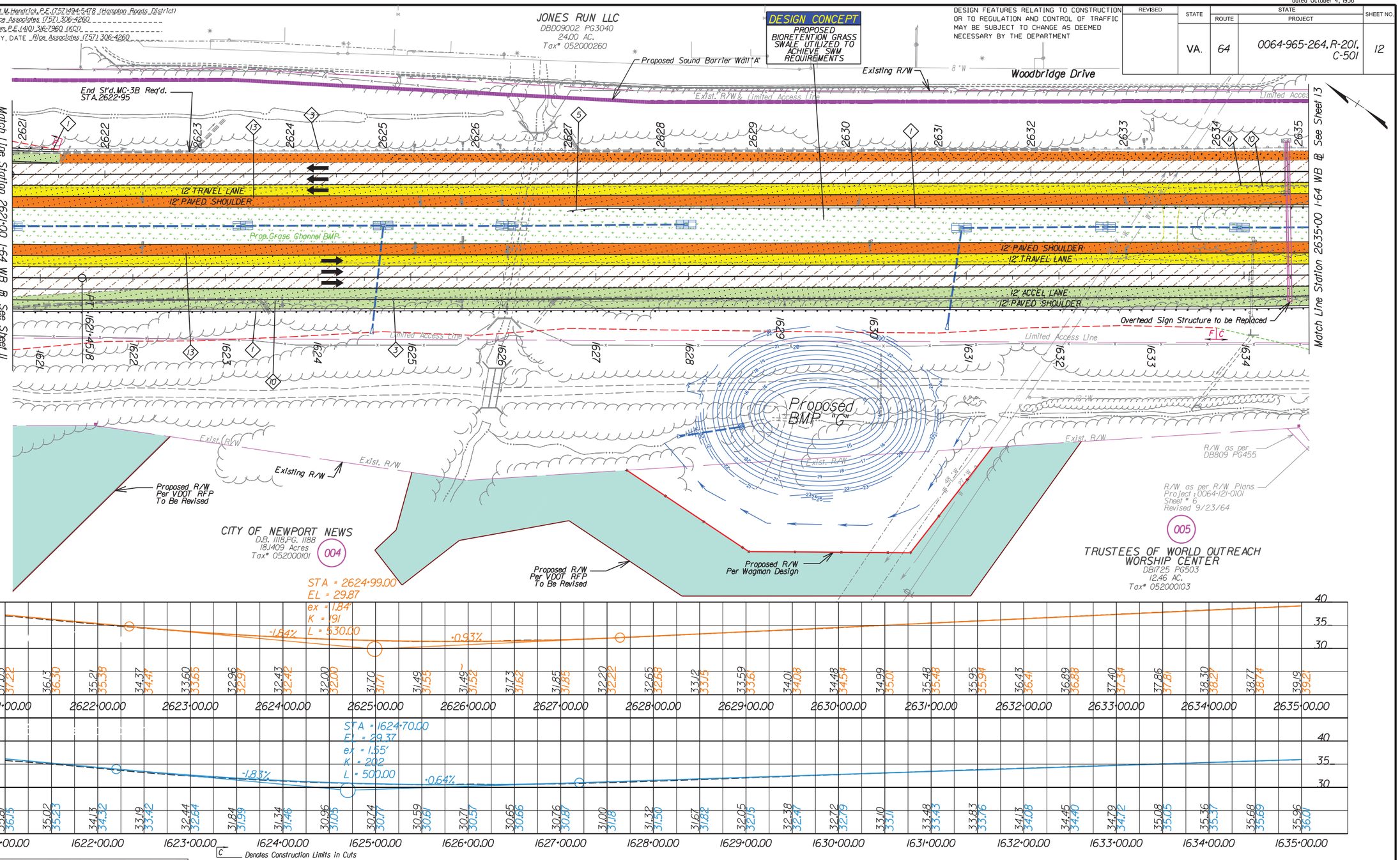
REVISED	STATE	ROUTE	PROJECT	SHEET NO.
	VA.	64	0064-965-264, R-201, C-501	12



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SCALE	PROJECT	SHEET NO.
0 50' 100'	0064-965-264	12

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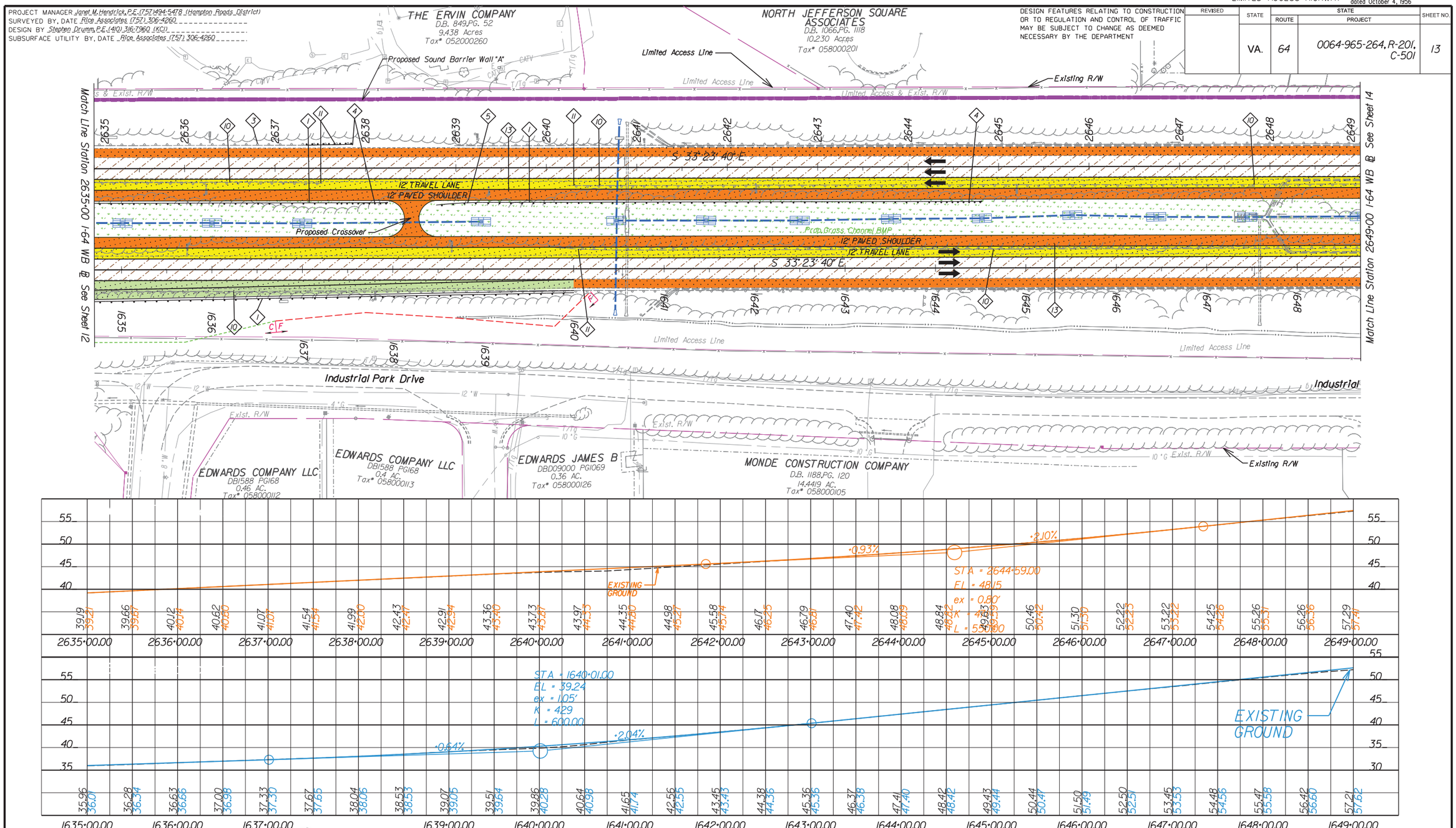

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SCALE	PROJECT	SHEET NO.
0 50' 100'	0064-965-264	13

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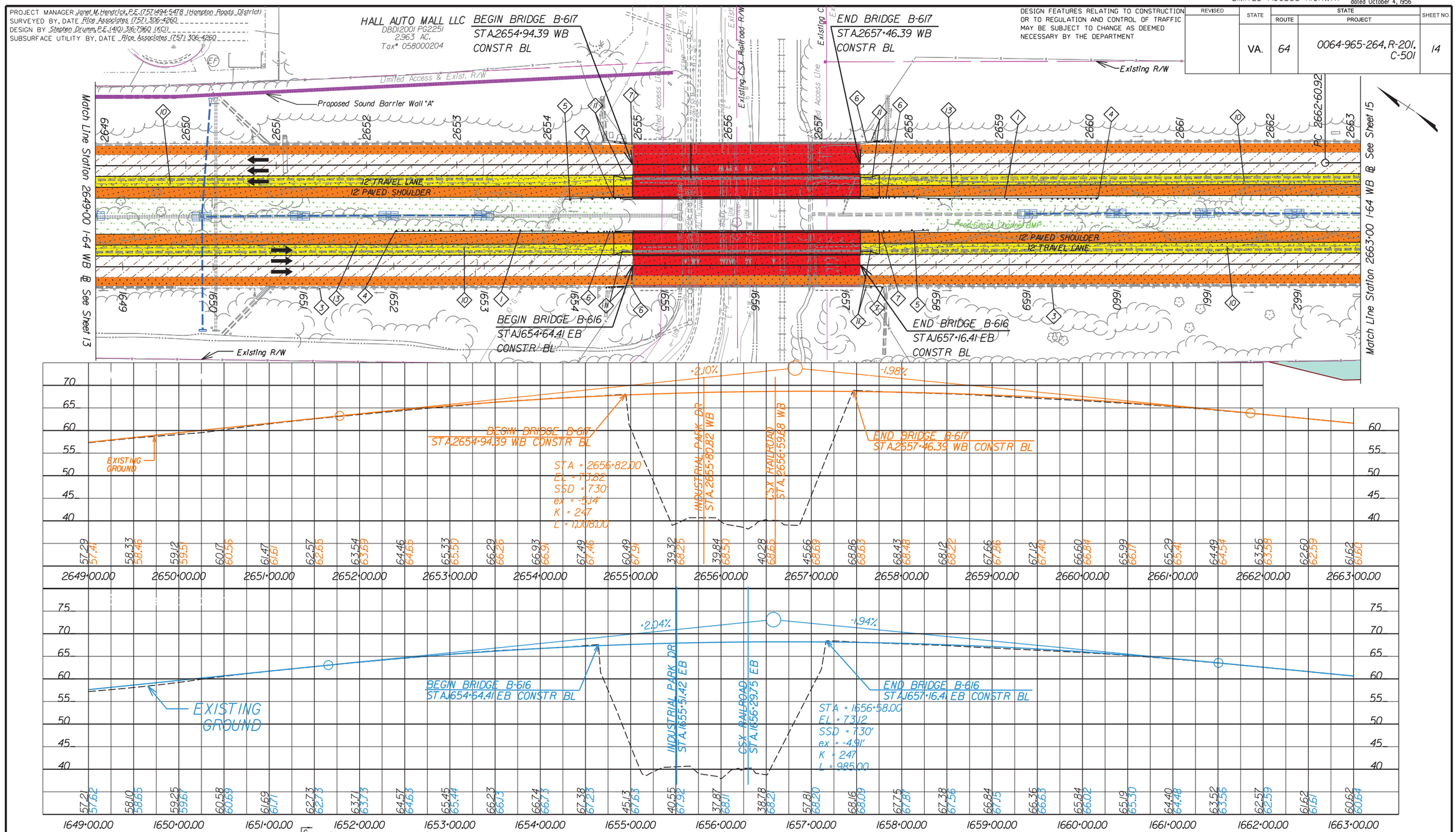
	VA.	64	0064-965-264, R-201, C-501	14



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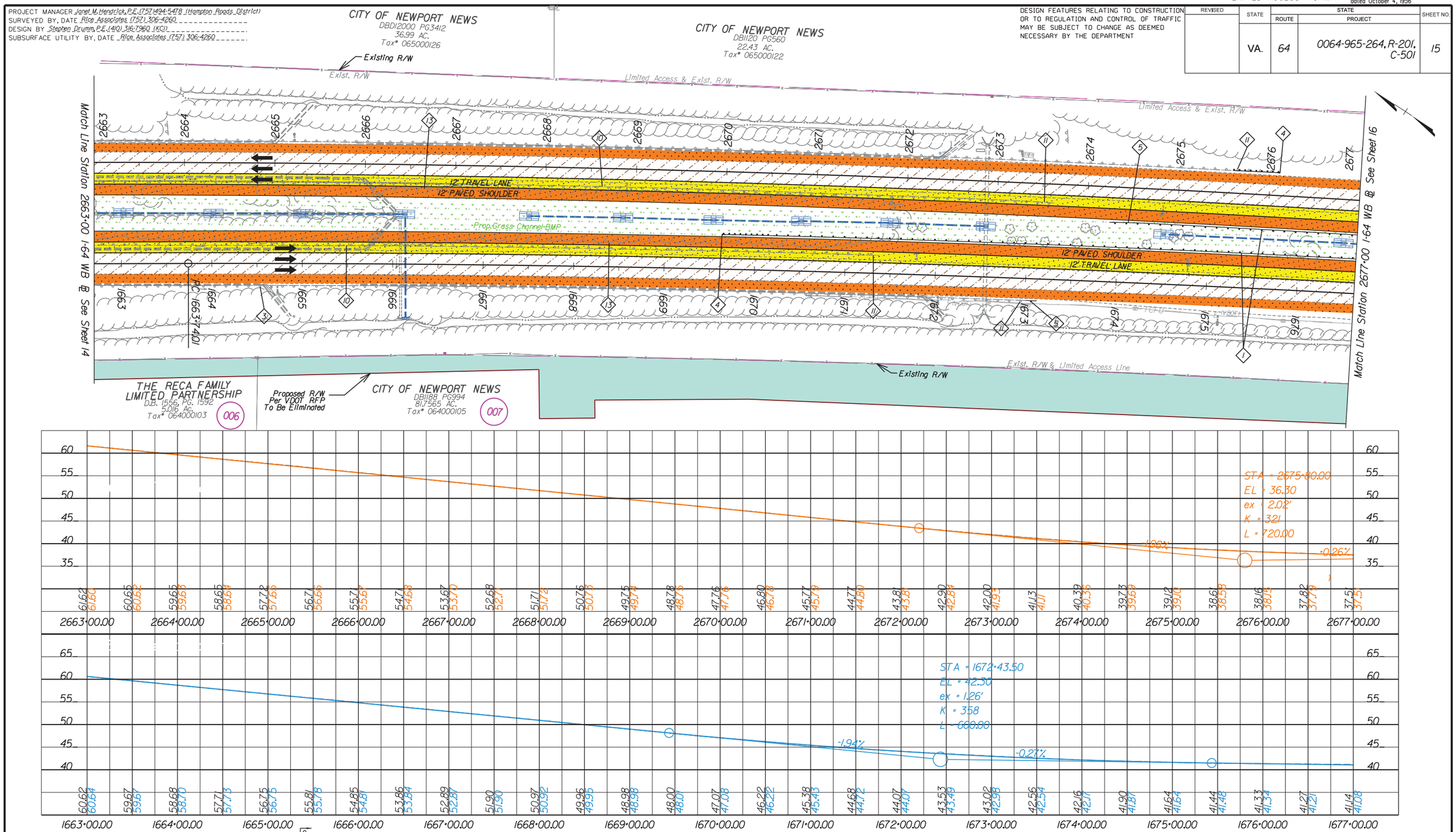

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Proposed Pavement Overlay
Proposed Full Depth Pavement
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16. Proposed Saw Cut Line
17. CAT or BRAKEMASTER Median Terminal Req'd
18. Existing Overhead Sign Structure To Remain Update Sign Panel as Req'd.

SCALE	PROJECT	SHEET NO.
0 50' 100'	0064-965-264	15

PROJECT MANAGER Janet M. Hendrick, P.E. (757) 494-5478 (Hampton Roads District)
SURVEYED BY, DATE Rice Associates (757) 306-4260
DESIGN BY Stephen Drumm, P.E. (410) 316-7960 (KCI)
SUBSURFACE UTILITY BY, DATE Rice Associates (757) 306-4260

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

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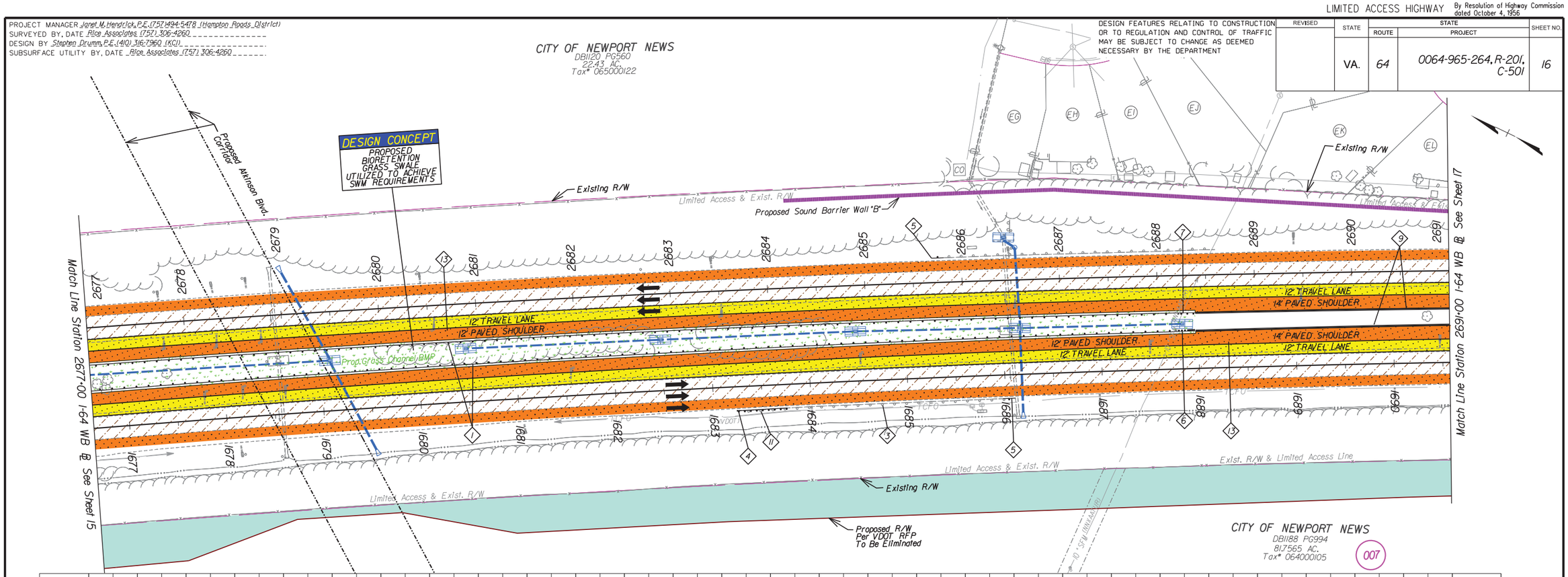
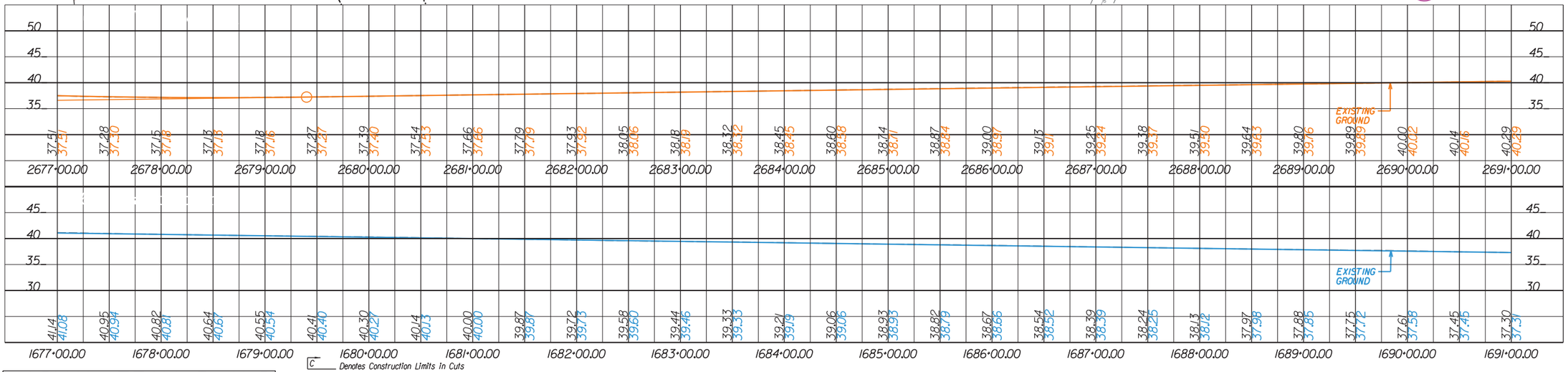
REVISED	STATE	ROUTE	PROJECT	SHEET NO.
	VA.	64	0064-965-264, R-201, C-501	16





WAGMAN TEAM PLANS
DECEMBER 2, 2014
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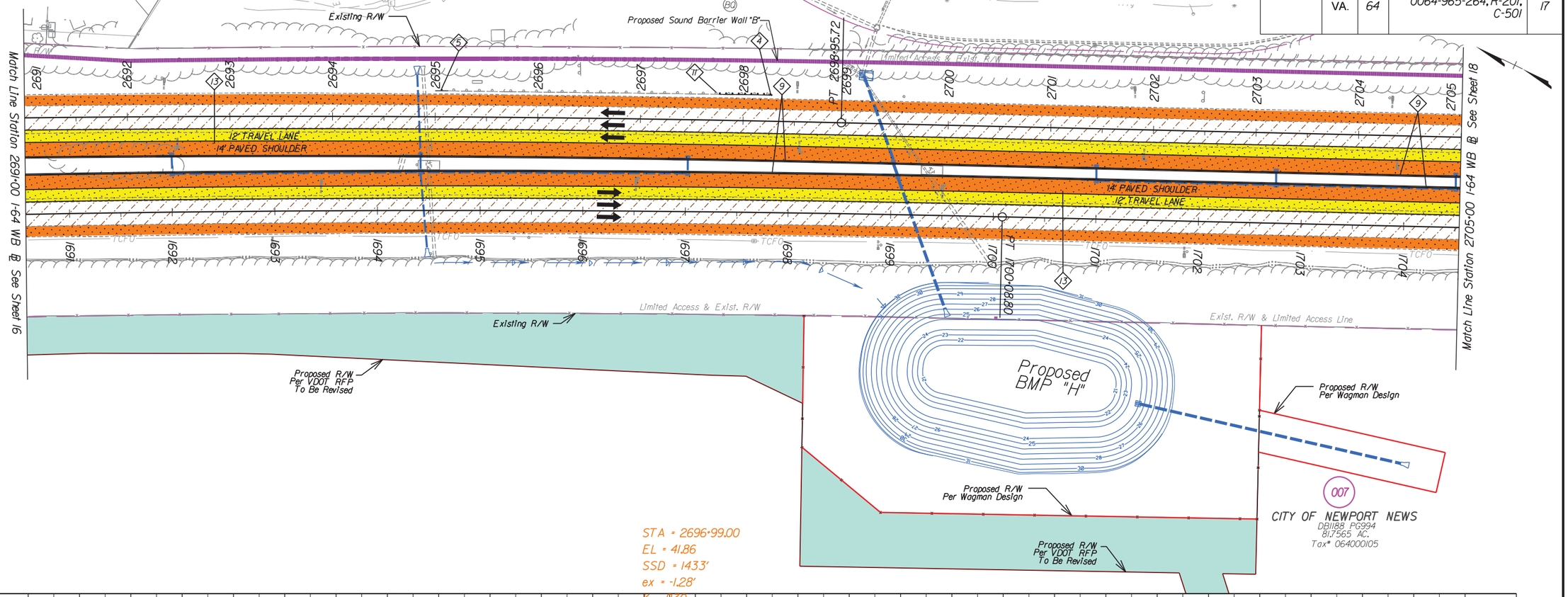
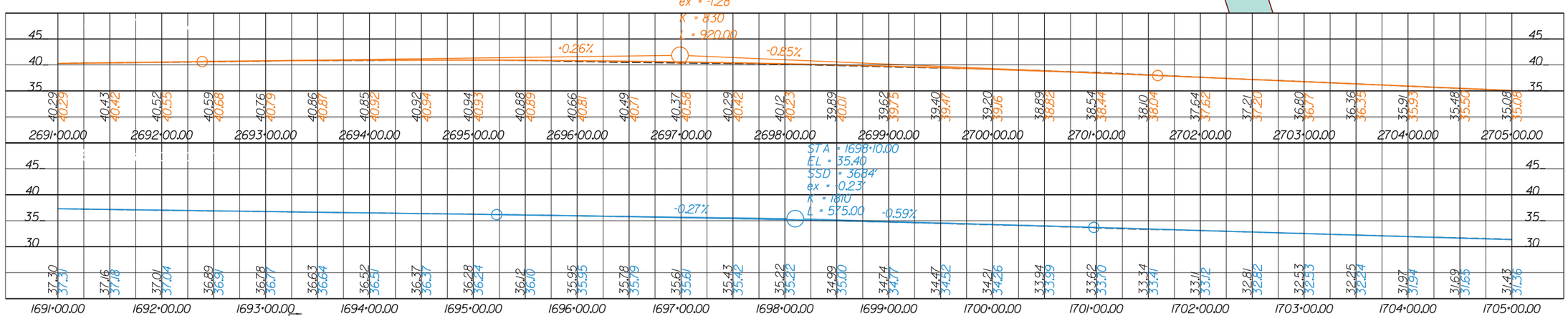
	VA.	64	0064-965-264, R-201, C-501	17





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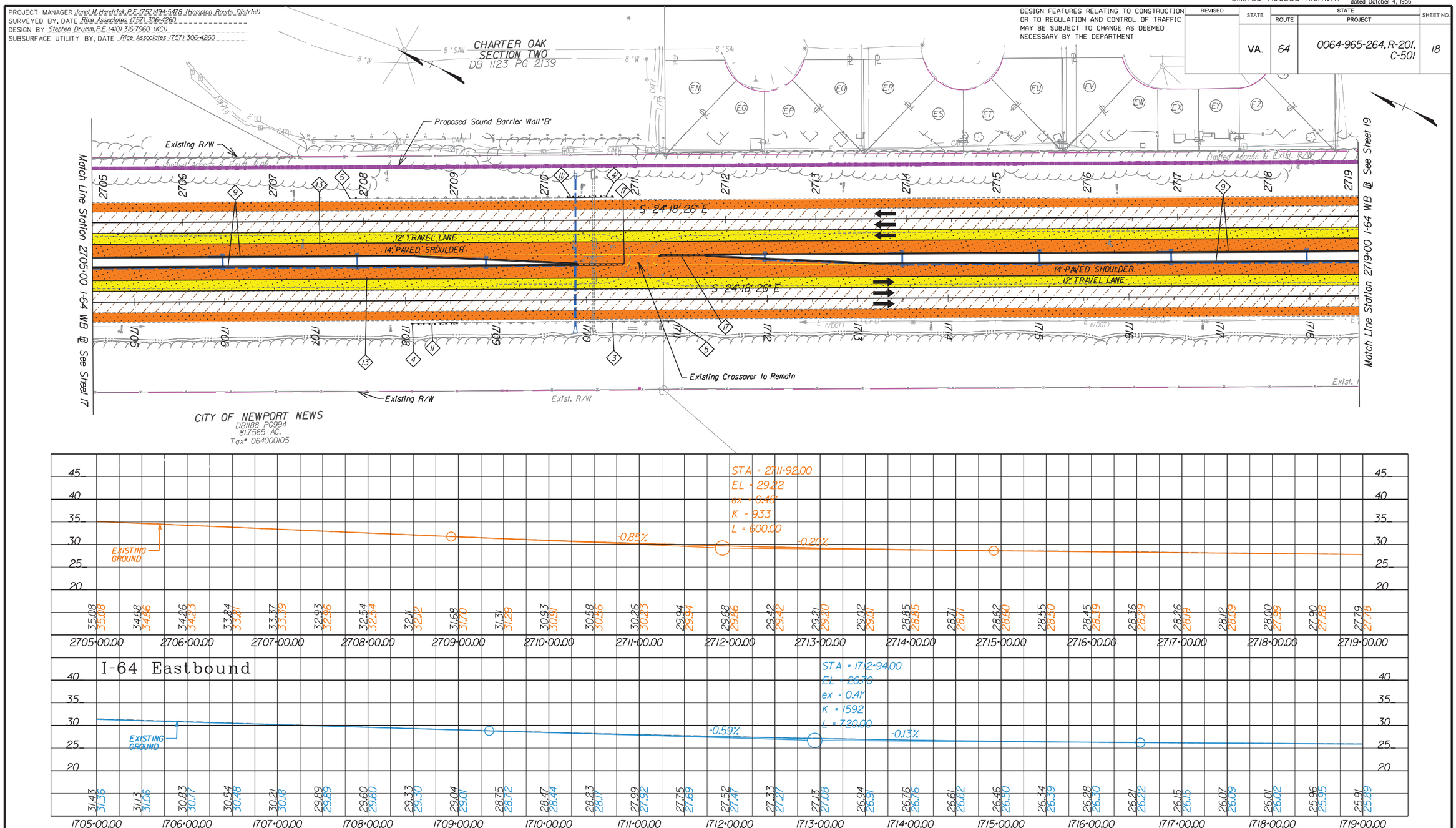
LIMITED ACCESS HIGHWAY — By Resolution of Highway Commission dated October 4, 1956

REVISED	STATE	ROUTE	STATE PROJECT	SHEET NO.
	VA.	64	0064-965-264, R-201, C-501	18



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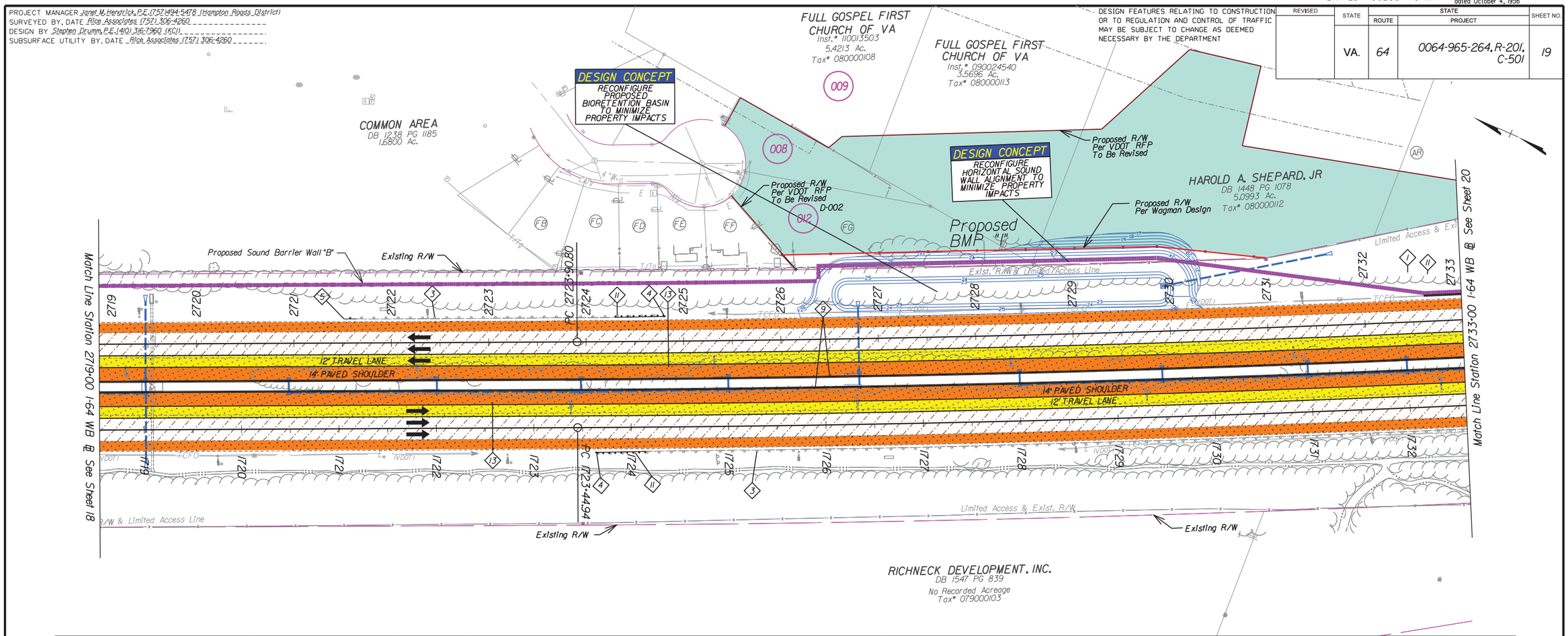
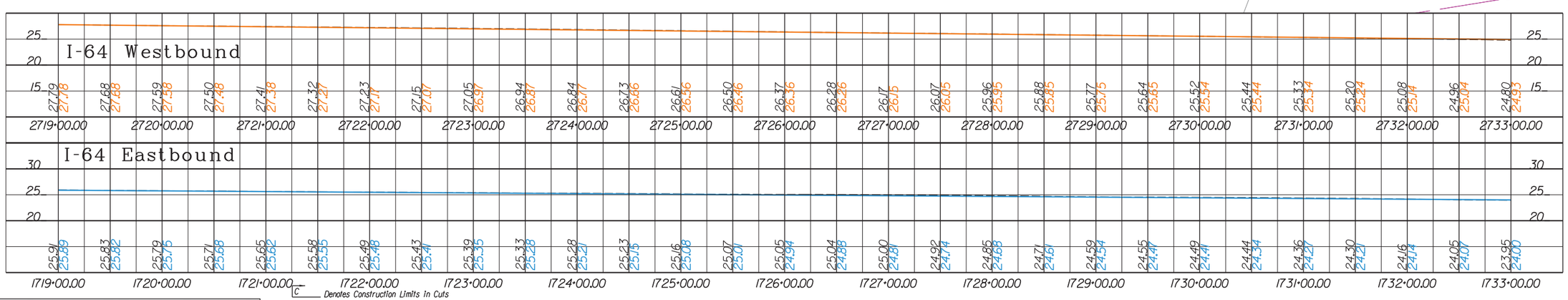
REVISED	STATE	ROUTE	PROJECT	SHEET NO.
	VA.	64	0064-965-264, R-201, C-501	19





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SCALE	PROJECT	SHEET NO.
0 50' 100'	0064-965-264	19

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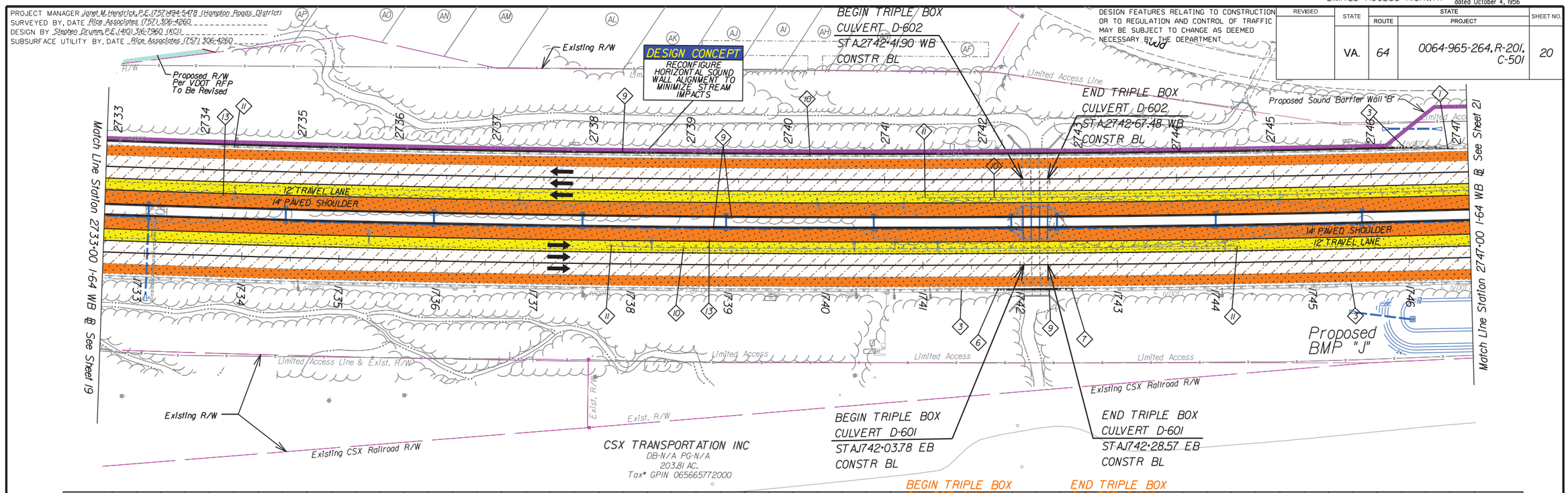
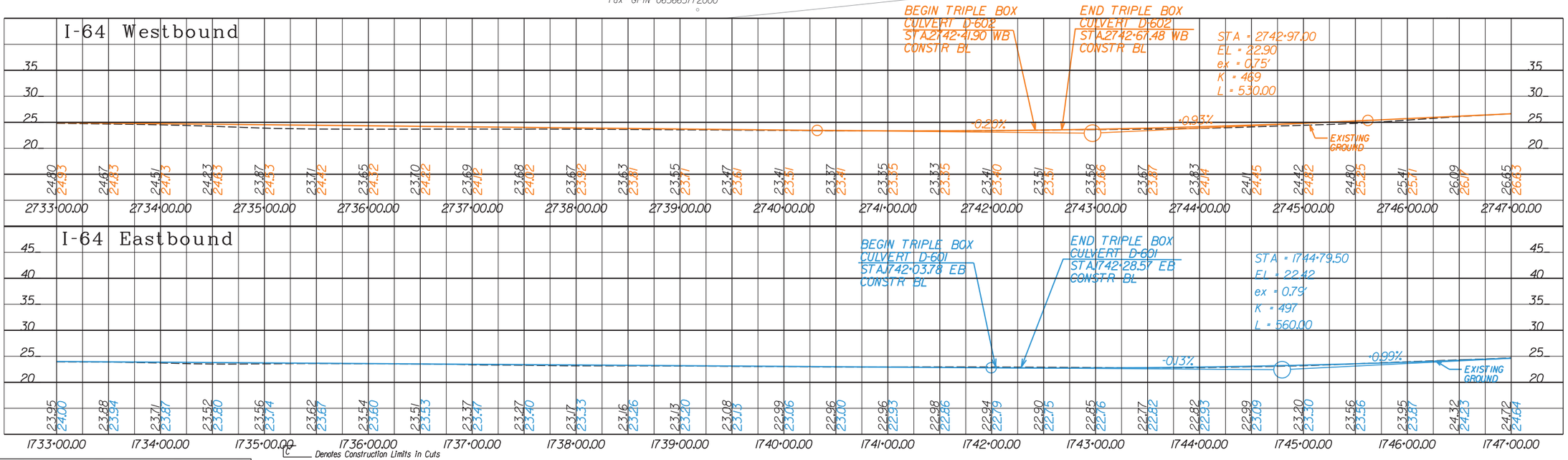
REVISED	STATE	ROUTE	PROJECT	SHEET NO.
	VA.	64	0064-965-264, R-201, C-501	20





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DECEMBER 2, 2014

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SCALE	PROJECT	SHEET NO.
0 50' 100'	0064-965-264	20

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

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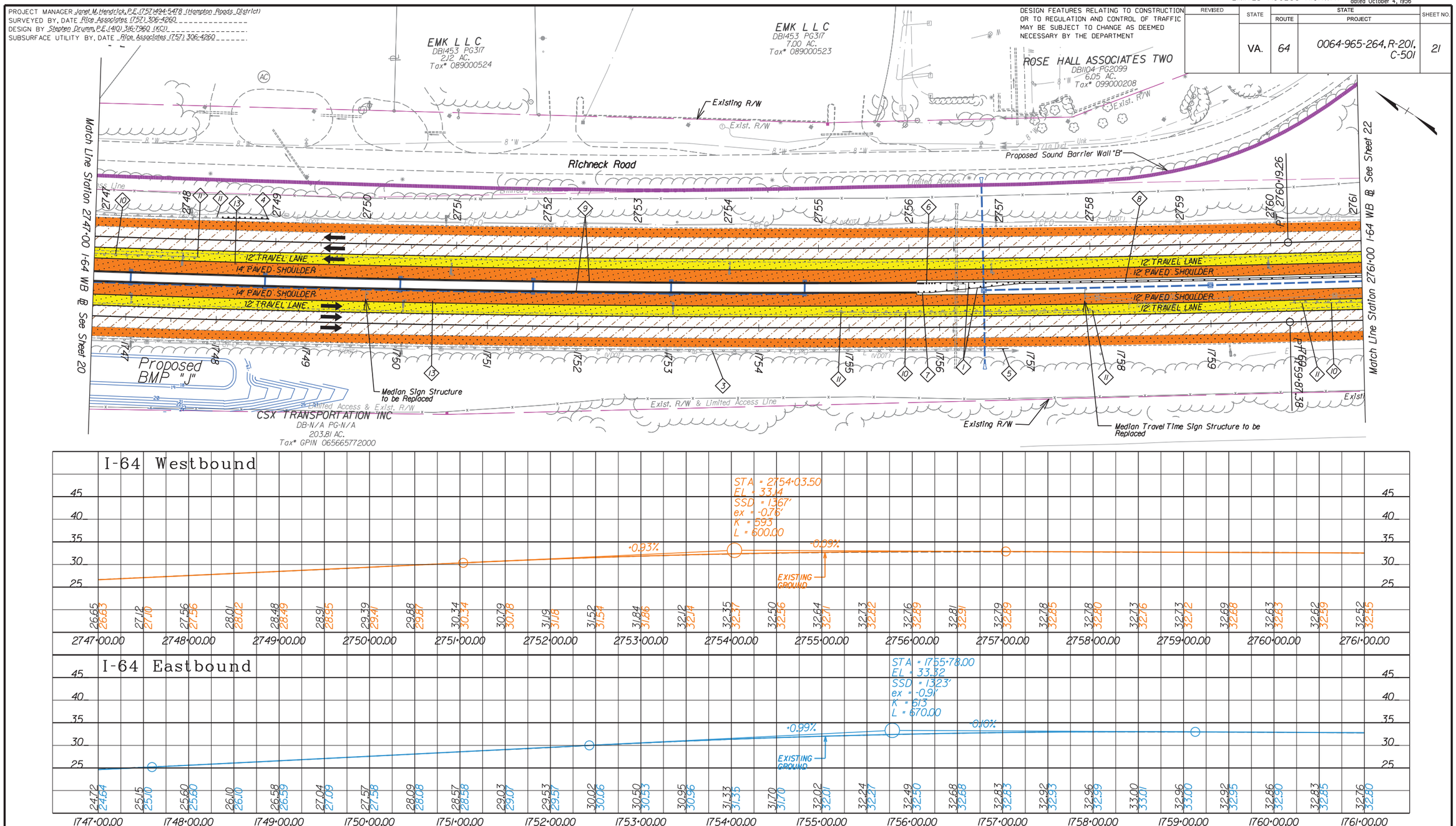
REVISED	STATE	ROUTE	PROJECT	SHEET NO.
	VA.	64	0064-965-264, R-201, C-501	21



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Note: Figures in brackets and dot-dashed lines denote Permanent Easements.

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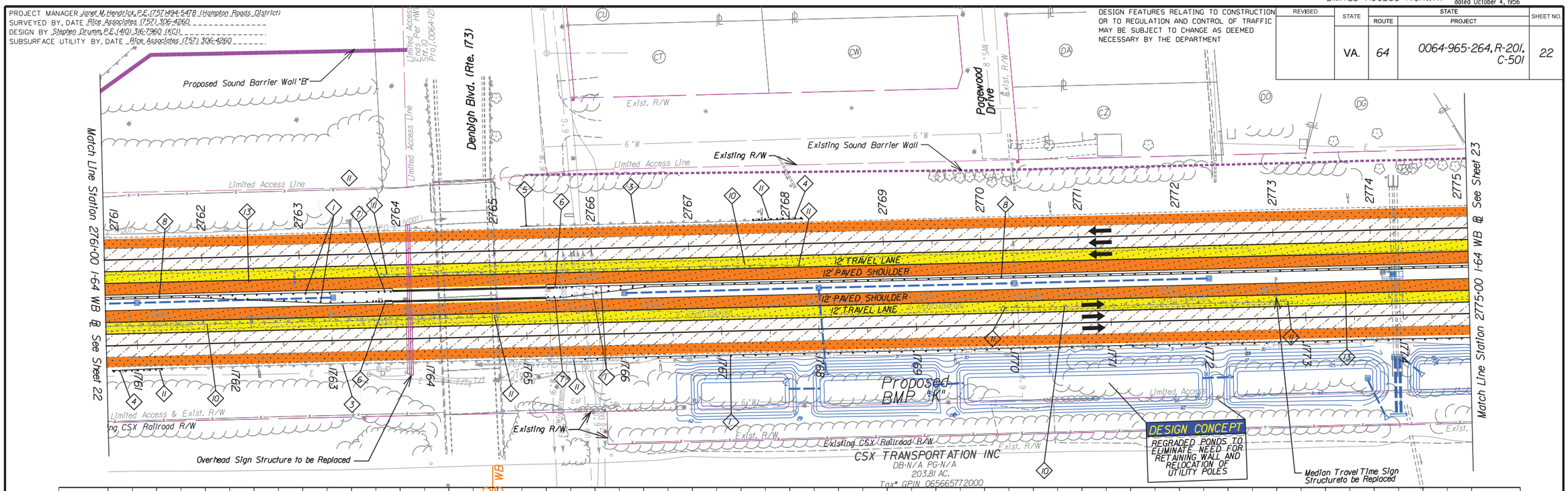
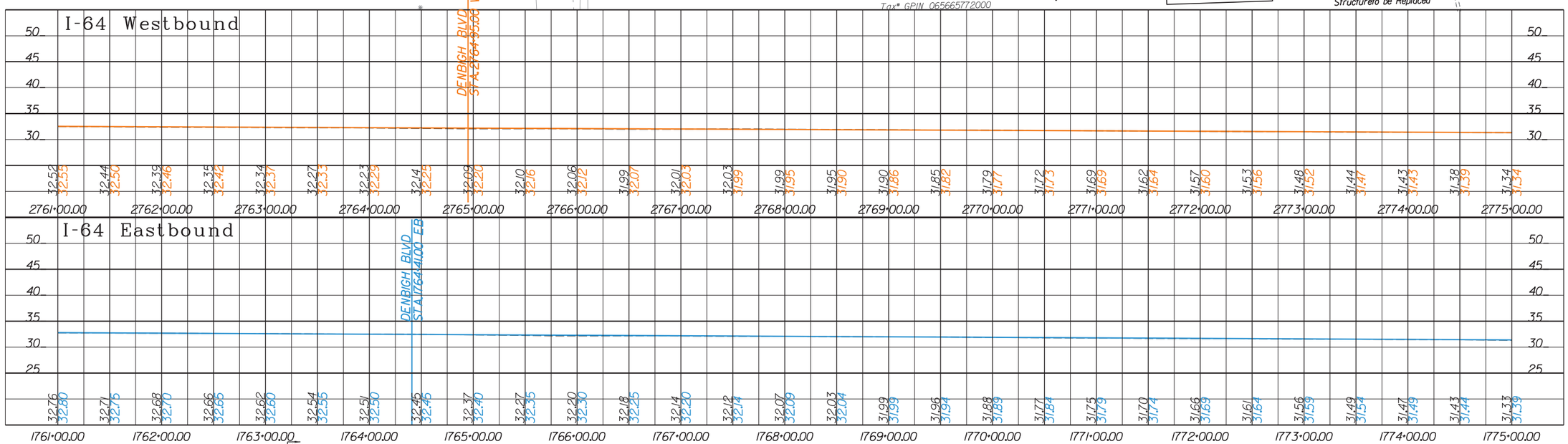
	VA.	64	0064-965-264, R-201, C-501	22





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SCALE	PROJECT	SHEET NO.
0 50' 100'	0064-965-264	22

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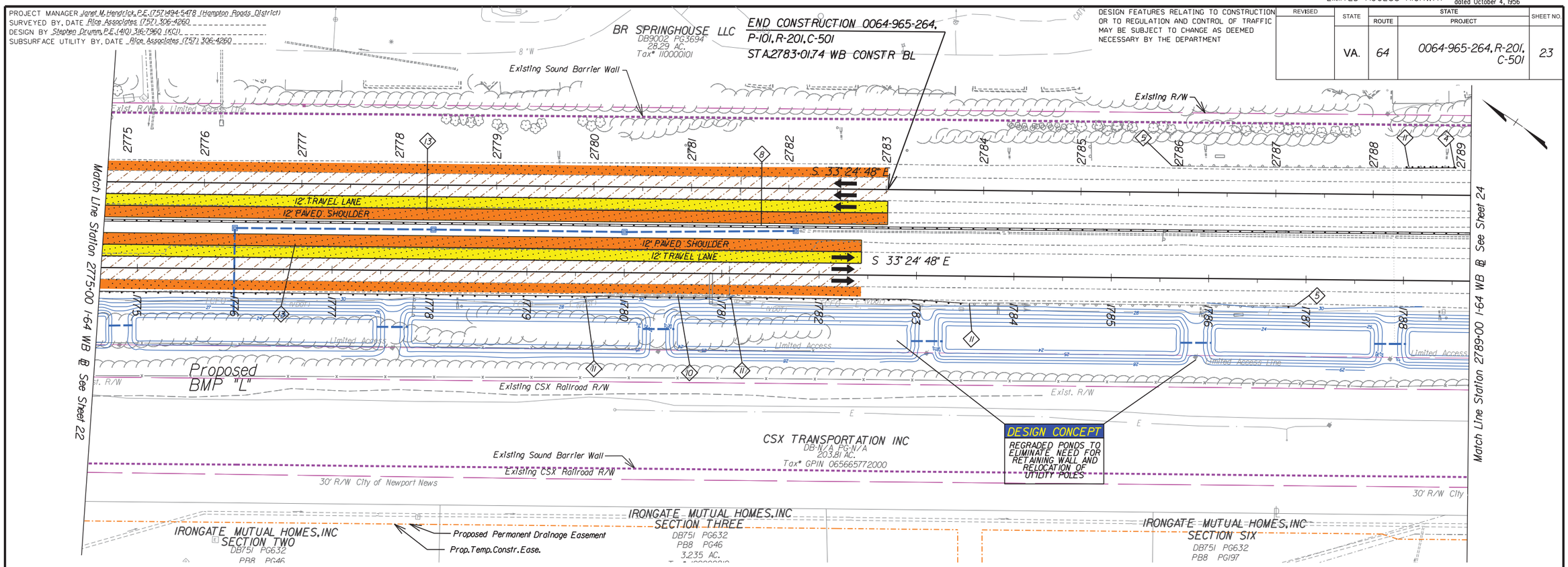
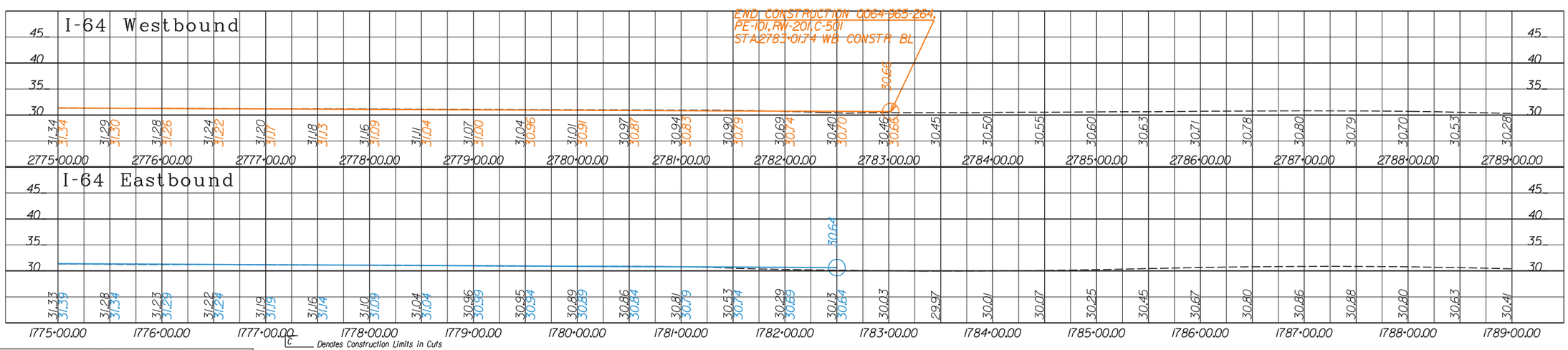
	VA.	64	0064-965-264, R-201, C-501	23





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SCALE	PROJECT	SHEET NO.
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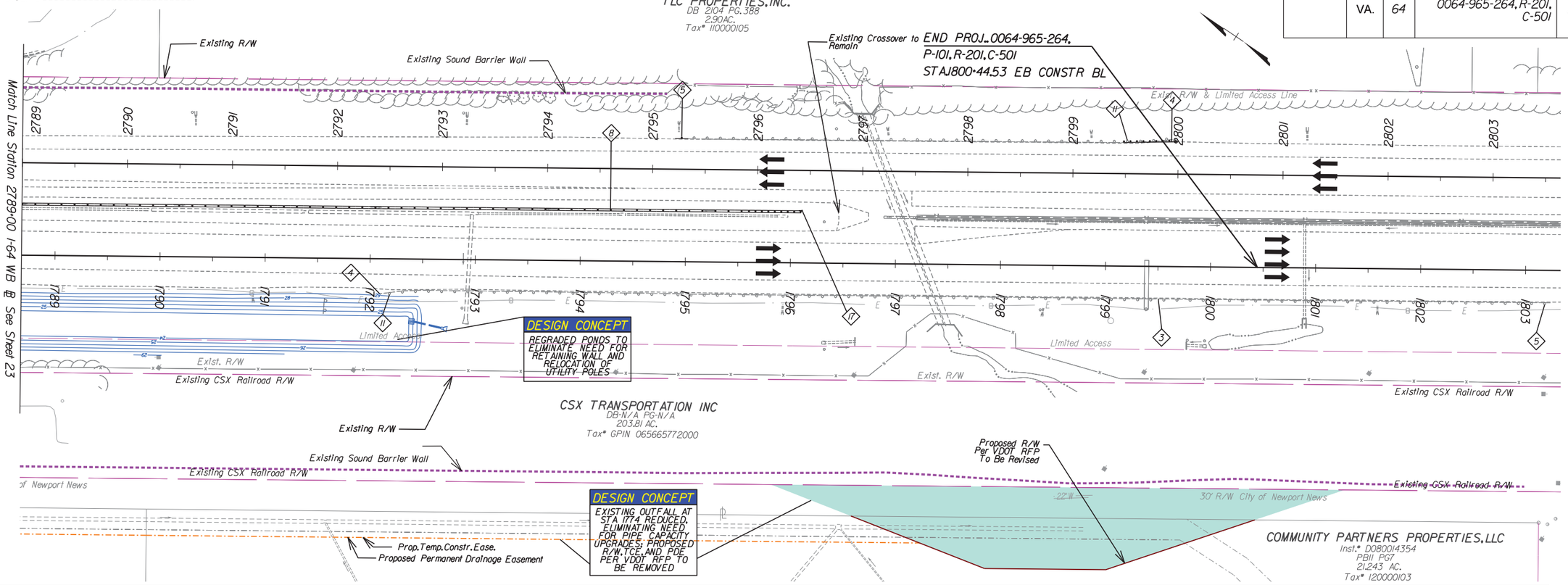
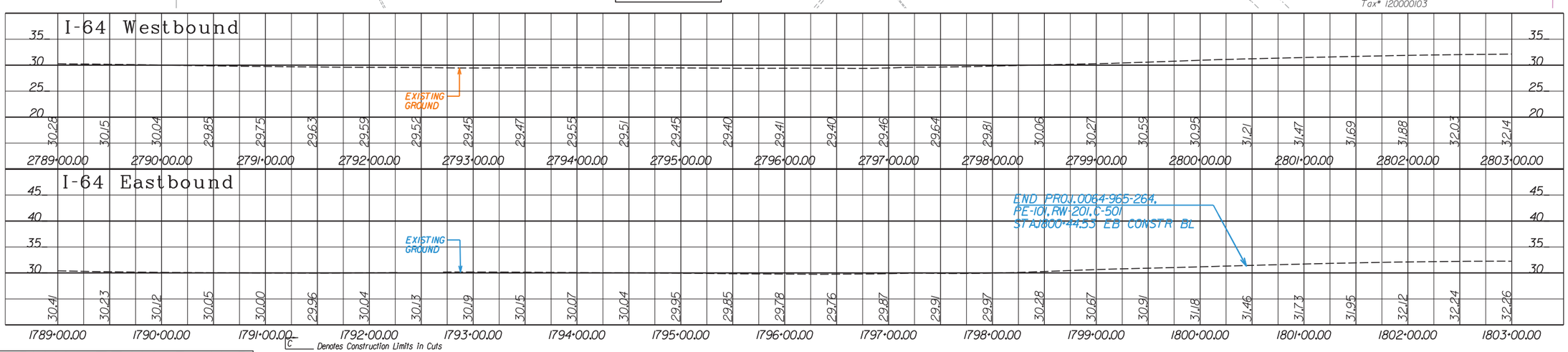
	VA.	64	0064-965-264, R-201, C-501	24





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- C — Denotes Construction Limits In Cuts
- F — Denotes Construction Limits In Fills
- Proposed Right of Way (VDOT RFP Concept Design)
- Proposed Right of Way (Wagman Team Concept Design)
- Proposed Right of Way Reduction
- Proposed Pavement Overlay
- Proposed Full Depth Pavement
- Proposed Grass Channel BMP

1. Std. GR-2 Guardrail Req'd.
2. Std. GR-6 Guardrail Terminal Req'd.
3. Reset Existing GR-2 Guardrail Height
4. Std. GR-9 Guardrail Terminal Req'd.
5. Std. GR-11 Guardrail Terminal Req'd.
6. Std. GR-FOA-2 Type I Fixed Object Attachment Req'd.
7. Std. GR-FOA-2 Type II Fixed Object Attachment Req'd.
8. Std. MB-3 W-Beam Median Barrier Req'd.
9. Std. MB-7F Single Face Barrier Req'd.
10. Remove Existing Guardrail
11. Remove Existing Guardrail Terminal
12. Std. RW-2 Retaining Wall Req'd.
13. Std. UD-4 Underdrain Req'd.
14. Std. CD-2 Cross Drain Req'd.
15. Std. EW-12 Endwall Req'd.
16. Proposed Saw Cut Line
17. CAT or BRAKEMASTER Median Terminal Req'd
18. Existing Overhead Sign Structure To Remain Update Sign Panel as Req'd.

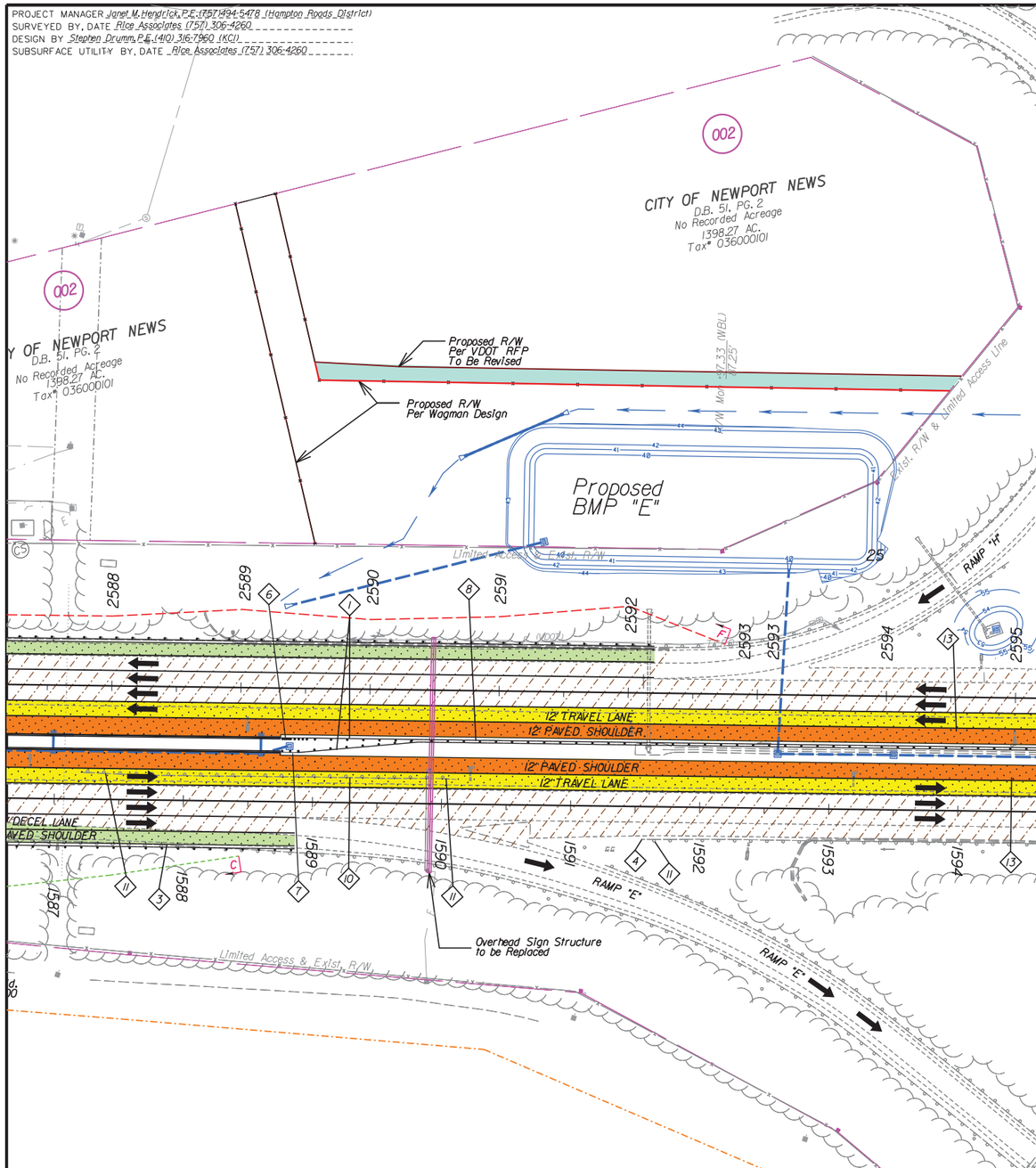
SCALE	PROJECT	SHEET NO.
0 50' 100'	0064-965-264	24

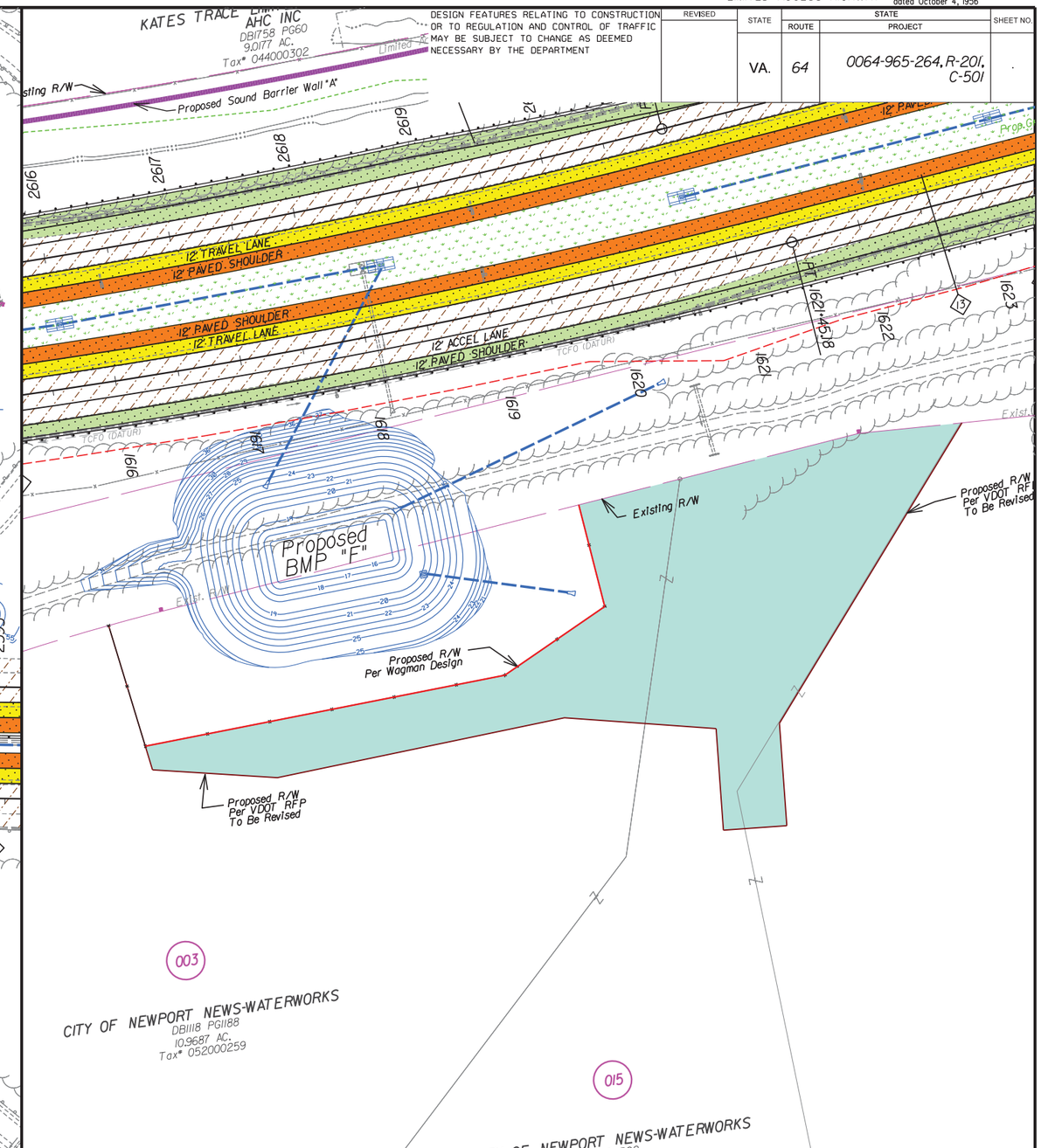
PROJECT MANAGER Janet M. Hendrick, P.E. (757) 494-5478 (Hampton Roads District)
SURVEYED BY, DATE Rice Associates (757) 306-4260
DESIGN BY Stephen Drumm, P.E. (410) 316-7960 (KCI)
SUBSURFACE UTILITY BY, DATE Rice Associates (757) 306-4260

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

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

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





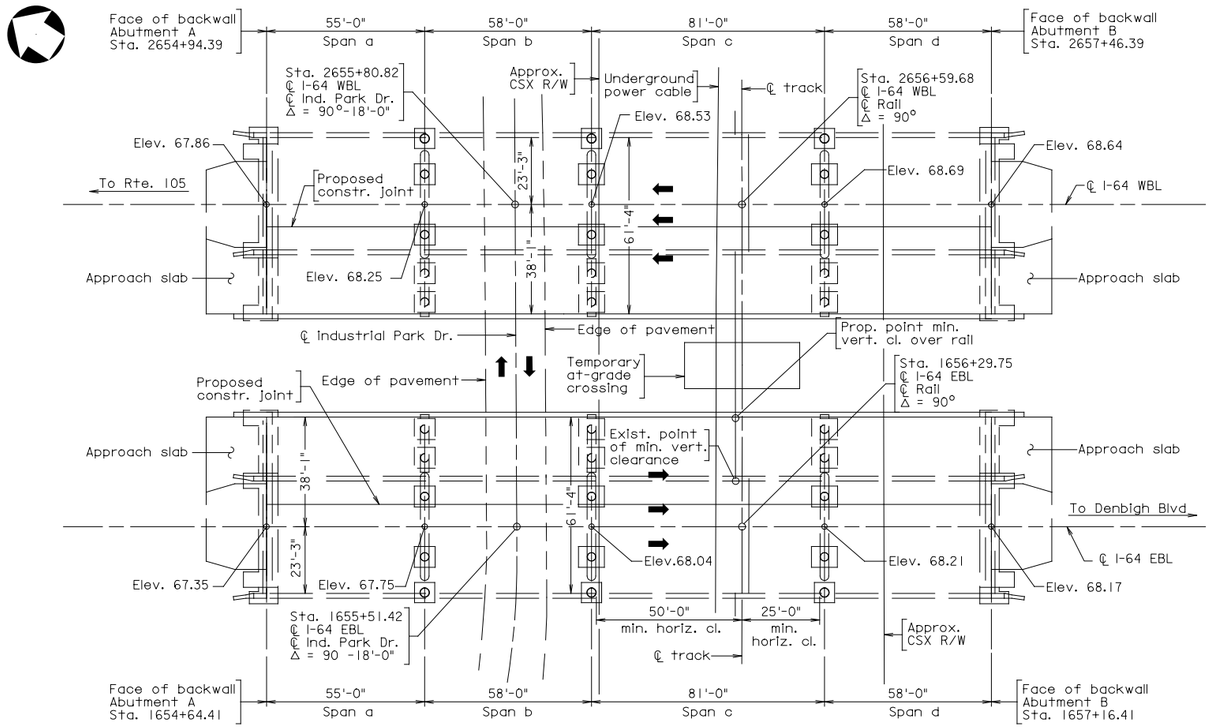
WAGMAN TEAM PLANS
DECEMBER 2, 2014
THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

- C — Denotes Construction Limits In Cuts
- F — Denotes Construction Limits In Fills
- Proposed Right of Way (VDOT RFP Concept Design)
- Proposed Right of Way (Wagman Team Concept Design)
- Proposed Right of Way Reduction
- Proposed Pavement Overlay
- Proposed Full Depth Pavement
- Proposed Grass Channel BMP
- Proposed Full Depth Pavement Option #2

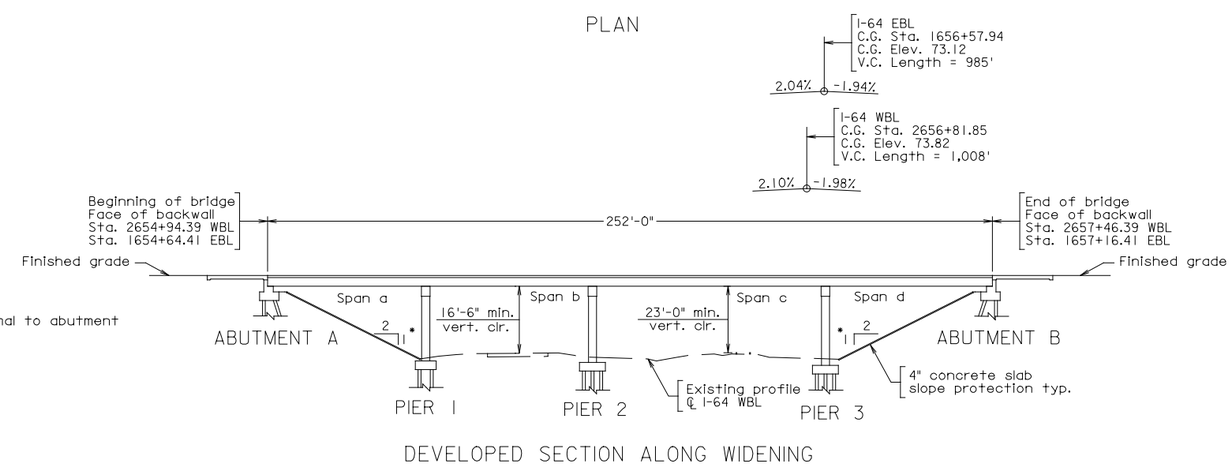
1. Std.GR-2 Guardrail Req'd.
2. Std.GR-6 Guardrail Terminal Req'd.
3. Reset Existing GR-2 Guardrail Height
4. Std.GR-9 Guardrail Terminal Req'd.
5. Std.GR-11 Guardrail Terminal Req'd.
6. Std.GR-FOA-2 Type I Fixed Object Attachment Req'd.
7. Std.GR-FOA-2 Type II Fixed Object Attachment Req'd.
8. Std.MB-3 W-Beam Median Barrier Req'd.
9. Std.MB-7F Single Face Barrier Req'd.
10. Remove Existing Guardrail
11. Remove Existing Guardrail Terminal
12. Std.RW-2 Retaining Wall Req'd.
13. Std.UD-4 Underdrain Req'd.
14. Std.CD-2 Cross Drain Req'd.
15. Std.EW-12 Endwall Req'd.
16. Proposed Saw Cut Line
17. CAT or BRAKEMASTER Median Terminal Req'd
18. Existing Overhead Sign Structure To Remain Update Sign Panel as Req'd.

SCALE	PROJECT	SHEET NO.
0 50' 100'	0064-965-264	25

STATE	FEDERAL AID ROUTE	FEDERAL AID PROJECT	STATE ROUTE	STATE PROJECT	SHEET NO.
VA.	—	NHA-064-3(479)	64	0064-965-264, B616, B617	1
NBIS Number: 000000000020706 000000000020708			UPC No. 104905		
Federal Oversight Code: FO			FHWA Construction and Scour Code: X531-SN		



PLAN



DEVELOPED SECTION ALONG WIDENING

DESIGN EXCEPTION(S):

None

GENERAL NOTES:

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

Span layout: 55'-0" - 58'-0" - 81'-0" - 58'-0"

Capacity: HL-93 loading.

Specifications:

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

Design: AASHTO LRFD Bridge Design Specifications, 6th Edition, 2012; 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 2210 (EBL) and 2211 (WBL). Plan Nos. are 166-23 and 166-23A.

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

PRELIMINARY PLANS

THESE PLANS ARE NOT TO BE USED FOR CONSTRUCTION OF BRIDGE.

VDOT

COMMONWEALTH OF VIRGINIA

DEPARTMENT OF TRANSPORTATION

PROPOSED BRIDGE WIDENING ON
RTE. 64 OVER INDUSTRIAL PARK DRIVE AND CSX
CITY OF NEWPORT NEWS
PROJ. 0064-965-264

$TIME$
$DATE$
DGN

RECOMMENDED FOR APPROVAL FOR CONSTRUCTION
VDOT PROJECT MANAGER
DISTRICT CONSTRUCTION MANAGER

PLANS BY:	Consultant
COORDINATED:	
SUPERVISED:	
DESIGNED:	E. ANDERSON
DRAWN:	M. BURGESS
CHECKED:	M. KING

Scale: 1" = 25'

Recommended for Approval: District Planning and Investment Manager Date

No.	Description	Date

REVISIONS

For Table of Revisions, see Sheet 2.

Recommended for Approval: (Developer's Designee) Date

Approved: Chief Engineer Date

Date: SEPT. 2014

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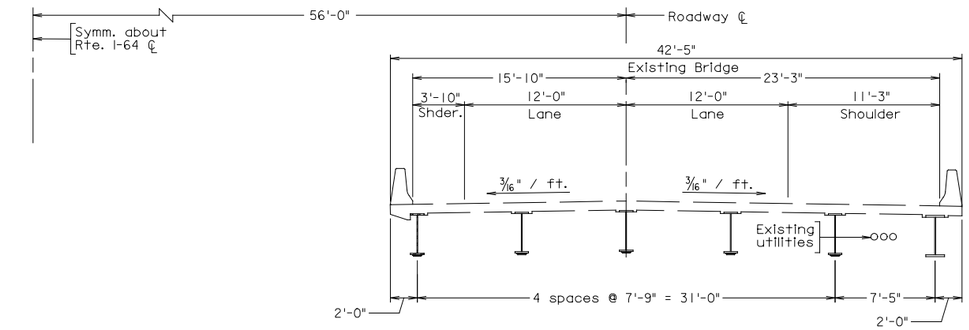
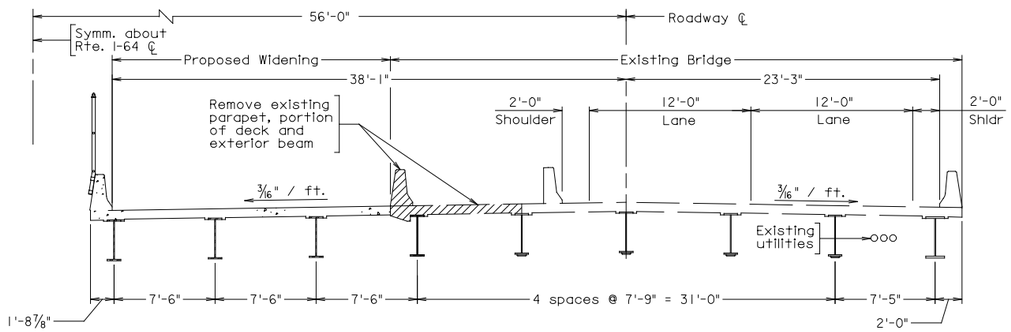
166-23B

Sheet 1 of 3

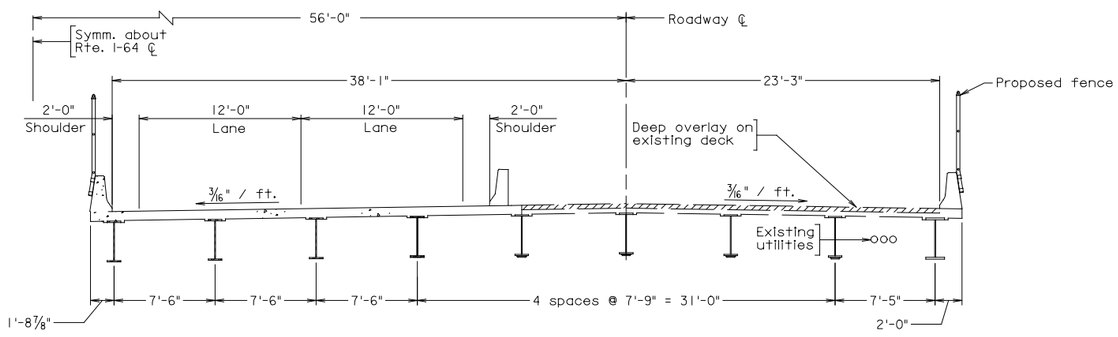
STATE	FEDERAL AID ROUTE	FEDERAL AID PROJECT	STATE ROUTE	STATE PROJECT	SHEET NO.
VA.	—	NHA-064-3(479)	64	0064-965-264, B616, B617	2



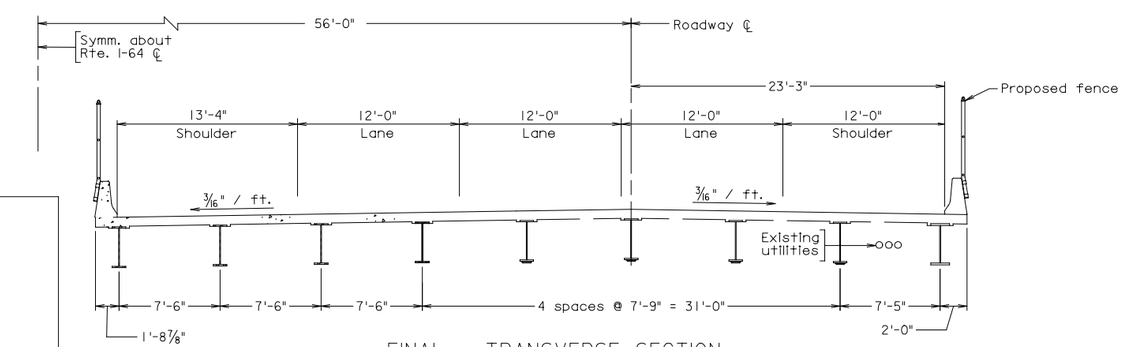
EXISTING BRIDGE - TRANSVERSE SECTION



DEMOLITION AND CONSTRUCTION - TRANSVERSE SECTION



DEEP OVERLAY - TRANSVERSE SECTION



FINAL - TRANSVERSE SECTION

Scale: 1/4" = 1'-0", unless otherwise shown

Notes:

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

Legend:

Existing structure to be removed.

PRELIMINARY PLANS

THESE PLANS ARE NOT TO BE USED FOR CONSTRUCTION OF BRIDGE.

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No.	Description	Date

Revisions

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION

STRUCTURE AND BRIDGE DIVISION

TRANSVERSE SECTION
(I-64 OVER INDUSTRIAL PARK DR.)

Designed: FDA
Drawn: MSB
Checked: WMK

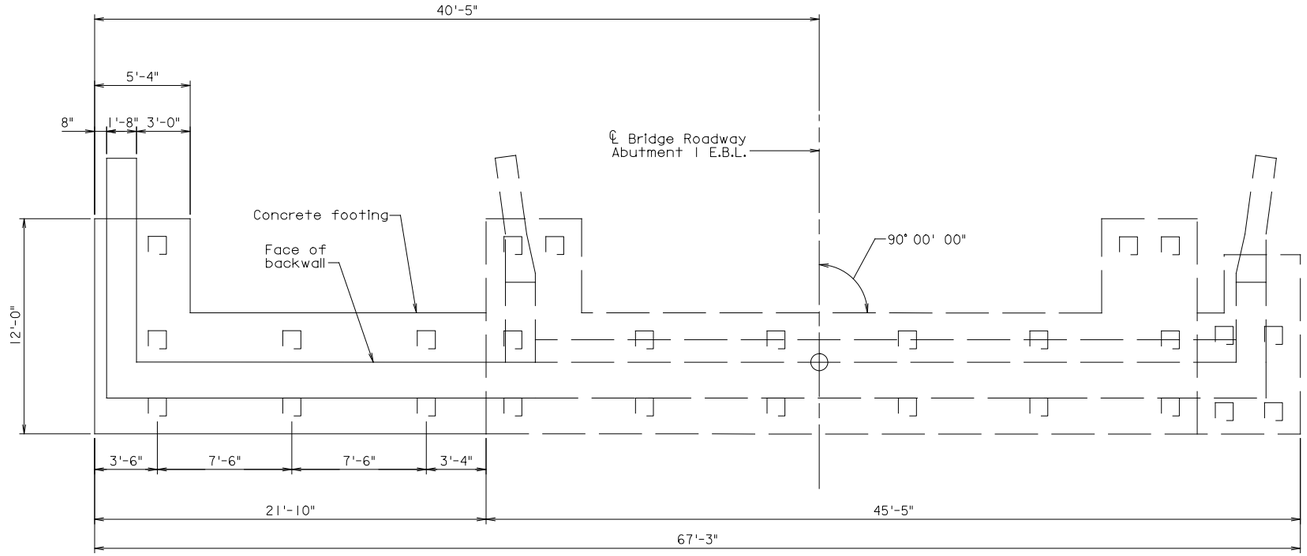
Date

Plan No. 166-23B

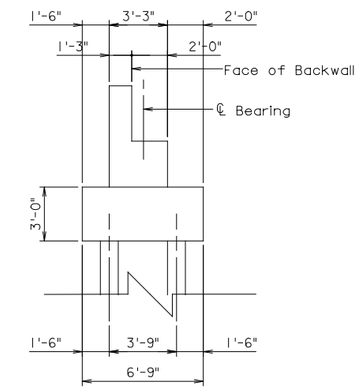
Sheet No. 2 of 3

$TIME$
$DATE$
DGN

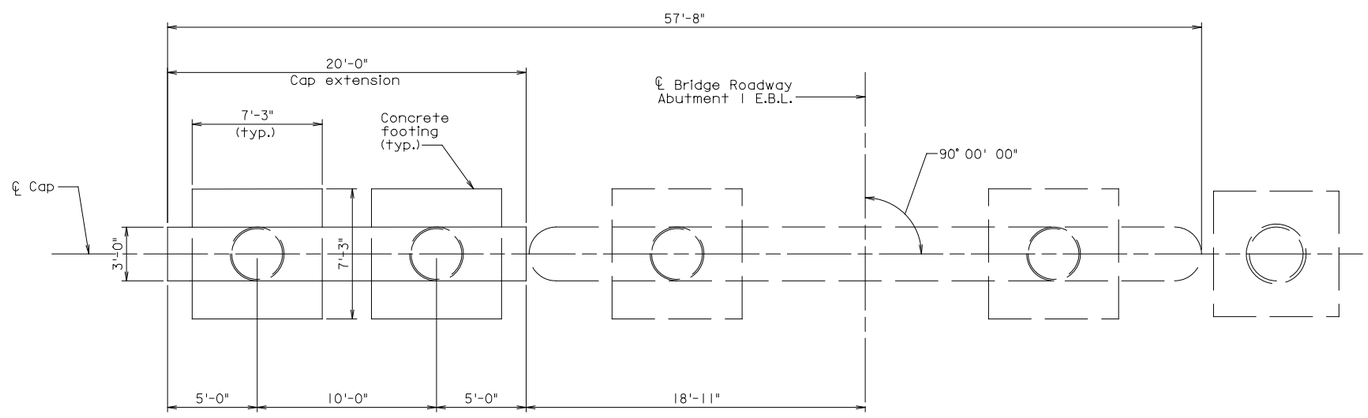
STATE	FEDERAL AID ROUTE	FEDERAL AID PROJECT	STATE ROUTE	STATE PROJECT	SHEET NO.
VA.	—	NHA-064-3(479)	64	0064-965-264, B616, B617	3



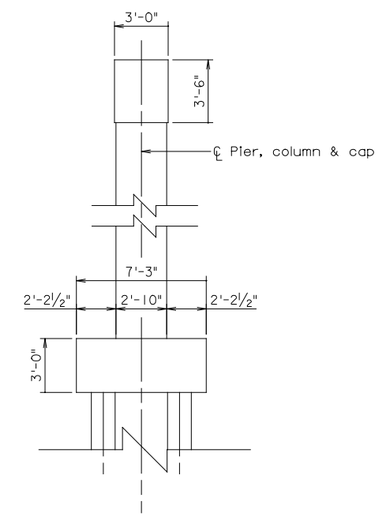
PLAN OF END BENT



ABUTMENT SECTION



PLAN OF INTERIOR BENT



PIER SECTION

PRELIMINARY PLANS

THESE PLANS ARE NOT TO BE USED FOR CONSTRUCTION OF BRIDGE.

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No.	Description	Date
	Revisions	

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION

STRUCTURE AND BRIDGE DIVISION

END BENT & INTERIOR BENT
(I-64 OVER INDUSTRIAL PARK DR.)

Designed: FDA
Drawn: MSB
Checked: WMK

Date

Plan No. 166-23B

Sheet No. 3 of 3

$DATE$ $TIME$
DGN

STATE	FEDERAL AID ROUTE	FEDERAL AID PROJECT	STATE ROUTE	STATE PROJECT	SHEET NO.
VA.	—	NHA-064-3(479)	64	0064-965-264, B618, B619	1
NBIS Number: 000000000020710 00000000020712			UPC No. 104905		
Federal Oversight Code: F0			FHWA Construction and Scour Code: X231-SN		

DESIGN EXCEPTION(S):

16'-0" vertical clearance over Route 105. Design Exception approved by State Structure and Bridge Engineer on June 2, 2014.

GENERAL NOTES:

Width: 72'-0" face-to-face of rails.

Span layout: 46'-0" - 80'-0" - 46'-0"

Capacity: HL-93 loading.

Specifications:

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

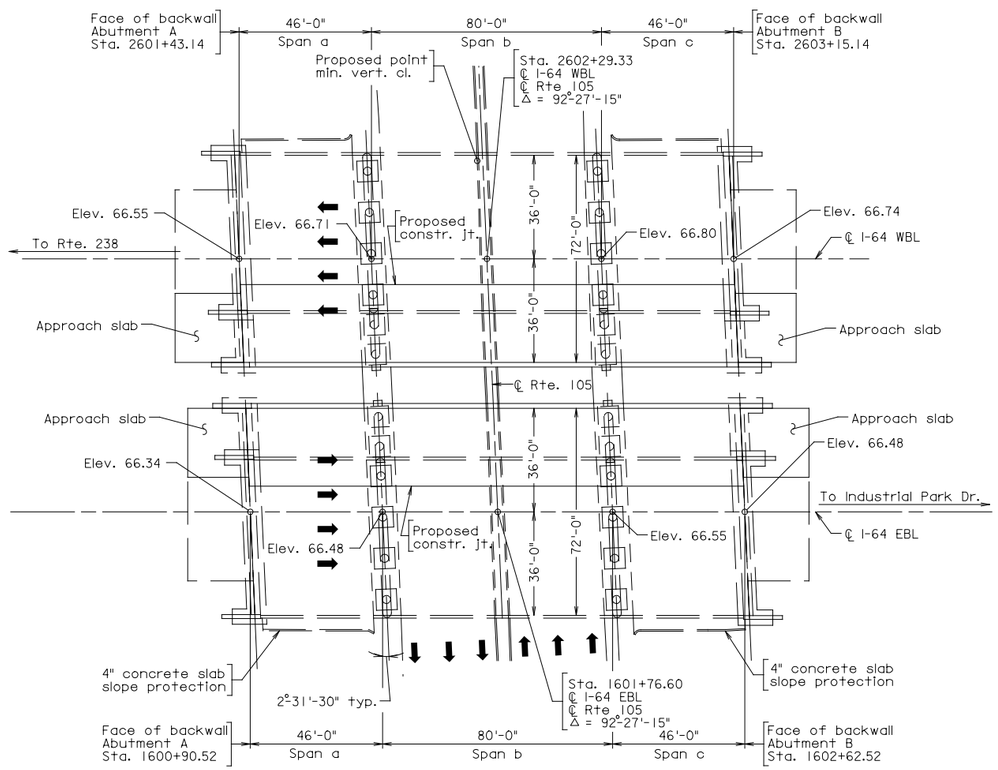
Design: AASHTO LRFD Bridge Design Specifications, 6th Edition, 2012; and VDOT Modifications.

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

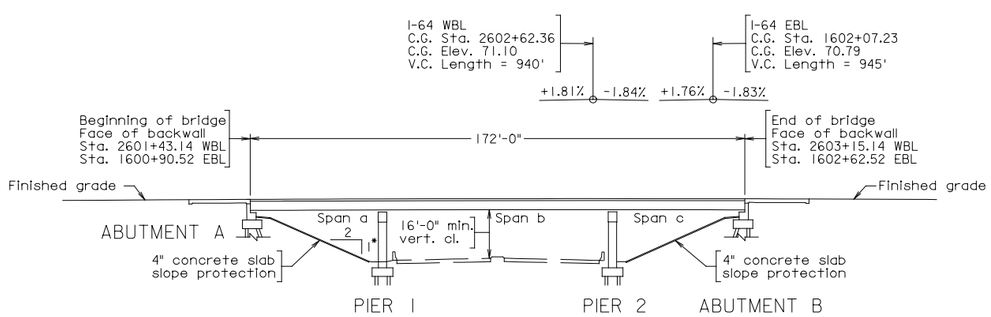
These plans are incomplete unless accompanied by the Supplemental Specifications and Special Provisions included in the contract documents.

Bridge Nos. of existing bridges are 2212 (EBL) and 2213 (WBL). Plan Nos. are 166-24.

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



PLAN



* Normal to abutment

DEVELOPED SECTION ALONG WIDENING

PRELIMINARY PLANS

THESE PLANS ARE NOT TO BE USED FOR CONSTRUCTION OF BRIDGE.

VDOT

COMMONWEALTH OF VIRGINIA

DEPARTMENT OF TRANSPORTATION

PROPOSED BRIDGE WIDENING ON
RTE. 64 OVER RTE. 105 (FORT EUSTIS BLVD)
CITY OF NEWPORT NEWS
PROJ. 0064-965-264

$TIME$

$DATE$ DGN

RECOMMENDED FOR APPROVAL FOR CONSTRUCTION
VDOT PROJECT MANAGER
DISTRICT CONSTRUCTION MANAGER

PLANS BY:	Consultant
COORDINATED:	
SUPERVISED:	
DESIGNED:	E. ANDERSON
DRAWN:	M. BURGESS
CHECKED:	M. KING

Scale: 1" = 25'

Recommended for Approval: _____ District Planning and Investment Manager Date

No.	Description	Date

REVISIONS

For Table of Revisions, see Sheet 2.

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

Approved: _____ Chief Engineer Date

Date: SEPT. 2014

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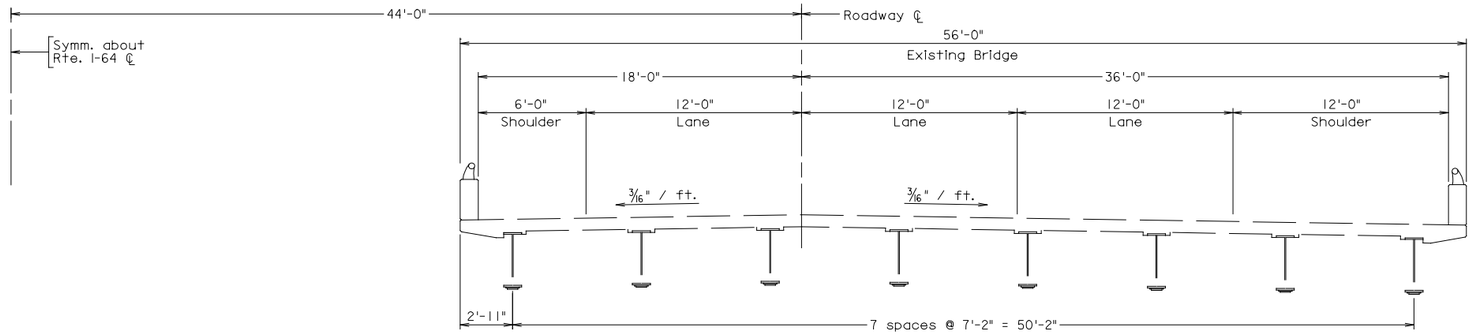
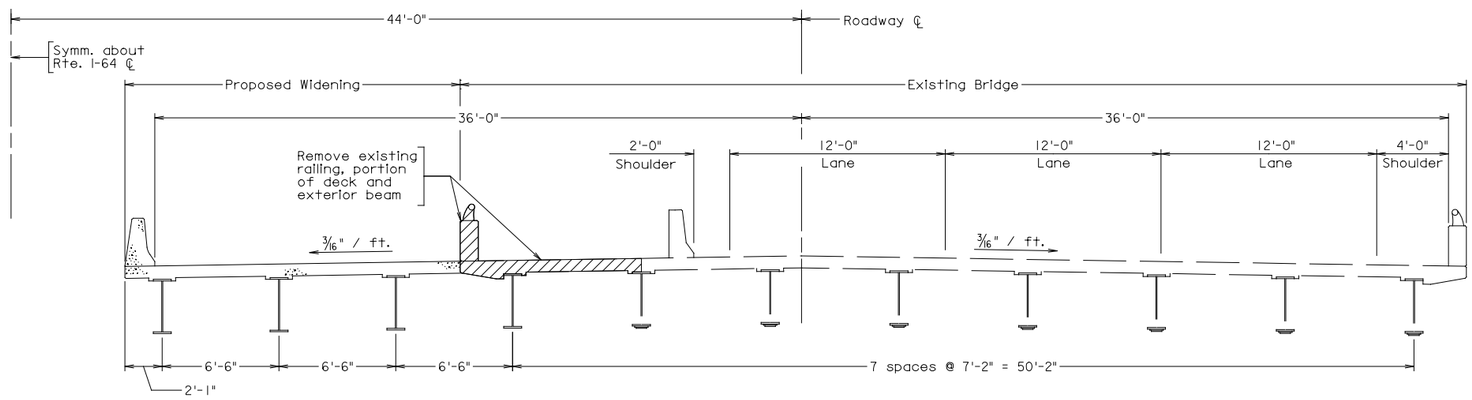
166-24A

Sheet 1 of 3

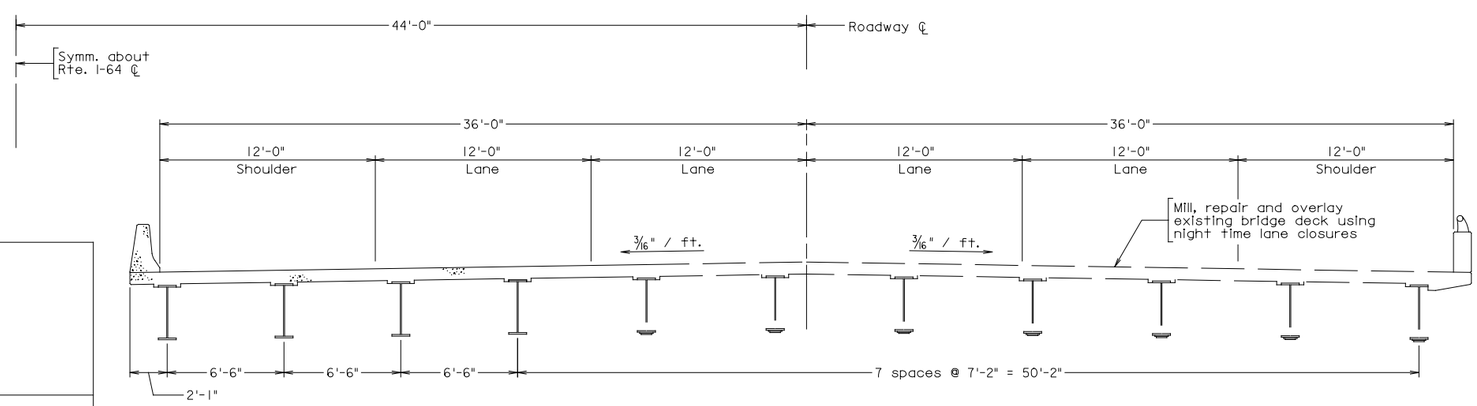
STATE	FEDERAL AID ROUTE	FEDERAL AID PROJECT	STATE ROUTE	STATE PROJECT	SHEET NO.
VA.	—	NHA-064-3(479)	64	0064-965-264, B618, B619	2



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



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



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

Scale: 1/4" = 1'-0", unless otherwise shown

Notes:

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

Legend:

Existing structure to be removed.

PRELIMINARY PLANS

THESE PLANS ARE NOT TO BE USED FOR CONSTRUCTION OF BRIDGE.

$DATE$ $TIME$
DGN

No.	Description	Date

Revisions

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION

STRUCTURE AND BRIDGE DIVISION

TRANSVERSE SECTION
(I-64 OVER RTE 105)

Designed: EDA
Drawn: MSB
Checked: MMS

Date

Plan No. 166-24A

Sheet No. 2 of 3

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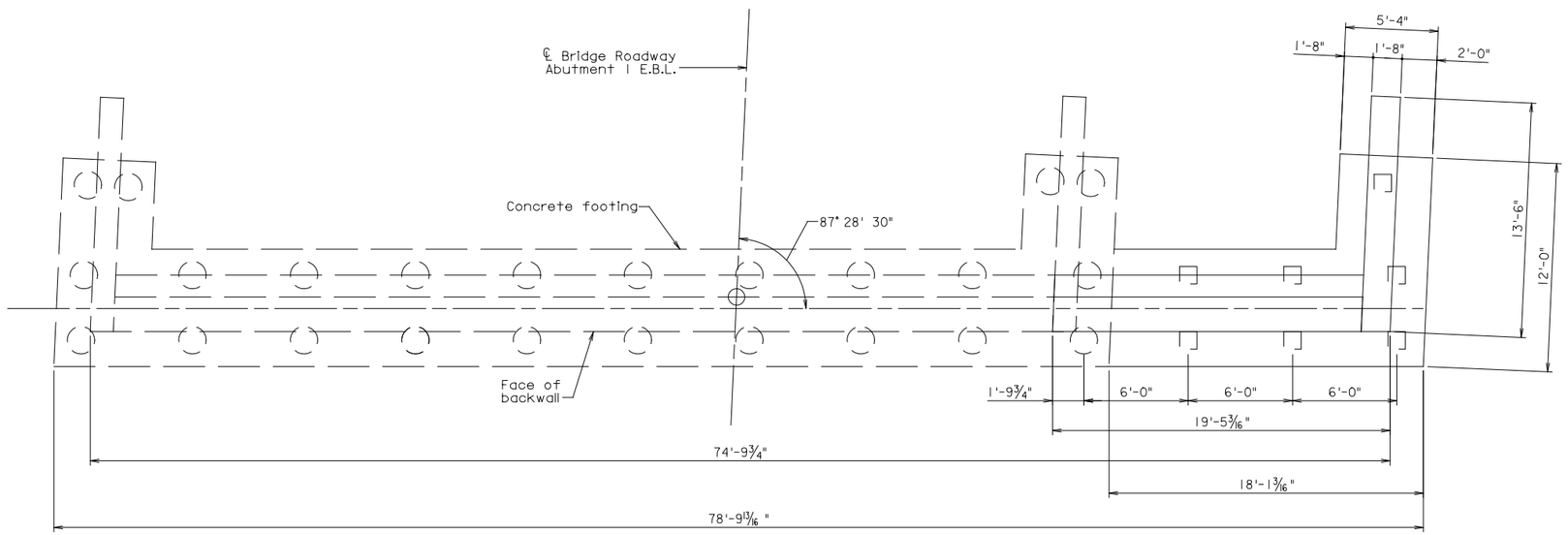
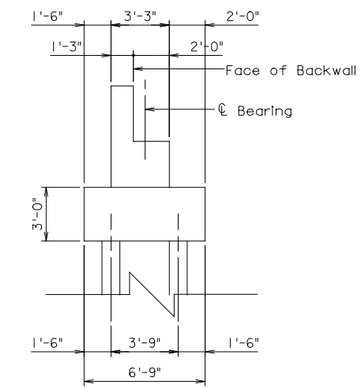
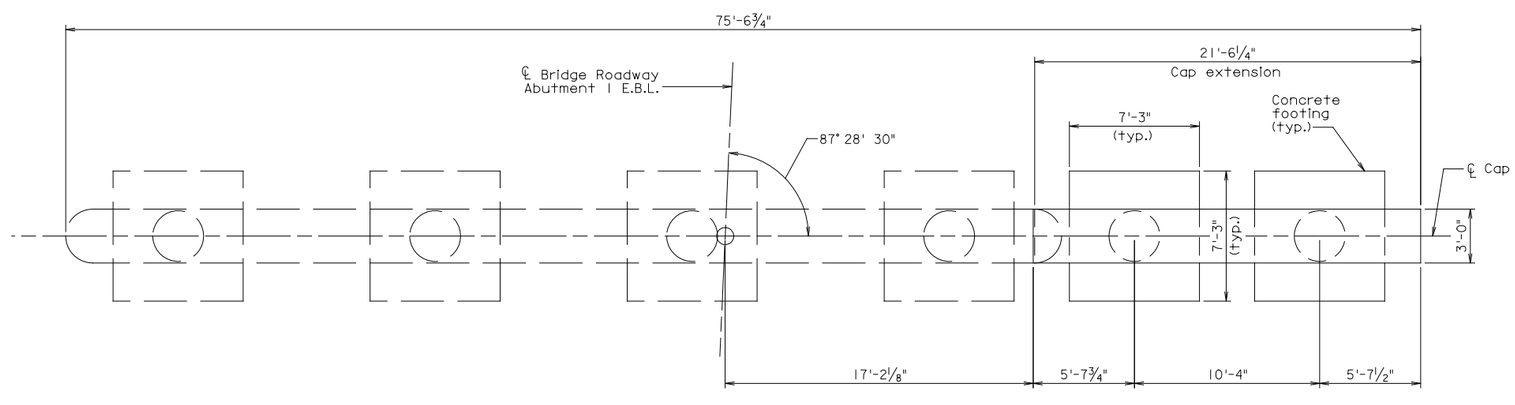
STATE	FEDERAL AID ROUTE	FEDERAL AID PROJECT	STATE ROUTE	STATE PROJECT	SHEET NO.
VA.	—	NHA-064-3(479)	64	0064-965-264, B618, B619	3



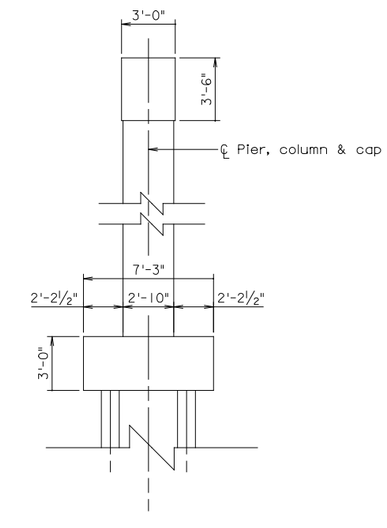
PLAN OF END BENT



ABUTMENT SECTION



PLAN OF INTERIOR BENT



PIER SECTION

PRELIMINARY PLANS

THESE PLANS ARE NOT TO BE USED FOR CONSTRUCTION OF BRIDGE.

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No.	Description	Date
	Revisions	

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION

STRUCTURE AND BRIDGE DIVISION

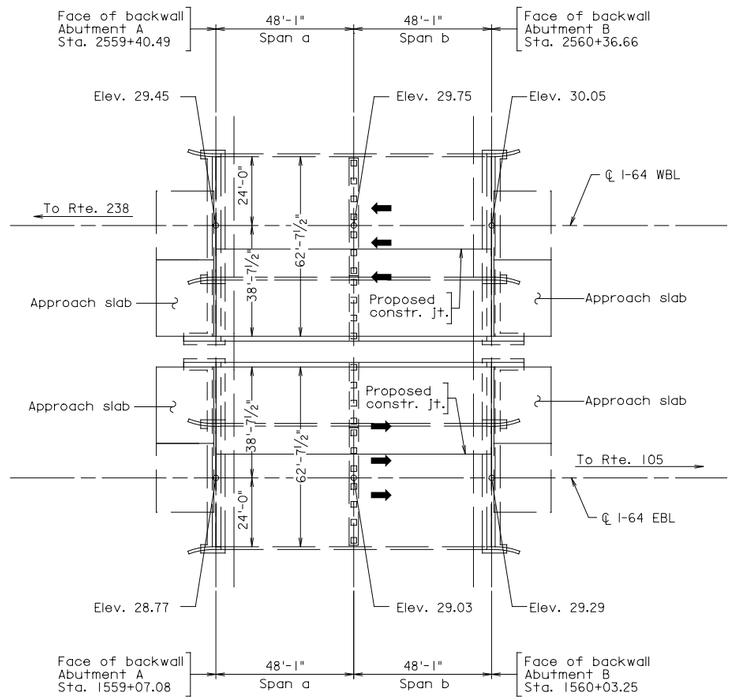
END BENT AND INTERIOR BENT
(I-64 OVER RTE 105)

Designed: FDA.....
Drawn: .....MSB.....
Checked: .....WMK.....

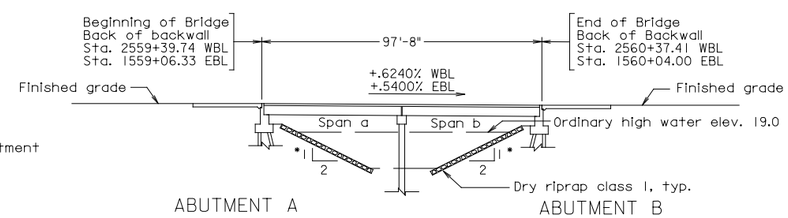
Date	Plan No.	Sheet No.
	166-24A	3 of 3

$TIME$
$DATE$
DGN

STATE	FEDERAL AID ROUTE	FEDERAL AID PROJECT	STATE ROUTE	STATE PROJECT	SHEET NO.
VA.	—	NHA-064-3(479)	64	0064-965-264, B620, B621	1
NBIS Number: 000000000020696 000000000020697			UPC No. 104905		
Federal Oversight Code: FO			FHWA Construction and Scour Code: X081-S8		



PLAN



*Normal to abutment

BENT 1

DEVELOPED SECTION ALONG WIDENING

DESIGN EXCEPTION(S):

None

GENERAL NOTES:

Width: 62'-7½" face-to-face of rails.

Span layout: 48'-1" - 48'-1"

Capacity: HL-93 loading.

Drainage Area: 14.2 square miles.

Specifications:

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

Design: AASHTO LRFD Bridge Design Specifications, 6th Edition, 2012; 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 2204 (EBL) and 2205 (WBL). Plan Nos. are 163-25.

PRELIMINARY PLANS

THESE PLANS ARE NOT TO BE USED FOR CONSTRUCTION OF BRIDGE.

$TIME$

$DATE$
DGN

RECOMMENDED FOR APPROVAL FOR CONSTRUCTION
VDOT PROJECT MANAGER
DISTRICT CONSTRUCTION MANAGER

PLANS BY:	Consultant
COORDINATED:	
SUPERVISED:	
DESIGNED:	E. Anderson
DRAWN:	M. Burgess
CHECKED:	M. King

Scale: 1" = 25'

Recommended for Approval: _____ District Planning and Investment Manager Date

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 LEE HALL RESERVOIR
CITY OF NEWPORT NEWS
PROJ. 0064-965-264

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

Approved: _____ Chief Engineer Date

Date: SEPT. 2014

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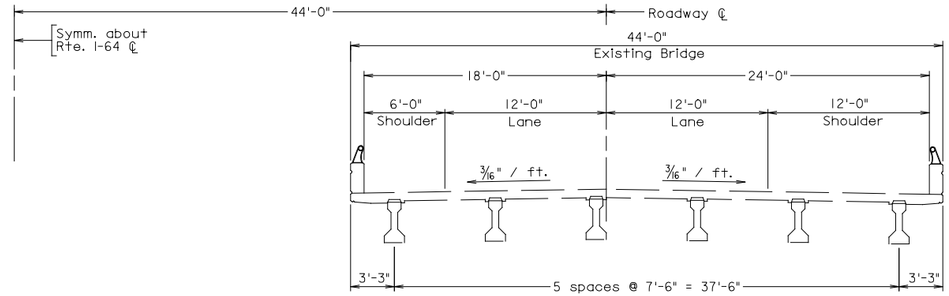
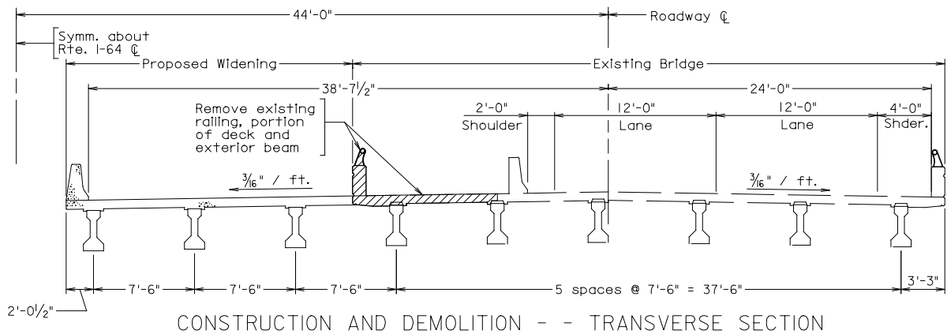
163-25A

Sheet 1 of 2

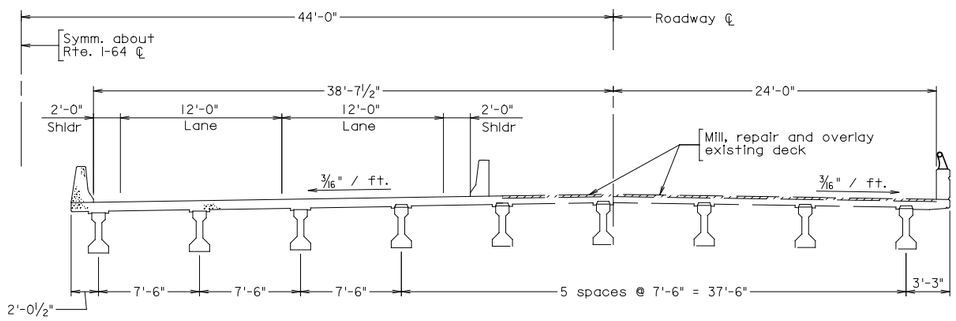
STATE	FEDERAL AID ROUTE	FEDERAL AID PROJECT	STATE ROUTE	STATE PROJECT	SHEET NO.
VA.	—	NHA-064-3(479)	64	0064-965-264, B620, B621	2



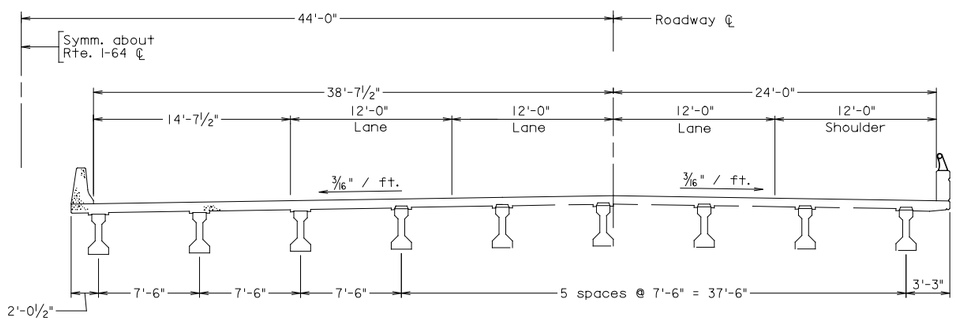
EXISTING BRIDGE - TRANSVERSE SECTION
(EBL shown, WBL opposite hand)



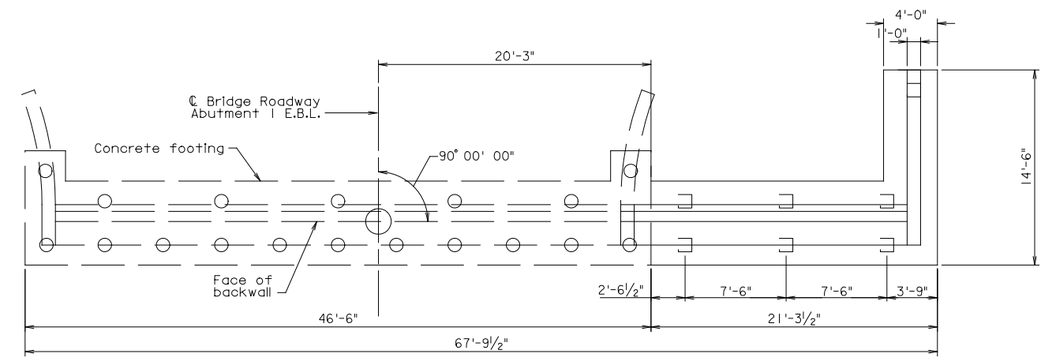
CONSTRUCTION AND DEMOLITION - - TRANSVERSE SECTION
(EBL shown, WBL opposite hand)



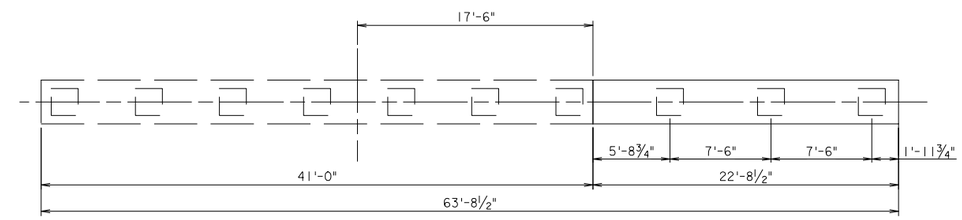
OVERLAY - TRANSVERSE SECTION
(EBL shown, WBL opposite hand)



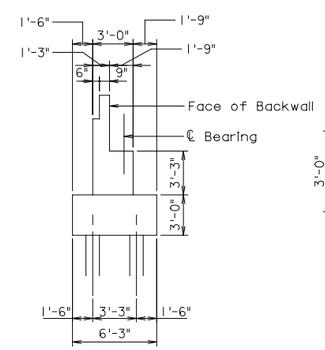
FINAL - TRANSVERSE SECTION
(EBL shown, WBL opposite hand)



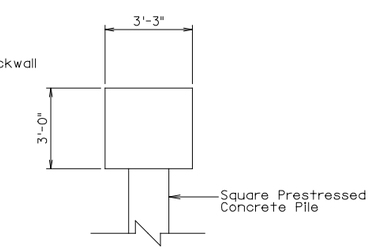
PLAN OF END BENT



PLAN OF INTERIOR BENT



ABUTMENT SECTION



PIER CAP SECTION

PRELIMINARY PLANS

THESE PLANS ARE NOT TO BE USED FOR CONSTRUCTION OF BRIDGE.

Notes:

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

Legend:

Existing structure to be removed.

NOT TO SCALE

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No.	Description	Date
	Revisions	

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION

STRUCTURE AND BRIDGE DIVISION

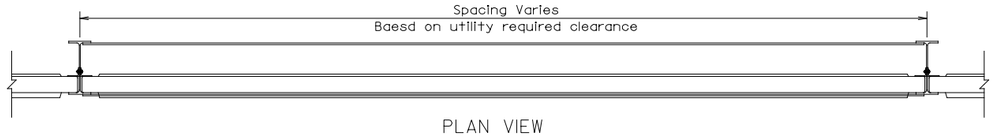
TRANSVERSE SECTION W/ END BENT & INTERIOR BENT (I-64 OVER LEE HALL RESERVOIR)

Designed: .....EDA
Drawn: .....DJS
Checked: .....WMK

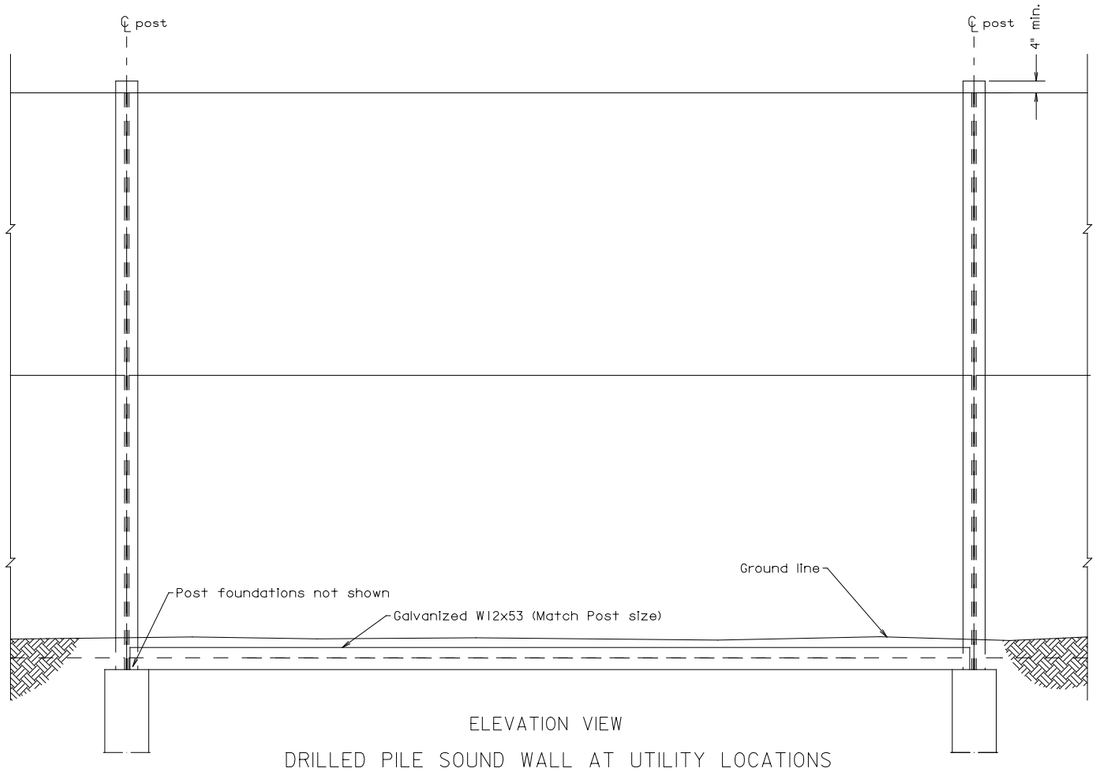
Date	Plan No.	Sheet No.
	163-25A	2 of 2

$TIME$
$DATE$
DGN

STATE	FEDERAL AID ROUTE	FEDERAL AID PROJECT	STATE ROUTE	STATE PROJECT	SHEET NO.
VA.	—	NHA-064-3(479)	64	0064-965-264	1



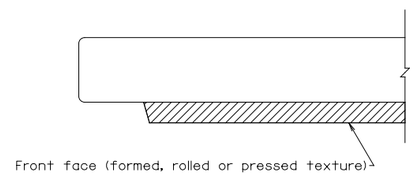
PLAN VIEW
STEEL POST - PANEL CONNECTION



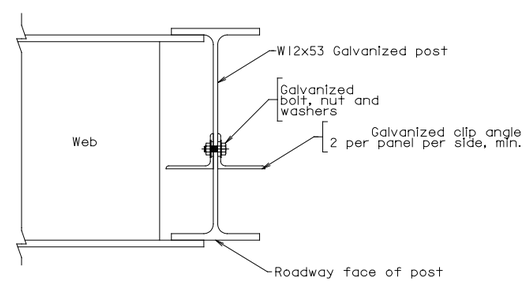
ELEVATION VIEW

DRILLED PILE SOUND WALL AT UTILITY LOCATIONS

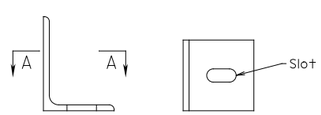
48" & 27" WATER MAIN AT STA. 2633+50
10" GAS MAIN 2 AT STA 2655+00
10" SANITARY FORCE MAIN AT STA 2688+50



TOP VIEW
PANEL



EXPOSED STEEL POST DETAIL
(BOLTED CLIP ANGLE)



SECTION A-A

CLIP ANGLE DETAIL

PRELIMINARY PLANS

THESE PLANS ARE NOT TO BE USED FOR CONSTRUCTION.

Not to scale

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No.	Description	Date
	Revisions	

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION

STRUCTURE AND BRIDGE DIVISION

PRECAST SOUND WALL
STEEL POST DETAILS
AT UTILITY LOCATIONS

Designed: EDA
Drawn: MSB
Checked: WMK

Date	Plan No.	Sheet No.
	—	1 of 1