

NOVEMBER 16, 2015

ORIGINAL
COPY 1 OF 10

**TECHNICAL PROPOSAL
VOLUME I**

**INTERSTATE 64
CAPACITY IMPROVEMENTS –
SEGMENT II**

**FROM: 1.05 MILES WEST OF ROUTE 199
(HUMELSINE PARKWAY)
TO: 0.54 MILES EAST OF ROUTE 238
(YORKTOWN ROAD)
NEWPORT NEWS, YORK COUNTY AND
JAMES CITY COUNTY, VIRGINIA**

**STATE PROJECT NO.: 0064-965-264, P101, R201,
C501,B627, B628, B629, B630, B631, B632, B633, B634,
B635, D603, D604, D605, D606, D607, D608**

CONTRACT ID NUMBER: C00106665DB82



PREPARED FOR:



SUBMITTED BY:





November 16, 2015

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

RE: I-64 Capacity Improvements – Segment II

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

Dear Mr. Clarke:

The Lane Construction Corporation (LANE) is pleased to present our Technical Proposal for the above referenced Design-Build (D-B) project. Our response contains all information requested in the RFP dated July 21, 2015 and Addenda 1, 2, and 3. LANE is teamed with HDR Engineering, Inc., Lead Designer, to provide the Virginia Department of Transportation (VDOT) a Team with a solid reputation for completing complex projects innovatively, on time, and often ahead of schedule. Our Team's experience enables us to deliver the high quality and technically-sound project both VDOT and the public expects. Our Team has taken every opportunity to include enhancements, provide value-added features, diligently manage and mitigate risk, and reduce both construction and long-term maintenance costs. By focusing on our quality, safety, public information and environmental protection programs, VDOT, the traveling public, business and residential stakeholders will benefit by the final results as this project is completed.

4.1.1 Offeror's Full Legal Name and Address:

The Lane Construction Corporation
90 Fieldstone Court
Cheshire, CT 06410

4.1.2 Declaration of Intent: It is the Offeror's intent, if selected, to enter into a contract with VDOT for the Project in accordance with the terms of this respective RFP.

4.1.3 120 Day Declaration: Pursuant to Part 1, Section 8.2, we declare the offer represented by the Technical Proposal will remain in full force and effect for one hundred twenty (120) days after the date of the Technical Proposal is actually submitted to VDOT.

4.1.4 Offeror's Point of Contact Information: Mr. Robert E. Watt is the authorized representative and point of contact for the LANE Team for all matters associated with this qualifications submittal.

Robert E. Watt, Pursuit Manager
14500 Avion Parkway, Suite 200
Chantilly, VA 20151
Tel: (703) 222-5670 Fax: (703) 222-5960
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4.1.5 Offeror's Principal Officer Information: Mr. Mark A. Schiller is a Principal Officer of LANE.

Mark A. Schiller, Senior Vice President
14500 Avion Parkway, Suite 200
Chantilly, VA 20151
Tel: (703) 222-5670 Fax: (703) 222-5960
Email: MASchiller@laneconstruct.com

4.1.6 Final Completion Date: In accordance with RFP Section 2.3.1, LANE proposes a final completion date of July 26, 2019.

4.1.7 Proposal Payment Agreement: An executed Proposal Payment Agreement (Attachment 9.3.1) can be found in the Appendix of Volume 1.

4.1.8 Certification Regarding Debarment Forms: Certifications for Debarment for both Primary and Lower Tier Transactions have been completed and executed for the Offeror and all subconsultants, subcontractors, and other entities as identified as members of the LANE Team. These can be found in the Appendix of Volume 1.

The LANE Team appreciates the opportunity to provide our Proposal for this extremely important project. We look forward to working closely with VDOT and the stakeholders in our development and delivery to make the I-64 Capacity Improvements – Segment II project a landmark success for the citizens of Virginia.

Respectfully submitted,



Robert E. Watt
Pursuit Manager
The Lane Construction Corporation

4.2 OFFEROR'S QUALIFICATIONS

4.2 | OFFEROR'S QUALIFICATIONS

4.2.1 Qualifications of Key Personnel

Following submission and shortlist of our SOQ, LANE's proposed Construction Manager, Mr. Ervin Belcher, became unavailable for this project. We received permission to replace Mr. Belcher with Mr. Brian Basnight. This change was submitted by LANE on September 18, 2015 and approved via email dated September 21, 2015. The following narratives and organizational chart from the Statement of Qualifications (SOQ) have been revised to incorporate the Construction Manager change:

Name	Position	Company
Brian Basnight	Construction Manager	LANE

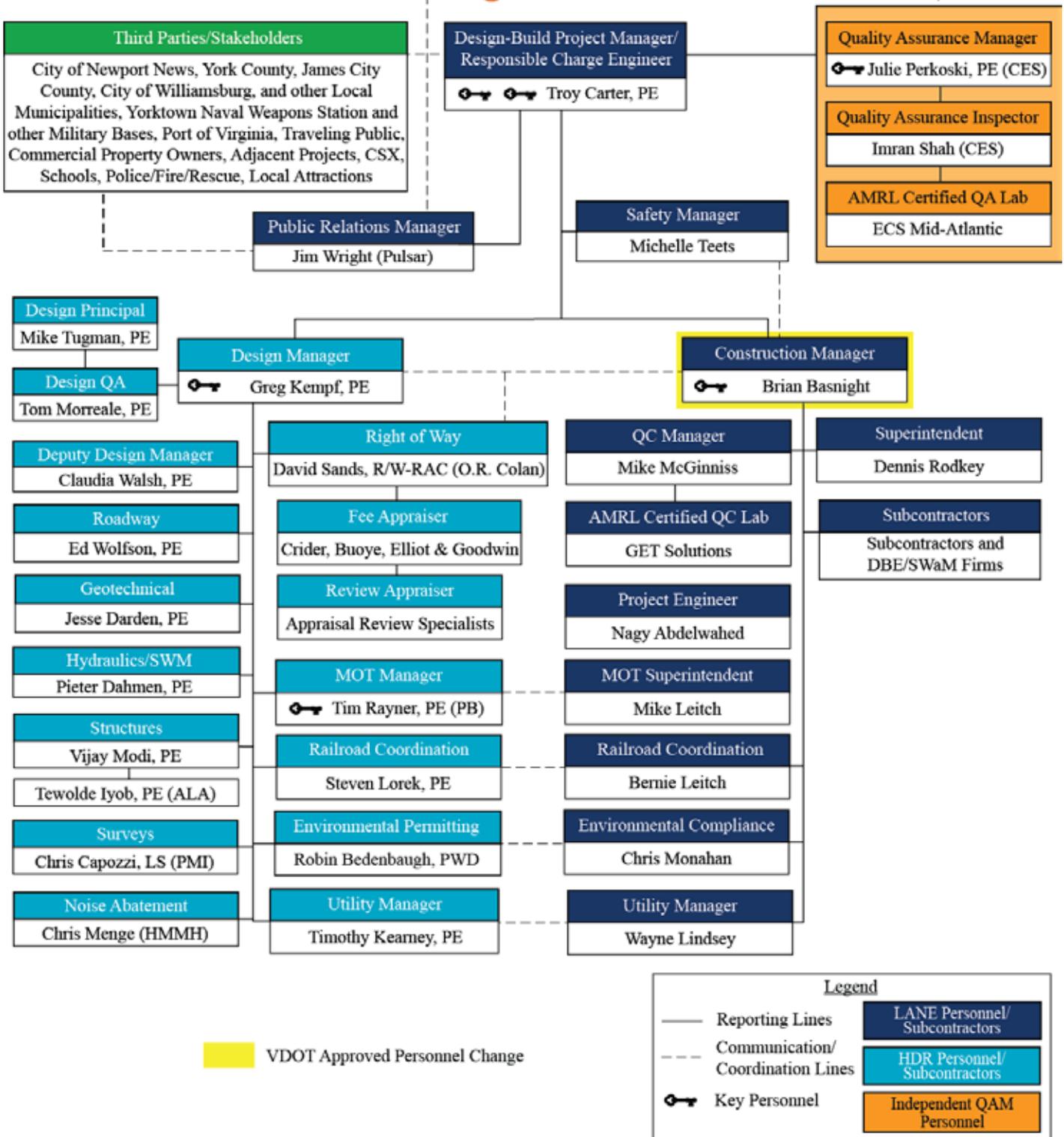
Construction Manager, Mr. Brian Basnight (LANE) will report directly to the DBPM and will be on-site *full-time* for the duration of the project. His daily duties include: safety, coordination of all project personnel including subcontractors, and execution of the construction QC program. He holds ultimate responsibility for managing the construction schedule with his staff engineers and coordinating daily with adjacent projects underway. He will coordinate daily meetings with the QAM, QA Lead Inspector, and QC Manager to discuss all ongoing construction activities. He will also review all construction QC reports and lab results. Anything not meeting standards will be addressed immediately with corrective actions mandated that same day. Mr. Basnight currently holds a DEQ RLD Certification and a VDOT ESCCC.

R Added Value: Mr. Basnight has been a Construction Manager on numerous interstate widening projects in Virginia and throughout the East Coast. His extensive experience working in heavily traveled corridors with extensive MOT coordination will be a benefit to the Team. He is currently the Construction Manager on the VDOT I-64/I-264 Pavement Rehabilitation project and his understanding and knowledge of the local area will be an enormous asset to the Team. Additionally, Mr. Basnight worked closely with HDR on the I-95 Express Lanes project.

LANE confirms all other information presented in the Statement of Qualifications (SOQ) dated May 28, 2015 remains true and accurate in accordance with Part 1, Section 11.4.

4.2.2 Organizational Chart

Under the leadership of our Design-Build Manager Project (DBPM) and Responsible Charge Engineer (RCE), Mr. Troy M. Carter, PE, the LANE Team is structured to effectively manage and deliver the design and construction of this project. The LANE Team is organized to provide VDOT with a single-source point of contact, responsible for all design and construction activities. Our Team organization has a straightforward chain of command, with individual tasks and functional responsibilities clearly identified. This organizational chart identifies key personnel and major functions to be performed for the successful management, design, and construction of the project. Though reporting relationships are rigid, the lines of communication within the team will remain fluid and flexible to meet the requirements of each individual project task. In order to prevent unnecessary project delays, at times it may be prudent for other members within the LANE Team to communicate directly with their counterparts at VDOT. This will be directed and authorized in advance by Mr. Carter and the VDOT Project Manager.



4.3 | DESIGN CONCEPT

Introduction of Design Strategy

The I-64 Capacity Improvements – Segment II (I-64 Segment II) project is another critical step forward in addressing the region’s mobility issues. Our Team is intimately familiar with the existing facility and the planned improvements along the corridor. Based on our Team’s collective experience with interstate widening, we have developed a design to minimize impacts to the traveling public and provide long-term asset performance and durability, while delivering an efficient design to VDOT, the City of Newport News, York County, James City County and other stakeholders. Our Design Concept is shown in Volume II – Conceptual Plans and provides a comprehensive product including various enhancements that exceed the RFP requirements:

- Reduces proposed right of way (ROW) from 25.4 acres to 12.4 acres and eliminates it entirely on five parcels
- Reduces ITS impacts by allowing existing devices, communication and electrical network to remain in place and operational during construction
- Enhances vertical profile to meet the design speed requirements listed in the RFP
- Minimizes impacts to traffic by limiting the length of active work areas and barrier wall
- Reduces stormwater management footprint by utilizing the existing terrain and ROW
- Minimizes environmental impacts by reducing the proposed ROW and stormwater management ponds
- Optimizes the sequence of construction by maximizing the width of work area and limiting construction to four phases
- Minimizes the use of temporary pavements
- Enhances safety by limiting temporary lane shifts to the beginning and end of the project area

4.3.1 Conceptual Roadway Plans

The LANE Team’s Conceptual Roadway plans meet or exceed all RFP requirements. Our Team’s design reduces the overall footprint of the project and the limits of construction remain within the existing and/or reduced proposed ROW as shown in the Team’s Conceptual Plans. Our concept does not include design elements requiring design exceptions or design waivers beyond what is shown in the RFP documents.

Conceptual Roadway Plans (Provided in Volume II)

The Conceptual Plans summarize the individual design elements and conform to all AASHTO, VDOT and RFP requirements, including those listed in RFP Part 2, Attachment 2.2.1. Enhancements to the RFP Plans are highlighted in our Conceptual Roadway Plans. Plans will be prepared using MicroStation CADD and provided in .dgn and .pdf formats as well as paper prints at the submission milestones outlined in the RFP. Record plans depicting the as-built condition will be provided in accordance with VDOT requirements.

(a) General Geometry Including Horizontal Curve Data and Associated Design Speeds, the Number and Widths of Lanes, Shoulders, and Sidewalks

As shown on the preliminary plans, we have provided a new 12 ft lane, reconstructed the existing 24 ft of existing pavement and constructed full depth 12 ft wide shoulders along both edges of pavement in both directions of I-64. All horizontal curves meet or exceed the design speeds as specified in the RFP.

(b) Horizontal Alignments

The horizontal alignment closely mimics the existing roadway and meets or exceeds the design speed as specified in the RFP. The Team selectively revised the alignment in places so all widening is to the inside

median (except for auxiliary lane enhancements) which allows us to reduce ROW impacts and utilize existing ITS equipment, reducing cost and construction time.

(c) Maximum Grade for all Segments and Connectors

The maximum grade is 3% or less for I-64 and connectors.

(d) Typical Sections of the Roadway Segments to Include Retaining Walls and Bridge Structures

The proposed roadway and bridge structure typical sections are shown in Volume II and include the new 12 ft lane, reconstructed 24 ft of existing lanes, and new 12 ft shoulders as required by the RFP.

(e) Conceptual Hydraulic and Stormwater Management Design

Drainage improvements consist of new culverts, culvert extensions and connections, median and curb/barrier opening inlets, storm sewer systems, ditches for both conveyance and water quality control and stormwater management facilities for both water quality and quantity control.

Major drainage consists primarily of constructing box culvert connections across the median and adding outside box culvert extensions as necessary. Based on our experience with Segment 1 of the I-95 Express Lanes Project, in the case of connecting two separate cross drain pipes below the EB and WB lanes where the fill height is greater than 20 ft, 60-inch concrete pipe will be used with manholes at the connection locations to facilitate future maintenance. Pipe inspection reports will be used as the basis for determining which existing culvert pipes will be cleaned and repaired and which ones will be abandoned and replaced.

A detailed H&H analysis will be performed for all major cross drain structures impacted to verify upstream proposed conditions headwater elevations for the range of flow events meet the allowable levels as established in the VDOT Drainage Manual, and for the 100-year event there will be no impacts to upstream structures and properties. Based on our preliminary analysis we do not anticipate significant impacts on upstream water surface elevations as a result of the project. A comprehensive field reconnaissance will be performed to evaluate each cross drain at the upstream, median and outlet locations for conditions such as erosion, channel degradation, sediment build-up or undermining, and will identify remedial measures such as placement of revetment, outfall channel restoration measures and bank hardening as necessary.

Spread analysis will be performed in curb, barrier, and bridge rail areas to ensure maximum spread does not exceed the shoulder width. Also, pipe profiles will be developed for system design and pipe cover analysis.

To minimize impacts to Skiffes Creek Reservoir during construction, additional or more effective control measures than what is required for typical construction projects will be implemented. Erosion and sedimentation measures to protect the reservoir will include super silt fence, diversion berms and over-sized sediment traps and sediment basins. Permanent drainage systems discharging to the reservoir will incorporate outfall protection measures such as riprap lined outfall channels or chutes for permanent erosion control.

Channels used by the City of Newport News Waterworks will be analyzed for impacts due to increased impervious area, and to verify conveyance is adequate for the 10-year storm plus 4167 gallons per minute (9.3 cfs) from the waterworks pipe outfall into the channels.

Stormwater Management. Stormwater management for both water quality and quantity control will be performed using VDOT's Method IIB procedures also referred to as the Runoff Reduction Method.

The project extends over the following four (4) 6th order HUC basins:

- YO67
- YO68
- JL35
- JL38

Furthermore, within the project limits there are approximately 25 locations with drainage outfalls at the ROW limits - also referred to as Points of Investigation (POI).

A detailed analysis will be performed using DEQ runoff reduction spreadsheets as the basis for determining phosphorous removal requirements and treatment volumes within each POI. To minimize removal requirements which include paved surfaces, turf (maintained, mowed grassed areas), and forested areas, the different types of land area requiring treatment will be limited to disturbed areas only. Based on preliminary analysis, the project will result in a total Phosphorous Removal Requirement (PRR) of approximately 135 pounds per year. A sub-total of the PRR was also estimated for each HUC Basin. Water Quality credits for the Lower James River watershed are currently available from Cranston Mill Pond LLC, and will be available at the time of construction for the York River watershed as well.

The LANE/HDR Team has completed similar interstate median widening within constrained ROW. The I-95 Express Lanes Project constructed over 29 miles of roadway drainage and 14 SWM facilities for water quality and/or quantity control in 29 months.

As long as 75% of the removal requirement is met on-site, water quality credits may be purchased, therefore, potential water quality BMP sites requiring new right-of-way to be acquired will be considered for water quality credits instead. To reduce right-of-way acquisition cost for VDOT and reduce construction cost of the SWM basin in HUC Basin YO67, the SWM facility formerly identified as Basin 64-29 will not be used and Nutrient Credits will be purchased. Basin 64-29 treated a short section of the project and had limited effectiveness in water quality treatment. Within HUC Basin YO68, the SWM facilities located within the Route 60 interchange formerly identified as Basin 64-9, 64-10, 64-11 and 64-12 will not be used and Nutrient Credits will be purchased instead. The elimination of the four basins within the Route 60 interchange will result in retaining a strip of forest and aesthetic appeal between the EBL and WBL and will also lessen impacts to the northern long-eared bat habitat. The elimination of the five basins will also result in reduced future maintenance requirements for VDOT.

Within HUC Basin JL35 for all outfalls into waterways that drain to the Newport News reservoir system, water quality facilities will be provided meeting the City’s ordinances.

SWM BMP facilities for water quality will include, but not be limited to, the following:

- Compost Amended Grass (CAG) Channels
- Dry Ditch (DD) Level 1
- Dry Ditch (DD) Level 2
- Bio-Retention Basin Level 1
- Bio-Retention Basin Level 2 and
- Constructed Wetlands

For the CAG and DD water quality channels, grate inlets will be used to size each drainage area to the maximum allowable. For the bio-retention basins, the RFP and DEQ Guidance documents allow a maximum drainage area of 5 acres. Based on the conceptual design prepared by the Team, there are two basins with drainage areas greater than 5 acres; constructed wetlands are proposed at these locations. In some cases flow splitters are proposed for areas not suitable for constructed wetlands therefore two bio-retention basins will be used with an equivalent drainage area less than 5 acres. Pre-treatment cells or forebays will be used for bio-retention basins and constructed wetlands. For water quality ditches, a 5 ft wide grass strip for sheet flow will be used as pretreatment.

Water quantity control will be analyzed at each POI using the Energy Balance Equation (or Modified Energy Balance equation for receiving streams in poor condition). No analysis is required for receiving streams with large drainage areas, where greater than 100 times the drainage area at the outfall, and in those cases no detention basins are required. We anticipate outfalls into streams such as the tributaries of Jones Mill Pond, Whiteman Swamp, Kings Creek, Skiffes Creek Reservoir and the tributary of the Warwick River will meet the 1% criteria. At other outfall locations, the energy balance equation will be used to determine detention basin requirements. Hydrologic routing analysis will be performed to size the basins and to verify the condition of the energy balance equation is met for the 1-year storm event. The analysis will also consider peak flow attenuation occurs in wide channels with flat slopes and within bio-retention basins. Required detention basins will be placed downstream of water quality facilities such as bio-retention basins to act as an upper shelf.

(f) Proposed Right of Way Limits

For this project, we were able to reduce the proposed ROW by 13 acres and eliminated proposed ROW on 5 parcels by combining the proposed SWM ponds and revising the grading of the SWM ponds to better utilize the existing terrain and existing ROW. **This reduction of proposed ROW will save VDOT approximately \$5 million.** This is based on approximate historical land square footage cost and the final amount will be determined during the final design phase. Also, there is no additional proposed ROW or easements on the Yorktown Naval Station.

Since the LANE/HDR Team reduced the proposed ROW, VDOT will have less construction cost, less potential schedule impacts, increased public acceptance and less maintenance for VDOT.

(g) Proposed Utility Impacts

Anticipated utility impacts are depicted in Volume II – Conceptual Plans and are provided in more detail in Section 4.4.2. As indicated in this section, several potential conflicts are anticipated as a result of the bridge foundation installation. Some of these may be avoided with minor adjustments to the foundation following our in-depth utility location program. A majority of the construction activities can be completed concurrently with utility relocations, minimizing the potential for schedule delay caused by private utility relocations.

The ITS communication and electrical network runs the full length of the project, including a few perpendicular crossings. Impacts to these facilities are minimized by our design concept, limiting widening to the inside only instead of small widening to the outside of the roadway. Not only does this preserve the communication and electrical network in place, it eliminates the relocation of most ITS devices. However, DMS signs will need to be relocated and new sign structures constructed. This approach maximizes the ability of VDOT Eastern Region Traffic Operations Center to monitor traffic during construction, limiting the potential for down time. It also reduces the cost of the project and the construction schedule.

(h) Noise Wall Locations

As shown in the RFP plans, a noise barrier was considered to be feasible and reasonable based on the noise technical memorandum provided and is approximately 2,600 ft in length with an average height of 20 ft. During preliminary design, this location will be finalized and adjusted to avoid existing underground and overhead utilities. A draft NADR will be completed by the LANE Team and any modifications will be incorporated into the Final NADR and final construction plans.

HDR designed over 5 miles of noise walls on the I-95 Express Lanes project. Our lessons learned from designing and constructing noise walls along a heavily traveled corridor will be a significant advantage to our Team on this project.

4.3.2 Conceptual Structural Plans

Our concept for all bridges is to widen, modify and repair in accordance with RFP requirements and the RFP Conceptual Plans. Proposed bridges will match existing span layouts and type of superstructure and substructure, and new piers and abutments for the widened portion of the bridges will match the aesthetics of the existing substructure elements.

Deck repairs, including patching, milling or hydro demolition will be performed in accordance with VDOT Special Provisions, and Latex Modified Concrete will be used as a rigid overlay. Environmental and other safety precautions will be utilized for all steel repairs and re-coating of steel rolled beams for Type B structures.

Our construction sequence will investigate a closure pour between the widening and existing superstructures to accommodate deflection effects. We will develop site specific jacking plans to replace bearings or for repair work of substructure. Each structure will be analyzed independently for the least disruptive jacking scheme.

All widened portions of the bridges will be designed using AASHTO LRFD Bridge Design Specifications, 7th Edition, VDOT Modifications (IIM S&B-80), and the Additional Foundation Criteria required by the RFP. Bridge Load Ratings will be performed for final configurations and as necessary for phased construction.

Design Concepts to Be Used For All Bridge Widening	
Bearing Components	<ul style="list-style-type: none"> · Existing bearings will be replaced with steel reinforced elastomeric bearing pads. · Anchor bolts, sole plates, masonry plates, and clip angles will also be replaced.
Jointless Superstructure	<ul style="list-style-type: none"> · Expansion joints at piers will be eliminated by utilizing the detail shown in the Structure and Bridge Manual, Volume V, Part 2, File No. 10.02-2. · A jointless superstructure will be provided by extending the deck slab over the backwall to eliminate the joint over the bearings.
Deck Repair/Widening	<ul style="list-style-type: none"> · Existing overlay will be removed. The portion of the original deck slab will spalls will be removed and repaired with Type A, Type B, or Type C patching as required per the RFP. The entire deck will be overlaid. · Widening portions of deck will be constructed as continuous at pier locations.
Beams/Girders	<ul style="list-style-type: none"> · Existing beams (prestressed and rolled steel beams) will be repaired as described in the RFP and Inspection Reports. · Steel beam end repairs will consist of the removal and replacement of damaged portions of the bottom flange and web. · Category E and E' fatigue prone details will be retrofitted with Ultrasonic Impact Treatment in accordance with the RFP and Special Provisions. · All existing structural steel will be re-coated on all bridges except for B629, where re-coating is required only in isolated locations where the existing coating is damaged. · Existing exterior fascia beams (median side) will either be replaced or rehabilitated and all known deficiencies in those beams will be addressed. · All bolts will be checked, tightened if loose, or replaced if damaged in all existing girder splices and diaphragms. · Spacing of proposed beams/girders will meet RFP requirements to accommodate the same stiffness/load reactions.
Drainage	<ul style="list-style-type: none"> · Spread analyses will be performed and scuppers provided as needed.
Substructure Repairs	<ul style="list-style-type: none"> · Existing piers, abutments, and slope-protection including cracking, settlement, and erosion, will be repaired based on the items as noted in the RFP and Inspection Reports. · Spalls and/or delamination repairs in the substructure elements will utilize galvanic anode units, per Section 2.3.6.4 of the RFP.
Abutments	<ul style="list-style-type: none"> · Widened abutments will match the appearance of existing abutments and will be pile supported cast-in-place concrete abutments.
Piers	<ul style="list-style-type: none"> · New piers supporting the widened structure will match the appearance of existing piers. · Pile or drilled shaft supported multi-column piers to support the widened portion of the bridges.
Pier Protection	<ul style="list-style-type: none"> · Standard VDOT pier protection will be evaluated for all substructure units.

The following matrix shows bridge specific information for the nine bridges within the project limits:

<i>B627 & B628: I-64 over Penniman Road and Abandoned Railroad</i>		
SUPERSTRUCTURE	Geometrics	<ul style="list-style-type: none"> Three spans (53'-1" - 76'-4" - 53'-1" for B627 and 57'-1" - 76'-4" - 57'-1" for B628) The existing and widened portion of the bridge will maintain the minimum vertical clearance of 16'-6" over Penniman Road and the abandoned railroad Simple span prestressed concrete beams composite with deck Widened bridges will provide (4) travel lanes and full width shoulders
	New Beams	<ul style="list-style-type: none"> Beams will be prestressed concrete
	Utilities	<ul style="list-style-type: none"> Existing ITS communication and electrical network between the 1st and 2nd beam will remain in place
SUBSTRUCTURE	Piers/Crash Wall	<ul style="list-style-type: none"> Pier 1 (EBL and WBL) will have a drilled shaft foundation due to the proximity of the railroad and will limit involvement with the railroad agency. Pier 2 will have either a pile-supported foundation or drilled shafts. Pier 1 will utilize an integral crash wall meeting the geometric requirements of the VDOT Structure and Bridge Manual, Volume V, Part 2 due to its close proximity to the existing Abandoned Railroad.
CONSTRUCTION	Maintenance of Traffic	<ul style="list-style-type: none"> Three lanes of I-64 traffic each direction with minimum of one foot shoulders will be maintained throughout all phases of bridge construction in accordance with the provisions of Part 2, Section 2.10 of the Transportation Management Plan. The maintenance of traffic on Penniman Road will be in accordance with the requirements in Part 2 of the RFP

<i>B629: I-64 EB over I-64 WB Off-Ramp to Route 143</i>		
SUPERSTRUCTURE	Geometrics	<ul style="list-style-type: none"> Four spans (76'-6¼" - 72'-11¾" - 50'-2¾" - 53'-10½") The existing and widened portion of the bridge will maintain the minimum vertical clearance of 16'-6" over I-64 WB Ramp to Rt. 143 Simple span plate girders composite with deck Widened bridges will provide (3) travel lanes and full width shoulders
	Jointless Superstructure	<ul style="list-style-type: none"> Existing expansion joints over the bearings at the abutments will be eliminated using a similar detail as provided by the Department. This alternate abutment combines jointless concepts with traditional concepts to provide a jointless superstructure Use of Light Weight Concrete for the modified portion may be evaluated so as to not exceed loads on the existing piles.
	New Girders	<ul style="list-style-type: none"> Girders will be plate girders

	<p>Utilities</p>	<ul style="list-style-type: none"> Superstructure will support under bridge lighting in accordance with the RFP Existing ITS communication and electrical network between the 1st and 2nd beam will remain in place
<p>CONSTRUCTION</p>	<p>Maintenance of Traffic</p>	<ul style="list-style-type: none"> Two lanes of I-64 traffic each direction with minimum of one foot shoulders will be maintained throughout all phases of bridge construction in accordance with the provisions of Part 2, Section 2.10 of the Transportation Management Plan. A single 12' lane will be maintained at all times on the I-64 WB Off-Ramp to Rte. 143 except for short duration closures in accordance with the RFP, Section 2.10.2

B630 & B631: I-64 over Burma Road and Railroad to Naval Weapons Station

<p>SUPERSTRUCTURE</p>	<p>Geometrics</p>	<ul style="list-style-type: none"> Four spans (63'-3¼" - 67'-10" - 67'-10" - 69'-7½" for EEB and 63'-3½" - 61'-6" - 61'-6" - 63'-3½" for WB) The existing and widened portion of the bridge will maintain the minimum vertical clearance of 16'-0" over Burma Road and 23'-0" over the Navy Railroad Simple span plate girders composite with deck Widened bridges will provide (3) travel lanes and full width shoulders
	<p>New Girders</p>	<ul style="list-style-type: none"> Girders will be plate girders
	<p>Utilities</p>	<ul style="list-style-type: none"> Superstructure will support under bridge lighting in accordance with the RFP Existing ITS communication and electrical network between the 1st and 2nd beam will remain in place
<p>SUBSTRUCTURE</p>	<p>Pier/Crash Wall</p>	<ul style="list-style-type: none"> Pier 2 (EB and WB) will be on drilled shaft foundations due to the proximity of the railroad and will limit coordination with the Navy All other piers will be pile-supported. If any portion of an existing or widening pier falls within 25'-0" from the centerline of the railroad track, the entire pier will be protected with an integral crash wall meeting the geometric requirements of the VDOT Structure and Bridge Manual, Volume V, Part 2.
<p>CONSTRUCTION</p>	<p>Maintenance of Traffic</p>	<ul style="list-style-type: none"> A temporary crossing of the railroad may be allowed for construction in accordance with Section 2.3.11 of the RFP, must be approved by the Navy and shall allow for trains to utilize the track. Two lanes of I-64 traffic each direction with minimum of one foot shoulders will be maintained throughout all phases of bridge construction in accordance with the provisions of Part 2, Section 2.10 of the Transportation Management Plan. The maintenance of traffic on Burma Road will be in accordance with the requirements in Part 2 of the RFP.

<i>B632 & B633: I-64 over Jefferson Ave.</i>		
SUPERSTRUCTURE	Geometrics	<ul style="list-style-type: none"> · Five spans (54'-10³/₄" - 49'-8 ⁷/₈" - 80'-5³/₄" - 80'-5³/₄" - 85'-7 ⁵/₈" for B632 and 54'-10³/₄" - 49'-8³/₄" - 80'-5 ⁵/₈" - 80'-5 ⁵/₈" - 85'-7 ⁵/₈" for B633) · The existing and widened portion of the bridge will maintain the approved design waiver of minimum 16'-0" vertical clearance · Simple span plate girders composite with deck · Widened bridges will provide (3) travel lanes and full width shoulders
	Jointless Superstructure	<ul style="list-style-type: none"> · Existing expansion joints over the bearings at the abutments will be eliminated using a similar detail as provided by the Department. This alternate abutment combines jointless concepts with traditional concepts to provide a jointless superstructure. · Use of Light Weight Concrete for the modified portion may be evaluated so as to not exceed loads on the existing piles.
	Additional Deck Repairs	<ul style="list-style-type: none"> · For Span 3 of the EB bridge (B-632), the existing overlay and the upper portion of the concrete deck to 1" below top rebar mat will be removed. The repair will install galvanic anodes and the new concrete will conform to Class A4 with ½" minimum aggregate and shall be level with the existing deck surface.
	New Girders	<ul style="list-style-type: none"> · Girders will be plate girders that match the moment of inertia of the existing rolled beams.
	Utilities	<ul style="list-style-type: none"> · Superstructure will support under bridge lighting in accordance with the RFP · Existing ITS communication and electrical network between the 1st and 2nd beam will remain in place
SUBSTRUCTURE	Abutments	<ul style="list-style-type: none"> · The relatively small gap (after widening) between the EB and WB bridge abutments will be connected with a retaining wall. · This scheme will be more economically and aesthetically pleasing compared to two (2) U-back wing walls on the inside (median) of the abutments.
CONSTRUCTION	Maintenance of Traffic	<ul style="list-style-type: none"> · Two lanes of I-64 traffic each direction with minimum of one foot shoulders will be maintained throughout all phases of bridge construction in accordance with the provisions of Part 2, Section 2.10 of the Transportation Management Plan. · The maintenance of traffic on Jefferson Avenue will be in accordance with the requirements in Part 2 of the RFP.

<i>B634 & B635: I-64 over Rte. 238/ Yorktown Road</i>		
SUPERSTRUCTURE	Geometrics	<ul style="list-style-type: none"> Four spans (48'-11 3/8" - 48'-8 5/8" - 48'-10" - 49'-3 3/8" for B634 and 48'-10 1/8" - 48'-7 3/8" - 48'-8 5/8" - 49'-2 1/8" for B635) The existing and widened portion of the bridge will maintain the 16'-6" minimum vertical clearance. Simple span prestressed concrete beams composite with deck Widened bridges will provide (3) travel lanes and full width shoulders
	New Beams	<ul style="list-style-type: none"> Beams will be AASHTO prestressed concrete beams
	Utilities	<ul style="list-style-type: none"> Superstructure will support under bridge lighting in accordance with the RFP Existing ITS communication and electrical network between the 1st and 2nd beam will remain in place
SUBSTRUCTURE	Abutments	<ul style="list-style-type: none"> The relatively small gap (after widening) between the EB and WB bridge abutments will be connected with a retaining wall. This scheme will be more economically and aesthetically pleasing compared to two (2) U-back wing walls on the inside (median) of the abutments.
	Pier Protection	<ul style="list-style-type: none"> Standard VDOT pier protection will be constructed on either side of Yorktown Road and in the median as required by the RFP.
CONSTRUCTION	Maintenance of Traffic	<ul style="list-style-type: none"> Two lanes of I-64 traffic each direction with minimum of one foot shoulders will be maintained throughout all phases of bridge construction in accordance with the provisions of Part 2, Section 2.10 of the Transportation Management Plan. The maintenance of traffic on Yorktown Road will be in accordance with the requirements in Part 2 of the RFP.

As detailed herein, our Team is intimately familiar with the existing facilities and the planned improvements along the I-64 corridor. Our Conceptual Plans are based on our Team’s collective experience with interstate widening. We are providing a design concept to minimize impacts to the traveling public and provide long-term asset performance and durability, while delivering an efficient, quality design to VDOT.

4.4 | PROJECT APPROACH

The LANE Team’s approach to the I-64 Segment II Project is to engage highly qualified permitting, design and construction personnel, expert subject matter specialists and experienced subconsultants with the professional ability to provide VDOT the proficiency required to manage and control all permit, design and construction activities. Our Team’s knowledge and composition allows VDOT to function strictly in an oversight role, and allows the project to be continuously advanced through the Project Milestones, having diligently planned for and managed risk, cost and schedule through all aspects design and construction. We will work closely with VDOT and other stakeholders to maintain strong and open lines of communication using down-to-basics work sessions to address concerns and needs. This proactive management of the project will result in a D-B process that foresees stumbling blocks, mitigates their risk and facilitates success. The LANE Team believes this approach with continuous and open communication will best serve the Project by maintaining a coordinated approach to the overall development and delivery.

The discussion of our project approach is located below and highlights the following benefits:

- Our relevant experience allows us to provide the appropriate documentation for the permits so the process is streamlined.
- Familiarity with the local geological conditions allows the team to design and construct the most efficient solution for foundations and unsuitable materials.
- Reduces ITS impacts, allowing existing devices, communication and electrical networks to remain in place and operational during construction
- A design approach to avoid conflicts with utilities wherever possible and minimize impacts when conflicts cannot be avoided to mitigate costly and timely relocations

4.4.1 Environmental Management Studies, Investigations and Permits

Our Team’s approach to environmental management and permitting begins with the Notice of Intent to Award and continues throughout the life of the project. By utilizing the same environmental staff during design and construction, we are able to consistently coordinate environmental needs and requirements throughout the project. We are well-versed in environmental permitting and will execute our plan so the project does not experience unnecessary delays.

The LANE Team’s Environmental Permitting Lead, Robin Bedenbaugh, PWD, has provided environmental and permitting services for over 30 years to VDOT on many projects throughout the Commonwealth, most recently serving as the environmental lead on the VDOT Route 460 General Management Contract. Major infrastructure projects he has successfully provided these services on include:

The Team’s Environmental Permitting Lead, Robin Bedenbaugh, PWD, has been performing environmental studies and permitting in support of transportation projects in Virginia for over 30 years.

- I-664 Monitor Merrimac Bridge Tunnel
- Route 33 West Point Bridges
- Route 123 Occoquan River Bridge
- Chincoteague Bridge
- I-81 Widening project
- Several I-95 widening/improvement projects
- I-66 Widening (Gainesville)
- Numerous state road widening and bridge replacement projects

Mr. Bedenbaugh’s experience has led to trusted relationships with regional regulatory agency staff, which helps facilitate timely acquisition of permits without impacts to project schedules.

For this project there are a number of environmental concerns that may affect project permitting and project schedules. These concerns include:

- Wetlands and Waters of the U.S.
- Potential Threatened and Endangered Species habitat
- Public Water Supply resources
- Fire Ant Quarantine area
- Potential Asbestos-containing material
- Potential lead paint
- Potential Ozone non-attainment area restrictions

The Team clearly understands the permitting process and how it may affect the construction schedule; therefore HDR will begin the permitting process while the supplemental surveying and geotechnical investigation efforts are underway. Data collection, field review, and wetland/stream delineation will be done first in order to obtain the necessary information to prepare a permit application. Data collection and field reviews will include literature searches, initial agency contact, United States Fish and Wildlife Service (USFWS) and Virginia Department of Game and Inland Fisheries (VDGIF) database searches for records of occurrences of Threatened and Endangered species (T&E), and field observations for evidence of suitable habitat or occurrences of potential T&E species. Wetland and stream field delineation will be performed using the accepted United States Army Corps of Engineers (USACE) and Virginia Department of Environmental Quality (VDEQ) methodology and field flags will be placed on the wetland/stream boundaries. A survey of the flagged wetland/stream boundary is required for submission to USACE along with a request for a formal jurisdictional determination, so this field effort will be coordinated with the survey team to ensure the wetland flagging is conducted concurrently with the survey effort. The survey data will be used to prepare the graphics and drawings needed for the jurisdictional confirmation request and the wetland permit application. The environmental staff will work closely with our design engineers to guide design so impacts to these wetland resources are avoided and minimized to the maximum extent possible to facilitate ease of permitting. The Team used this approach to successfully obtain the permits for the I-95 Express Lanes project without impacting the project schedule.

Potential Threatened and Endangered (T&E) Species Habitat

Initial threatened and endangered species review indicates there is potential habitat present for two federally listed species; the small-whorled pogonia (SWP) and the northern long-eared bat (NLEB). As wetland permits cannot be issued for the project until threatened and endangered species concerns have been resolved with the appropriate resource agencies, the team addresses the concerns at the beginning of the project. VDOT is currently coordinating the SWP concerns with the USFWS; however, the Team will conduct all necessary coordination and surveys for the NLEB. Wetland delineation field work will be initiated immediately following project NTP, and at the same time the project area will also be surveyed for suitable NLEB habitat. The Team’s environmental lead will then initiate early coordination with the USFWS; first to attempt to negotiate an exception to the requirements for avoidance under the 4(d) Rule; and if an exception is not granted, to determine the appropriate survey requirements (acoustic surveys or mist netting surveys) prior to initiation of the surveys, and will obtain concurrence from the USFWS prior to the May 15 start of the NLEB survey season, so surveys for NLEB can begin when the survey season

Since the NLEB was formally listed in May 2015, HDR has successfully coordinated with the USFWS to develop project guidelines to allow projects to be permitted and constructed on at least a half dozen projects, including the 98 mile Williams Transco pipeline project across Southside Virginia.

On the Route 460 project, HDR biologists negotiated an exception to the time of year restriction on clearing of trees for the geotechnical investigations to reduce it from the full April to September restriction to just the NLEB “pupping” season between June and July.

opens. The team has two staff members currently holding USFWS bat survey permits, and will conduct the necessary surveys to minimize the potential for negative schedule impact.

Permit Application Process

The following is an outline of the permit application process:

- Prepare the Joint Permit Application (JPA)
- Submit the JPA to the Virginia Marine Resources Commission (VMRC)
- VMRC will submit copies to the VDEQ and the USACE for concurrent review

Submitting an application before accurate impacts have been determined typically results in the need for pursuing permit modifications later to address the final project impacts. To minimize potential for permit modifications, the Team’s environmental staff will work with our engineers throughout design to ensure the JPA details all impacts expected to occur. During preliminary design, we will identify all environmental constraints and collaborate to avoid impacting these areas. This information will allow the Team to analyze construction access, temporary work areas, and utility relocations while avoiding and minimizing impacts to environmentally sensitive areas. This teamwork will also allow the stormwater management design to be located where it is effective, yet reduces ROW and avoids wetlands and sensitive species habitats. Our Team expects this collaborative approach will help us successfully obtain necessary permits as efficiently as possible, and within the timeframes we have assumed in our project schedule.

Although this will be a joint wetland permit application process, each agency will review it individually and make determinations for permit issuance and type. Agencies have a minimum of 30 days to review the applications for completeness and to request additional information. Once they have determined necessary information has been provided to their satisfaction, the formal permit action timeline begins. During the formal review period, VMRC will solicit comment from sister state and federal agencies. Each agency has the right to require information specific to their jurisdiction, so each agency will require individual coordination. Based on our preliminary site screening and environmental documentation provided in the NEPA document, it appears this project could be eligible for a Nationwide Permit from the USACE and a General Permit from the VMRC. If USACE issues a Nationwide Permit, VDEQ has the option of not requiring a Virginia Water Protection (VWP) permit. VDEQ can make a VWP opt-out determination upon agreement the proposed impacts do not represent significant impacts. If VDEQ determines the impacts are significant, they will issue an appropriate VWP general permit. At a minimum, this project will require permits from the USACE and the VMRC, and we anticipate VDEQ will issue a VWP general permit.

The agencies will also require proof of mitigation before issuing their permits, either through acquisition of credits from a mitigation bank, or through development of a site specific mitigation plan. Compilation of required data for the permit application will occur concurrently with design, and final preparation of the wetland permit applications will take approximately two weeks once final impacts are identified. Our environmental staff will prepare necessary permit plates, exhibits, and documentation for the submittal to the permitting agencies. The VSMP permit will be obtained following submittal of the LD-445 forms and the Phase 1 ESA documentation will be submitted in advance of the request for the right of a plan approval. Copies of all environmental permit submissions will be provided to VDOT for their information and copies of the approved permits will be provided upon issuance.

Agency coordination following permit submission may take up to six additional weeks. Time needed to respond to agency comments on the wetland permit application is difficult to predict, however, it is expected permits could be issued within four to six months after the permit application is determined to be complete. Our Team’s experience preparing thorough and complete permit applications, our trusted relationships with the agencies, and our ability to successfully resolve jurisdictional and T&E issues will ensure permits are acquired as expeditiously as possible.

Public Water Supply Resources

Along with wetlands and endangered species concerns, this project passes through the Skiffes Creek Reservoir watershed which provides drinking water to the region. To ensure protection of this important resource, our

Team will coordinate with the City of Newport News to develop phased erosion and sedimentation (E&S) control plans taking into account temporary construction activities and phased installation of drainage and stormwater management improvements.

Fire Ant Quarantine Area

The project is located in a Virginia Department of Agriculture and Consumer Services (VDACS) designated Fire Ant quarantine area. Fire Ants, an invasive ant species from South America, have invaded the entire Hampton Roads area and VDACS can no longer control them. In order to prevent or minimize the risk of further spread, VDACS has identified regulated materials that cannot be transported out of the quarantine area without inspection and treatment to kill ants present in the materials. The Fire Ant quarantine lists the following as regulated articles: (1) any life stage of Imported Fire Ant; (2) soil; (3) plants with roots with soil attached, or roots and rhizomes of plants with soil attached; (4) grass sod; (5) used soil-moving equipment, unless free of all non-compacted soil; (6) used farm equipment, unless free of all non-compacted soil; (7) hay and straw, including pine straw, stored in direct contact with the ground; (8) honey bee hives in direct contact with the ground, including hive stands containing soil; (9) logs, pulpwood and stump wood with soil attached. In addition, any other article or means of conveyance is considered a regulated article, when such article is determined by a VDACS inspector to present a risk of spread of the imported Fire Ant. The current quarantine area includes the Counties of James City and York, and the Cities of Chesapeake, Hampton, Newport News, Norfolk, Poquoson, Portsmouth, Suffolk, Virginia Beach and Williamsburg. Since this project is located within a quarantine area, the movement of any of the regulated materials within the areas listed above as quarantine areas is not prohibited. The materials cannot be moved outside of the quarantine area.

Environment and Permitting Construction Approach

Before any ground disturbing activities take place, specific project requirements and environmental commitments will be reviewed and coordinated with the construction team. Our environmental staff will continue working during the construction phase by performing permit compliance monitoring. Also before we begin any construction activity, the same environmental staff who initially delineated the wetlands will return to the field to re-mark the limits of the jurisdictional wetlands and streams. E&S construction forces will place safety fence or silt fence in critical areas to be avoided and not accessible. Proper E&S controls will be installed in accordance with the approved plans. Monitoring and inspection will occur throughout construction to check compliance with the project permits and current VDOT standards. Dedicated E&S staff will inspect the site on a regular basis and after each major storm event as defined by current VDOT standards. Damaged or deteriorated measures will be repaired or reinstalled prior to additional work within the drainage area being started.

At the completion of construction, our environmental staff will make a final site visit to document the final conditions for closure of the permits, and corrective actions identified will be completed prior to the final request for the closing of the permits.

During construction, the LANE Team will manage potential solid waste, hazardous waste, and hazardous materials in accordance with all applicable federal, state, and local environmental regulations and will implement good housekeeping, waste minimization and pollution prevention practices. The Team will perform asbestos inspections on all structures as required by the contract documents, and if necessary, perform asbestos abatement and/or monitoring in accordance with VDOT procedures and specifications.



LANE’s “No Idle” Policy states that no on or off road equipment, including light vehicles, shall exceed 5 minutes at idle.

This project is located within an area designated by VDEQ as a volatile organic compounds (VOC) and nitrogen oxides (NOx) Emissions Control Area. The LANE Team will adhere to the limitations outlined in the RFP. In addition, the LANE Team already has a “No Idle” policy for all company vehicles.

4.4.2 Utilities

Like most interstate widening projects, this corridor contains many public and private utility crossings within the project footprint. Utility relocations are often on the critical path for construction activities, and if not managed properly, have the potential to delay the project and impact construction cost. Similarly, unforeseen utility conflicts will detrimentally impact the schedule and construction cost. It is therefore imperative for the our Team to have a clear understanding of the overhead and underground utility network in the corridor and have an experienced Design Utility Manager on the team to develop and implement a Utility Relocation/Coordination Plan. Our Design Utility Manager, Mr. Timothy Kearney, PE, has been working with local utilities for over 15 years. Mr. Kearney has established good working relationships with the providers that may be affected by the project. Our Utility team has spent a significant amount of time corresponding with project utility owners and researching available records, all of which have been used to develop our Conceptual Coordination Plan. And during construction Mr. Kearney will remain fully engaged to coordinate relocations between the utility companies and the Construction Utility Manager.

Beginning at Notice to Proceed, utilities will be designated, test holed, and reviewed for conflicts. Weekly, on-site utility coordination meetings will be held to define potential conflicts, relocations required, schedules, and required reimbursement through the utility agreement process.

The following is a summary of the potential utility conflicts and our strategy to mitigate the conflicts.

Utility Owner | Type of Facility	Location	Potential Conflict	Mitigation Strategy
OVERHEAD POWER LINES			
Dominion Power | Overhead Transmission Lines	Sta. 1151+70/2152+75 Sta. 1433+40/2433+50 Sta. 1462+60/2433+50 Sta. 1467+30/2468+15	Maintaining overhead clearance between construction equipment and overhead line during construction	Adhere to VDOT & DVP requirements for overhead clearances.
Dominion Power | Overhead Distribution Lines	Sta. 1463+25/2463+25 Sta. 1466+45/2466+45	Maintaining overhead clearance between construction equipment and overhead line during construction	Adhere to VDOT & DVP requirements for overhead clearances.
UNDERGROUND POWER | COMMUNICATION LINES | ITS			
Electric Power Feed to VDOT Facility | Underground Secondary Power Line	Sta. 1167+15/2167+60	Potential conflict with bridge foundation	Perform test hole and relocate as necessary
Underground Communication Line	Sta. 1167+80/2168+40	Potential conflict with bridge foundation	Perform test hole and relocate as necessary
Verizon | Underground Fiber Optic (FO)	Sta. 1424+17/2424+16	Potential conflict with bridge foundation	Perform test hole and relocate as necessary
Metro Fiber| Underground Fiber Optic (FO)	Sta. 1424+39/2424+38	Potential conflict with bridge foundation	Perform test hole and relocate as necessary
Verizon | Underground Duct with Copper and Fiber Optic	Sta. 1425+94/2425+93	Potential conflict with bridge foundation	Perform test hole and relocate as necessary

Utility Owner | Type of Facility	Location	Potential Conflict	Mitigation Strategy
Telephone | Underground Facilities	Sta. 1472+46/2472+55	Potential conflict with bridge foundation	Perform test hole and relocate as necessary
Cable TV and Fiber Optic | Underground Facility	Sta. 1472+64/2472+74	Potential conflict with bridge foundation	Perform test hole and relocate as necessary
Cable TV and Fiber Optic | Underground Facility	Sta. 1473+46/2473+56	Potential conflict with bridge foundation	Perform test hole and relocate as necessary
Electric Power Feed to VDOT Facility | Underground Secondary Power Line	Sta. 1473+75/2473+40	Potential conflict with bridge foundation	Perform test hole and relocate as necessary
GAS			
Virginia Natural Gas | 6-inch Gas Line	Sta. 1167+78/2168+38	Potential conflict with bridge foundation	Obtain additional test holes and relocate as necessary
SEWER			
York County | 8-inch Sewer Forcemain	Sta. 1167+37	Adjacent to bridges construction. Vibration from pile construction has the potential to damage the existing pipe	Perform test hole and modify the pile construction approach in this area to reduce vibration
York County | 20-inch Sanitary Sewer	Sta. 1201+00	Record drawings indicated no conflict with the proposed design	Perform test hole to verify
HRSD | 36-inch Sewer Forcemain	Sta. 1464+10	Record drawings indicated no conflict with the proposed design	Perform test hole to verify
Navy | 12-inch Sewer Forcemain	Sta. 1435+80	Record drawings indicated no conflict with the proposed design	Perform test hole to verify
WATER			
Newport News Water Works | 16-inch Watermain	Sta. 1166+53 (Rte. 641) Sta. 1472+95 (Yorktown Rd)	Adjacent to bridges construction. Vibration from pile construction has the potential to damage the existing pipe	Perform test hole and modify the pile construction approach in this area to reduce vibration
Newport News Water Works | 42-inch Watermain	Sta. 1172+00 Sta. 1223+00 to 1223+50	Potential conflict with drainage and roadway improvements	Perform test hole and modify proposed drainage system and roadway profile as necessary

Utility Owner | Type of Facility	Location	Potential Conflict	Mitigation Strategy
Newport News Water Works | 48-inch Watermain	Sta. 1270+30	Potential conflict with drainage and roadway improvements	Perform test hole and modify proposed drainage system and roadway profile as necessary
Newport News Water Works | 42-inch Watermain	Sta. 1424+20	Adjacent to bridges B632 and B633. Vibration from pile construction has the potential to damage the existing pipe	Perform test hole and modify the pile construction approach in this area to reduce vibration
Newport News Water Works | 39-inch Watermain	Sta. 1424+40	Adjacent to bridges B632 and B633. Vibration from pile construction has the potential to damage the existing pipe	Perform test hole and modify the pile construction approach in this area to reduce vibration

We understand the importance of avoiding utility conflicts and relocations wherever possible. If conflicts cannot be avoided we will work to minimize relocations with design modifications and protection; only as a last resort will utilities be relocated to accommodate proposed improvements.

Project Specific Utility Impacts. We have identified several existing utilities potentially in conflict with the proposed design; these conflicts are summarized in the table above. We have discussed each known and potential conflict with the utility owners identified in the RFP. Where ownership of the utility is unknown, we have provided additional information to potential owners and requested verification of ownership.

Following the procedures outlined in the VDOT Utility Relocation Policies and Procedures Manual, our Utility Coordinator will implement the following steps as part of the coordination process:

1. The Design Utility Manager will work with the design team to develop and implement a test-hole program.
2. From the test-hole data the Design Utility Manager will work with the design team to avoid and minimize utility relocations.
3. The Design Utility Manager will continue discussions with the utility providers for relocation needs and determine the easements required and coordinate any permits required for the relocations.
4. A UFI Meeting will be held with each private utility owner in conflict with the proposed design to establish a relocation plan, schedule, and budget.
5. A review of the private utilities prior rights and the completion of the UT-9 forms will occur while pro-rata shares and relocation schedules are finalized.
6. Upon completion of the utility relocation plans and approval by the County and VDOT, each utility will be given a written notice to proceed.
7. Following notice to proceed, our Design Utility Manager will closely monitor utility relocations to verify relocations are progressing within the desired timeframes and coordinating the utility relocation schedule with the Construction Manager.

Conflicts with existing utilities create the potential to significantly impact the project schedule and cost. On D-B projects this risk is even greater for several reasons. At the RFP stage, the design is preliminary and it is not always feasible to determine the full extent of utility impacts. Also, the majority of the utility companies have not developed the design, cost analysis, and schedule for the potential relocations. Lastly, there is limited leverage the design-builder has to motivate utility companies to complete their efforts within the project schedule. Our Team’s experience managing these risks through the successful completion of multiple

D-B projects has allowed us to develop a proven strategy in implementing a project-specific Utility Coordination Plan for both Public and Private Utilities.

Public Utilities. Newport News Water Works maintains a 42-inch and a 48-inch watermain crossing I-64. Our Team’s approach to design of the roadway and drainage improvements eliminates any impacts to these active watermains. There are, however, several areas where it is necessary to excavate shallow cuts over these existing water lines. In these areas, we will test pit the waterline to determine the actual location and ensure adequate cover is maintained during construction.

Additionally, two large diameter watermains, 42-inch and 39-inch, are present at bridges B632 & B633.

Vibrations from pile installation for these bridges can present potential for damage to the existing pipes. A review of available record drawings reveals the 42-inch and 39-inch lines were installed in 1961 and 1942 respectively. Our Team will determine construction approaches to prevent damage to these pipes from construction activity and vibrations caused by pile construction. Due to the limited space available beneath the bridges, relocations of these watermains would be costly and impose schedule impacts. We believe impacts can be mitigated as part of our design approach and relocations avoided.

A 20-inch sanitary sewer line owned by York County crosses I-64 near Sta. 1201+00(EB). Based on the provided survey information and record drawing review, it does not appear to be in conflict with our proposed storm system. It will be a top priority to confirm the sewer location at critical crossings, and in the event of conflict, the storm systems at these locations will be evaluated and modified where feasible to minimize conflicts.

Our team obtained and reviewed record drawings for the 36-inch sewer force main crossing at Sta. 1464+10, owned by Hampton Roads Sanitation District (HRSD). Based on the review, we do not anticipate conflicts with this utility, however, we will perform test holes to determine the alignment of the pipe and confirm depths shown in the record drawings.

Private/Other Utilities. Prior to geotechnical investigations and roadway construction activities, we will ensure equipment can be operated below the overhead electric transmission and distribution lines while maintaining required safety clearance standards. Overhead transmission lines for DVP cross I-64 at several locations. Elevations for DVP wires crossing I-64 were provided with the VDOT survey, and we will confirm these measurements. Clearance for the transmission lines are a minimum of 25ft (vertical) from the existing pavement grade. Construction operations and equipment heights are restricted to the minimums required by OSHA while the transmission lines are active.

DVP overhead distribution lines also cross I-64 in several locations. Overhead clearance for the distribution lines range from 18 to 20ft (vertical) from the existing pavement grade. Since distribution poles are located outside of the right-of-way, impacts to these lines are not anticipated. If necessary, we will use modifications to the roadway profile if unexpected conflicts do occur.

The VDOT-owned Intelligent Transportation System (ITS) consists of a network of underground electric and communications facilities located both parallel and perpendicular to I-64 in multiple locations throughout the project. The parallel segments are primarily located on outside roadway shoulders and serve overhead message signs, traffic control gates, and traffic cameras. Our Team’s strategy to mitigate impact to the ITS system is to modify the horizontal roadway design to accomplish the widening to the inside median,

Our Method for Keeping Utility Relocations On-Schedule:

- **Modify our design to avoid utility conflicts where possible**
- **Dedicated Utility Task Force whose primary goal is to mitigate and manage utility relocations**
- **Establish and adhere to a utility relocation schedule, with buy-in from the utility provider**
- **Establish monthly coordination meeting with the utility providers**
- **Supporting the utility companies by assisting them with their work where possible**

eliminating a majority of the impacts and allowing the ITS system to be fully operational during construction as required in Section 2.9 of the RFP. Test holes will be performed in several locations to determine if conflicts exist with proposed grading and drainage. The I-64 corridor serves as an evacuation route for the Hampton Roads area; we understand the importance of ensuring operational ITS continuity throughout the corridor for potential emergency evacuations.

An existing 12-inch sewer force main owned by the U.S. Navy crosses I-64 near Sta. 1434+80. A review of record drawings indicates the pipe is in a steel encasement pipe and had approximately 30-inches of cover at the time of construction in 1979. The proposed roadway design requires guardrail placement and stormdrain pipe in the vicinity of the force main. Test holes will be performed to locate the force main so guardrail post placement and storm pipe can be adjusted to remove conflicts if necessary.

Virginia Natural Gas (VNG) owns 16-inch, 12-inch, 8-inch, 6-inch, and 4-inch gas lines within the project corridor. Multiple test holes were provided by VDOT and reviewed during preliminary design of the proposed stormwater facilities to mitigate impacts and reduce relocations. Additional holes as required will be performed to ensure conflicts are avoided.

Multiple minor cable television and fiber optic cable relocations will be required for bridge construction in more than one location. Our Team has discussed these relocations with the respective owners to understand the requirements for the relocations to the extent possible.

With all projects, the potential exists to encounter unknown utilities during construction. Our Team consists of dedicated Utility Managers for both design and construction. The Utility Manager for Design will act as a single point of contact with the Team, VDOT Utility Managers, and the utility owners during the permitting and design phase. Once construction begins, the Utility Manager for Construction, Mr. Wayne Lindsey, will take the lead in coordinating the utility impacts and relocations. The Utility Manager for Design will be responsible for ensuring relocation plans are coordinated among the design disciplines and various utilities owners, however, both Utility Managers will work closely together to develop alternatives to remove or mitigate conflicts and relocations.

4.4.3 Geotechnical

Geotechnical conditions in the Coastal Plain of Virginia often present risks and challenges on large transportation projects. The presence of unconsolidated marine sediments results in lower strength, highly compressible soils and can adversely impact shallow subgrade suitability, embankment stability, deep foundations, construction schedules, and long-term performance of pavements. These challenges are compounded when working in close proximity to existing roadway and structures that must remain in service during construction.

For I-64 Segment II, a well-planned subsurface investigation and comprehensive understanding of the geotechnical risks involved will result in an effective and efficiently-run project. The Team's Geotechnical Engineering lead, Jesse Darden, P.E., has 15 years of experience working on transportation projects in the Commonwealth. Mr. Darden was the geotechnical design lead for the recently completed I-95 Express Lanes project (Segment 1) in Prince William and Fairfax Counties from 2011 to 2014. Mr. Darden has worked on numerous projects in the VDOT Hampton Roads District, including the Pinnars Point interchange, the I-64/I-264 Interchange (preliminary engineering), and various bridge widening and replacement projects. HDR's geotechnical team has experience with thickness design for rigid and flexible pavements, as well as Full Depth Reclamation (FDR) of pavement sections on Federal Highways projects.

HDR led the geotechnical efforts on Route 460 from Suffolk, VA to Petersburg, VA and was able to complete approximately 700 borings and analysis on an aggressive schedule and provided the geotechnical data report for VDOT.

Based on our Team's extensive experience working in this geologic environment, we have identified the following risks we believe are critical to mitigate for the success of the project: the presence of poor, near-

surface subgrade soils, the presence of compressible foundation soils at greater depth, construction in the vicinity of existing structures, foundations, and utilities, and widening and reconstruction of embankment slopes.

Geotechnical Investigation. Existing geotechnical data has been thoroughly reviewed during our Team’s Conceptual Plan design efforts. The table below briefly summarizes the data provided with the RFP within the project corridor.

Data Source	Data Available in Segment II	Summary
GETS Geotechnical Data Report (2014)	41 SPT Borings up to 100 ft deep / 24 Pavement Cores	Preliminary geotechnical data for embankments, bridges, and pavement thickness
ARA Pavement Evaluation (2015)	Pavement Condition Survey / 3 SPT Borings / 5 Pavement Cores	Pavement evaluation and thickness design, evaluation of subgrade conditions
McCallum Field and Lab Test Results (2015)	76 Pavement Cores and shallow SPT borings (up to 7 ft deep)	Existing pavement thickness and soil subgrade conditions

Our design-level geotechnical investigation will be supplemental to the above usable, existing subsurface data, as well as compliant with the most recent version of Chapter 3 of VDOT’s Manual of Instruction (MOI). The geotechnical team will communicate early and often with the other design and construction leads to identify needs critical to success of the project. If required, components of the field work can be prioritized to provide the most important information first.

We will implement a multi-faceted exploration consisting of traditional soil test borings and in-situ testing (such as Cone Penetrometer Test soundings) to characterize subsurface conditions more efficiently along the alignment. For example, CPT soundings can be advanced more rapidly than deeper test borings, and provide a more continuous profile of subsurface conditions. Once critical areas are identified with the CPT soundings, we can direct the sampling efforts of the drilling rigs more efficiently. Soil test borings will remain an integral part of the exploration, as they are required to obtain physical samples for testing and calibrate the results of the CPT soundings. Explorations will be monitored in the field by qualified personnel to ensure quality of the data obtained.

The laboratory testing program will be designed to augment the field explorations and provide important site-specific data relative to the identified risks – specifically, the strength and consolidation properties of the soils at the project site. Laboratory testing will also aid in determining the mix-design for Full Depth Reclamation (FDR) for reconstructed pavement subbase. This type of thorough characterization will support more efficient and potentially less conservative geotechnical analysis.

Results of the geotechnical investigation will be communicated to Team members early in the design process to identify critical areas of risk and develop mitigation strategies in a timely fashion to limit impacts on the construction schedule.

Poor Subgrade Soils. Soils within approximately 36 inches of final subgrades impact the performance of pavements and minor structures, such as pipes and culverts. The Geotechnical Data Report and the pavement condition survey indicate the presence of poor subgrade soils within the project limits. Shallow borings at regular intervals or other supplemental methods such as Falling Weight Deflectometer (FWD) testing, will be used to characterize subgrade soils and their suitability to support of the proposed new and reconstructed pavements and other, minor structures.

Although some areas of concern can be identified during the design process, other areas will only be readily apparent during the earthwork phases of construction. Typical mitigation strategies we employ for stabilizing

poor, near-surface soils include full undercut and replacement with suitable fill, partial removal and treatment with lime or cement, or partial removal and use of stabilizing geosynthetic grids or fabrics.

Compressible Foundation Soils. Highly compressible clay soils at depths of greater than 5 ft below final subgrade elevations can adversely impact embankment and bridge construction in a number of ways. Typically, these soils are associated with long primary consolidation settlement times and potential high secondary compressions over the design life of the facility. Also, large differential settlements between existing and newly placed fill can result in poor pavement performance and additional maintenance. Settlement of fills placed at bridge abutments can cause negative shaft resistance and induce additional down-drag loads on deep foundations.

LANE has relevant and local experience mitigating compressible soils similar to those that will be encountered on this project. LANE worked with the Owner at Fentress Naval Airfield in Chesapeake to develop an innovative mitigation strategy by cement treating, in place, the recycled concrete pavement which was utilized as the stone base material. The end result was an excellent cement treated base material for the runway which has performed as designed with no maintenance issues.

Deeper test borings for embankment fills and bridges including collection of undisturbed tube samples for laboratory testing will be used to characterize compressible soils that could impact design and construction. Consolidation testing in the laboratory aids in developing parameters to be used in design analysis for the magnitude and time rate of settlement. The organic content of the soils will also be measured in the lab, as highly organic soils and peat present a much higher potential for secondary compression settlement.

As undercut of deeper soils beneath the water table becomes less economical, other methods of ground improvement will be explored. Installation of prefabricated vertical (PV) drains, or wick drains, is one commonly used method to speed up the time rate of primary consolidation settlement. PV drains typically reduce consolidation times from several years to several months. If high secondary compression settlement is suspected, surcharging in excess of final grades can be employed in conjunction with PV drains to limit long-term settlements to within the project’s design criteria (less than 2 inches within the first 20 years, and less than 1 inch within 100 ft of bridge abutments). The use of lighter-weight fills above ground or below-ground structural solutions such as compacted aggregate columns can also be considered.

Field monitoring of settlements with settlement plates or other means will also be used to field-verify estimated magnitudes and time rates of settlement and adjust construction schedules as necessary to avoid distress to settlement-sensitive project components.

On the I-95 Express Lanes Project, HDR assisted in writing a new VDOT Special Provision for vibration and survey monitoring of adjacent structures during construction activities.

Working in the Vicinity of Existing Foundations/Maintaining Existing Structures. Within the project corridor, there are nine bridges requiring widening and four large culverts requiring extensions to accommodate the additional travel lane and full shoulders. The existing bridge abutments and piers are supported on deep foundations. Our Team has considered the risks presented by working in such close proximity to existing structures. Vibrations caused by pile driving and construction equipment can cause damage to brittle concrete structures, result in settlement and displacement of ground supported structures, and disturb the traveling public. Pile driving in saturated clay soils can result in ground heave and may displace existing adjacent piles. Settlement caused by placement of new fill can similarly displace ground and/or induce additional loads on existing structures, or cause existing culverts to settle out of tolerance.

We have determined it is likely precast prestressed concrete piles or closed-end steel pipe piles (full displacement piles) are best-suited for the site, and will consider pre-drilling as one method of limiting vibration impacts to adjacent structures. Pre-drilling also reduces the chance for undesirable lateral displacements due to ground heave during pile driving. Drilled shaft foundations may be considered for support of bridge piers near existing railroad tracks. Drilled shafts can reduce vibrations and potential ground heave, eliminate the requirement for pile cap excavation and support, and offer increased resistance to lateral impact loads. Lightweight fills, such as expanded shale aggregate that we used on the I-95 Express Lanes project, will can be considered over existing culverts if we suspect that settlements will be excessive under normal weight fill loads.



HDR managed subsurface exploration activities in the vicinity of existing structure foundations on the I-95 Express Lanes project.

Whichever mitigation strategy is selected, field monitoring will be implemented to measure actual vibrations and movements. Monitoring plans will be developed to identify the expected zone of impact, conduct pre-construction surveys, establish threshold limits, and recommend remedial actions, if necessary during construction.

Maintaining or Reconstructing Existing Slopes. Widening of the EB and WB lanes to the inside of the median, especially in areas of limited median width, serves to buttress and stabilize unbalanced embankment slopes. Accordingly, slope stability issues are partially mitigated in many areas of the alignment. Unbalanced slopes are present in limited areas where the median area is wider, near the I-64 interchange with Hwy 60.

Our laboratory testing program will conduct triaxial strength testing to develop both short-term (undrained) and long-term (drained) parameters for slope stability analysis of new and widened embankments. Potential sources of onsite fill will be evaluated for reuse within the proposed embankments, including direct shear testing to establish drained friction angles.

Differential settlement between the new and existing sections can impact pavement maintenance and surface drainage. As discussed, our Team’s subsurface exploration program will aid in evaluating the compressibility of the underlying soils. If differential settlements are estimated to be unacceptable during design, the use of undercut and backfilling with lighter weight materials is one approach we may leverage to mitigate this risk without impacting the construction schedule.

4.4.4 Quality Assurance/Quality Control (QA/QC)

The LANE Team believes quality in both design and construction is a hallmark of our collective experience, and is a critical element of every action taken by the team to deliver important infrastructure projects safely and on time.

Design QA/QC

Our Design Quality Management Manager (DQMM), Mr. Tom Morreale, is a Virginia-registered professional engineer with over 30 years of experience managing and designing VDOT highway projects. Most recently, he managed the Design Quality for HDR’s segment of the I-95 Express Lanes in Northern Virginia, using a streamlined process to facilitate the aggressive schedule without sacrificing Quality requirements or procedures. Mr. Morreale is responsible for the development, implementation, and monitoring of our project-specific **Design Quality Management Plan (DQMP)**, as part of the QMS, and reports directly to the Design Manager in this regard. All HDR design disciplines and design subconsultants will be subject to the DQMP.

Procedures and required documentation will be organized by design discipline, and will detail specific actions and measures to be taken by each discipline to ensure appropriate quality standards are applied to the Design, Plans and Specifications, and to control any deviations from, or approved revisions to, specified standards.

Design Quality Control Procedures:

- **Production Checking.** Engineering computations, reports, and plan drawings will be checked by staff under the supervision of each discipline leader for mathematical and technical accuracy, conformance to design computations, standards and contract requirements, and form/content/spelling.
- **Interdisciplinary Reviews (IDRs).** Conducted by the Design Manager, IDRs will include all relevant disciplines to insure coordination and consistency between the discipline interfaces (e.g., geotechnical with bridge foundations, roadway layout with bridge layout, pavement marking & signing with roadway plan/layout), and to mitigate or eliminate conflicts, errors, misalignments, and/or plan inconsistencies before they get into the field under construction.
- **Independent Quality Control Reviews.** Our Team believes it is as important to check logic as it is to check mathematical accuracy. Senior engineering staff identified or approved by the DQMM, qualified in the appropriate discipline and not involved directly in production will perform reviews of Plans, Reports, Specifications, and Calculations to evaluate the technical merit, adequacy, and conformance to project and industry standards.

A standard QC Review Form or Stamp will be used to document designer and reviewer names and signatures at four phases of the independent review:

- Initial comments,
- Designer response,
- Acceptance of resolution by reviewer,
- Verification comments and resolutions are incorporated

Discipline-specific Quality Control Checklists, developed for use in Production and Independent QC Reviews, such as the VDOT LD-436 and Structures Checklist, will be used to facilitate the process of checking and reviewing the design and deliverables to meet or exceed the project standards and expectations.

Constructability Reviews. Each construction document deliverable will also undergo a review by LANE Team construction personnel responsible for implementing the particular item. These reviews are critical in ensuring each item is constructible, cost-effective, and can be delivered in the most efficient and safe way.

Design Quality Assurance Procedures:

Quality Assurance Audit Review. Prior to submittal at any defined stage, the DQMM will perform a Quality Assurance Audit to ascertain all Design Quality Control processes defined in the DQMP have been completed. The DQMM will review documentation (e.g., forms, checkprints, markups, QC stamps), and Audit results will be documented on standard forms noting the document(s) reviewed, any deficiencies or missing elements (e.g., forms, signatures, unresolved comments, etc.), and follow-up certification that deficiencies have been rectified by the design team, prior to submittal.

Quality Assurance Certification. After the Audit, and if no further corrective actions are warranted, a Letter of Certification will be prepared by the DQMM noting required quality procedures have been performed or incorporated, and the deliverable is in compliance with the DQMP. The Certification will accompany the submission.

Interface with Design Management

The Design Manager (DM), Mr. Greg Kempf, PE, will manage the design effort for the LANE Team. This will include following the Quality Procedures to control and verify the design of the project in accordance with specified requirements and goals. The DM will be responsible for oversight and implementation of QC actions detailed in the DQMP during production of all design deliverables. He will supervise all design-side activities to ensure internal review comments, and VDOT and other agency review comments, are documented, responded to appropriately, and incorporated prior to finalization. The DM will coordinate with the DQMM to ensure:

- The design schedule accommodates the required QC phases

- Any non-conformances noted in QA Audits are quickly remedied by appropriate production personnel
- Preventive actions are incorporated in the Design process, moving forward

Construction QA/QC

Construction QA/QC is established in our enhanced QMP to insure clear and complete procedures for construction inspection, testing and the oversight of the project and its processes. While VDOT will provide verification, our enhanced QMP will continue to reduce their involvement level by providing a streamlined process with readily available access to reports/documents such as inspection forms and photos that we will quickly create, maintain and submit thru the HCSS Heavy Job Project Management system. All Team members as well as the subcontractors and suppliers for the Project will be required to submit corresponding Quality Plans that assure compliance with respect to our enhanced QMP. Any variance from the implemented standards will not be tolerated and as such, continuous audits will be performed to verify QA/QC adherence and to deploy updates, betterments and amendments as the Project progresses.

Construction Quality Control (QC) - LANE is responsible for the QC during construction where it begins at the working level with LANE's Roadway and Bridge QC inspectors. Management and leadership is provided by Mr. Mike McGinniss in his role of Construction QC Manager and ultimately with Troy Carter as the DBPM. All work will be in accordance with the enhanced QMP derived from LANE's in-house construction QC Plan, the requirements of the RFP and VDOT's Minimum Requirements for Quality Assurance and Quality Control on Design Build and Public-Private Transportation Act Projects. The QC Program will make continuous assessments of all activities and when necessary make adjustments to methods or materials to achieve or exceed the required quality levels. Our QC personnel for this project will possess and maintain current VDOT certifications. This proven and strong QC program is self-contained with respect to operations, management and documentation thus requiring minimal oversight by VDOT's resources.

Construction Quality Assurance (QA) - Led by Quality Assurance Manager (QAM), Ms. Julie Perkoski, (CES Consulting), the Quality Assurance program operates independently from the construction QC program and has oversight/verification responsibilities for all QC testing and monitoring activities. The QAM provides confirmation that all RFP requirements, specifications and special provisions are being met or exceeded. The independent role of the QAM provides direct information to the DBPM and VDOT outside of the Construction QC chain of command. Additionally, the QA operation will monitor and audit QC procedures and activities to verify proper performance. A high level of authority is given the QAM to ensure that the Construction QA function does its job and as such minimizes the requirement of resources and involvement by VDOT. The QAM is authorized to stop any and all work on this project if quality measures and controls are not being properly maintained.

QA/QC Approach to the Unique Construction Project Element: CCPRM

Regarding QA/QC procedures for a Unique Project Element, LANE deems the Cold Central Plant Recycled Material (CCPRM) to be the single most critical project element from a construction perspective. Per RFP Section 2.14.2 "Construction Management" – The Design-Builder shall submit separate QC Plans for both the FDR and CCPRM in accordance with the Special Provisions provided in the Information Package. The Section also states that VDOT will be responsible for Quality Assurance testing and inspection during field activities related to FDR and placement of CCPRM.

LANE has performed extensive pre-proposal due-diligence in determining availability and composition of local Recycled Asphalt Product (RAP) stockpiles and performing early coordination with suppliers of this material to ensure no post award issues will arise relating to the timely procurement of these materials. It is recognized that the RAP supply in the Project vicinity may dictate the need for sourcing multiple stockpiles of RAP from out of the area in order to produce the needed quantity of CCPRM. Sourcing RAP from multiple stockpiles requires dealing with various gradations and Asphalt Cement contents which will likely necessitate the need for multiple mix designs and associated testing. Similarly, a single RAP stockpile may have different composition "zones" within it resulting in the same QC issues. LANE's QC Plan will provide for constant

sampling of RAP sources and will have provisions for processing the RAP in order to provide a uniform product thereby minimizing the need for expanded efforts on VDOT's part.

The work specific QC Plan for the CCPRM will detail, among other requirements, how LANE will insert witness and hold points into the plan and schedule, Non-Conformance Report issuance and subsequent actions, corrective measures and recovery requirements, details of how LANE will achieve the minimum requirements for performing construction QC, and define separation of the QA and QC functions and responsibilities.

LANE certifies that it will make available and have on site full time as necessary all personnel, equipment, supplies, materials and facilities necessary to perform the specific QA and QC functions, create mix-designs, obtain samples, and perform tests and inspections as required in the Construction and Contract Documents to include the Special Provisions.

QA/QC Approach to the Unique Design Element: Maintenance of Traffic (MOT)

The most critical project element is MOT during construction and the challenges associated with providing a safe travel way and an adequate sequence of construction that results in quality construction. The MOT directly affects the safety of the traveling public and the workforce as well as the efficiency of travel through the work zone. It is imperative to have high quality MOT design and implementation plan that is carried through to construction.

From our experience developing the MOT plans for interstate improvement projects, our Team understands every design and construction activity must be considered. A robust QA/QC review process will be developed for the design process to review all aspects of design as they relate to construction staging and the impacts that this temporary condition has on design elements. For example, both traffic congestion and roadway drainage are elements of design that are variable and contingent to the construction phasing. At all phases of construction, an analysis will be performed on these elements to verify that our construction phasing is providing positive drainage away from the travel lanes and that the Traffic Management Plan meets the requirements of Section 2.10 of the RFP to insure a safe travel condition through the work zone.

Our Team's QA/QC approach for our MOT plan during design and construction is in accordance with VDOT's QA/QC program, will utilize independent reviewers and designers, and will also use the QA Manager to insure the appropriate QA and QC procedures are being followed.

A quality MOT plan starts with continual coordination between the design and construction teams to develop an optimal construction strategy that minimizes impacts to traffic flows, provides first responder access and conforms to the MOT design parameters in Section 2.10 of the RFP, applicable Special Provisions and the VWAPM. The LANE Team has already set in motion this coordination with numerous brainstorming sessions to develop our Team's sequence of construction plan and the design of our MOT plan. Through this coordination we have established a set of design and construction parameters that will be used during the design development and QA/QC processes.

At the beginning of the design development process a schematic of the sequence of construction and maintenance of traffic plans will be developed. At this point, the design team and construction team will perform multiple constructability review workshops. Both the design and construction teams will step through the construction sequencing highlighting the design constraints and construction challenges. Following the constructability review meeting a more detailed MOT plan will be developed. The LANE Team has recent experience on similar interstate widening projects, we have found that establishing these design and construction team meetings early and often in the design process allows for both design and construction challenges to be solved more effectively and with concurrence from all Team members.

Following the completion of the MOT Submittal Package and the QC review, the QA reviewer checks the QC comments and verifies that adequate modifications are incorporated, and ensures that the QC reviewer and design engineer are both satisfied that the plans are correct, complete, and in compliance with standards. The QA reviewer also ensures the design is in compliance with environmental requirements, as well as the

technical requirements and special provisions of the contract documents. After this well-structured, streamlined process is complete, the QA documents are signed and provided to the Design Manager for inclusion in the formal submission.

Maintenance of Traffic QA/QC Checklist			
Construction Phase	Construction Goals	Maintenance of Traffic Requirements	QA/QC of Design Elements for all Construction Phases
Phase 1	<ul style="list-style-type: none"> ü Prepare and install proposed grading & infrastructure in the median in preparation for widening ü Strengthen outside shoulders. ü Begin bridge widenings. 	<ul style="list-style-type: none"> ü Install appropriate VWAPM construction signage ü Existing traffic pattern is maintained. ü Use night-time lane closures to strengthen outside shoulders. ü The majority of construction traffic will not access the median work area from I-64, only through median access points on the crossing routes. 	<ul style="list-style-type: none"> ü Clearzone meets the required design speed. ü Traffic shifts are designed to meet the design speed. ü Correct taper lengths are used for traffic shifts and merges. ü Fill from adjacent road construction will not encroach into the travel lanes. ü Positive drainage is provided for the travel lanes to avoid trapping water during grading activities. ü All construction activities are located within the proposed ROW and construction easements. ü Provide adequate lengths for acceleration/ deceleration lanes.
Phase 2	<ul style="list-style-type: none"> ü Widen both the EB and WB lanes 12 ft in the median and construct 12 ft median shoulders & the Planter Box. 	<ul style="list-style-type: none"> ü Traffic will be shifted to the outside and two 12 ft lanes maintained. ü Pull-off areas to be established as per Figure 3. ü The majority of construction traffic will not access the median work area from I-64, only through median access points on the crossing routes. 	
Phase 3	<ul style="list-style-type: none"> ü Replace the existing EB and WB pavement. 	<ul style="list-style-type: none"> ü Traffic will be shifted to the inside with two 12 ft lanes. ü Pull-off areas to be established as per Figure 5. ü The majority of construction traffic will not access the median work area from I-64, only through median access points on the crossing routes. 	
Phase 4	<ul style="list-style-type: none"> ü Install final pavement surface, Install planter medium. 	<ul style="list-style-type: none"> ü Traffic will be maintained on two 12 ft lanes. 	

4.5 CONSTRUCTION OF THE PROJECT

4.5 | CONSTRUCTION OF THE PROJECT

The LANE Team considers Sequence of Construction (SOC) and associated Maintenance of Traffic (MOT) a critical element to the success of the I-64 Segment II Project. MOT must be properly planned and implemented, with average daily traffic counts in excess of 94,000 vehicles per day, a large commercial truck traffic percentage, and an adjacent project with construction work zones and changing traffic patterns; we recognize the conditions are right to increase the potential for additional congestion and incidents. Impacts stemming from improper MOT implementation could include: increased first-responder incident response times, delayed delivery of commercial and military goods and services, delays to tourists, increased driver frustration (which often compounds an already unsafe travel environment), inefficient transport of goods to/from the Port of Virginia, ineffective emergency evacuation operations, impacts to Yorktown Naval Weapons Station and construction delays. The LANE Team is committed to using our full arsenal of experienced design and construction professionals, all of whom have recent and very relevant experience to mitigate these issues and ensure a safe project. Our construction approach focuses on both safety and mobility in the corridor with numerous benefits to VDOT and the traveling public, including:

- Our use of median access points from the routes crossing under I-64 will allow our workforce and material deliveries access to the median work zone minimizing interaction between construction traffic and the travelers of I-64 for the vast majority of the project limits.
- Our utilization and configuration of longer than required pull-off areas provides a higher level of safety and unimpeded access to I-64 for emergency responders for the length of the project corridor.
- With only four phases (3 major phases) of construction, our approach enhances safety by minimizing the number of traffic configurations, which provides consistency and predictability to the traveling public.
- Traffic lane alignments will be “tangent” in all phases with no major lane shifts.
- Temporary concrete barrier protected work zones will be strategically positioned in 4,800 ft. long sections alternating with 4,800 ft. of non-barrier safety zones/pull-off areas as opposed to a continuous 7.2 mile stretch of barrier adjacent to traffic (Figure 3).

4.5.1 Sequence of Construction (SOC)

The LANE Team has performed extensive due diligence and has analyzed in detail at least twelve different SOC scenarios. Our efforts have included multiple jobsite visits with both design and construction disciplines together and seven formal brainstorming meetings. Our Team’s efforts also included meeting in person with important stakeholders including the Newport News Public Schools, SeaWorld Parks and the Executive Operations and Engineering Team for Busch Gardens and Water Country U.S.A. to discuss their concerns and to solicit feedback. The SOC plan that we have developed will allow our workforce and material deliveries unimpeded access to the median work zone for the vast majority of the project from the crossing streets below I-64 between the bridges. In turn, this improves safety, greatly minimizes impacts to traffic, accelerates the project schedule, and reduces the cost of construction by increasing efficiency and allowing for a reduction in overall project schedule.

All of LANE’s work zone, MOT set-ups and TMP will be compliant with the requirements of the RFP as well as the 2011 Virginia Work Area Protection Manual (VWAPM). Both LANE and HDR have committed to employing the very same core leadership that designed and constructed the successful, I-95, I-495 and the I-85 projects in Northern Virginia and North Carolina. All of these interstate widening projects consisted of adding new lanes in the median and all had a higher ADT than this I-64 Segment II project.

Construction Phasing

We have optimized our SOC and Project Phasing approach in order to provide the public the safest MOT configuration that complies with the RFP requirements. Our Plan enhances safety throughout construction by

utilizing innovative concepts such as: direct **median access ramps, frequent emergency vehicle accesses, longer than required pull-off areas, and the configurations of our work areas.** The following provides a detailed description of our construction phasing and the integration of our innovative concepts into our design.

Phase 1 – Median Clearing, Grubbing, Drainage, and Outside Shoulder Strengthening

A median work zone on a high volume corridor creates additional risk due to the logistics required for the ingress and egress of personnel, materials, trucks and other equipment. On the I-85 project in North Carolina, the LANE/HDR Team developed an innovative concept that provided construction access to the median work area by constructing a temporary bridge that provided off interstate access to the work zone. This multiple award winning concept eliminated the conflict between construction traffic accessing the work area and the I-85 traveling public. This LANE Team is the same team that delivered the I-85 Widening project and we bring this experience and proven median access concepts to the I-64 Segment II Project.

As such, our Team has identified several innovative median access locations that will utilize the existing routes under I-64 to gain access to the median work zone. The LANE Team has conducted multiple site visits and has taken field measurements of distances between all of the existing bridge abutments to identify several ingress/egress points for median access from local roads below I-64. Based on this field investigation it was determined that median access ramps can be implemented at Penniman Road, Burma Road, Jefferson Avenue, and Yorktown Road to provide construction access directly into the median work area during bridge widening operations and while minimizing impacts to I-64 traffic.

Concurrently with the placement of the median access ramps, the existing outside shoulders for both EB and WB I-64 will be strengthened and widened by 2 ft to the face of the existing guardrail.

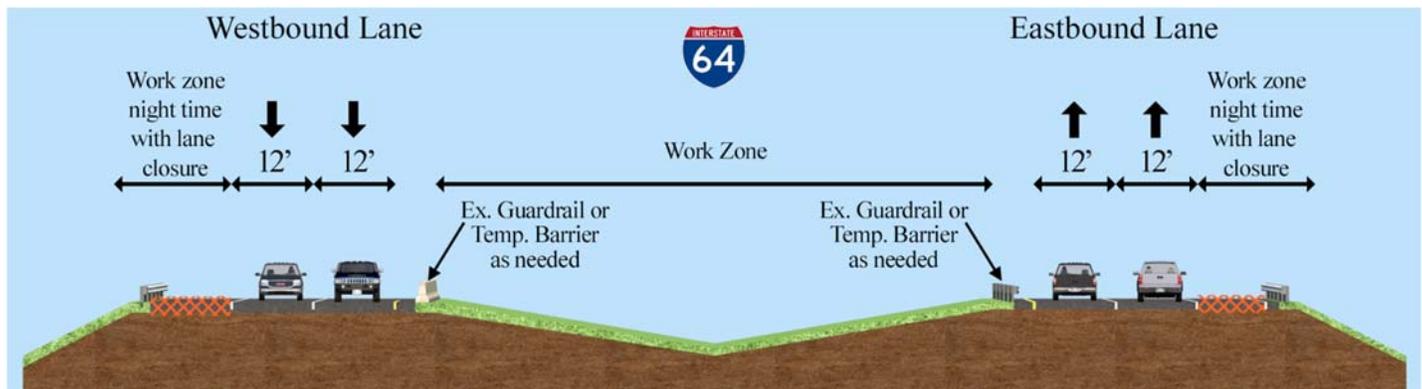


Figure 1. Phase 1 SOC

Outside shoulder strengthening will be performed on both the EB and WB sides at night time with a lane closure during this phase. Two 12 ft lanes in each direction will be provided during all daytime hours as required by the RFP. Once we have the appropriate permits and are clear of the NLEB tree clearing suspension, construction in the median will begin which consists of clearing & grubbing, rough grading, installation of stormwater management facilities, box culvert extensions, and the installation of median drainage systems. Temporary concrete traffic barrier will be installed in accordance with the VWAPM as necessary to provide protection to both the median work-zone and motorists.

Bridge construction will also commence with the installation of temporary shoring (SOE) at bridge foundations and abutments in preparation for the bridge widening operations. In certain instances, the abutment SOE will be lengthened to accommodate temporary access roads accessing the median work zones. In most instances, even after both EB and WB bridges are widened, there remains sufficient room for access here.

Phase 2 - Median Widening

The LANE Team has divided the job into eight (8) distinct work “areas” which are linear zones 4,800 ft in length. These work areas (shown in *Figure 2*) eliminate the need for sacrificial pavement for temporary 9 ft shoulders that would be required for longer than 1 mile work zones. Our plan does *not* propose to shift or weave traffic multiple times during a phase of work – our experience tells us this condition is prone to cause incidents and excessive queuing - traffic will be maintained either on the existing pavement lanes (shifted outward in Phase 2) or the newly constructed lanes (shifted inward in Phase 3) in a tangent alignment for the entire length of the project.

The sequence of work occurring in Phase 2 is as follows: Temporary pavement markings will be installed to shift traffic outward and onto the existing outside lane and strengthened outside shoulder providing two 12 ft lanes for the entire length of the project in both directions. Temporary barrier will then be installed *only* adjacent to two active median work areas in each direction at any one time. Work begins concurrently in Median Areas 1 & 3 on both the EB and WB sides. When Area 1 work is complete that barrier is moved to Area 5 and Area 3 barrier moves to Area 7. The Area 1 & 3 crews are then moved to Areas 5 & 7, then Areas 2 & 4, and lastly Areas 6 & 8 will be constructed concurrently. Work consists of constructing the entire pavement section except final surface which will be installed in Phase 4. This sequencing scheme constantly provides a 4800 ft safety opening between the two active work zones while no barrier will be present in the non-active work zones. These safety openings will be striped, signed and used as temporary pull-offs and will provide first responder access in multiple locations and allow them to cross-over to either side of the interstate. We feel this provides an unparalleled level of public safety and will provide for efficient traffic movements for the entire Phase.

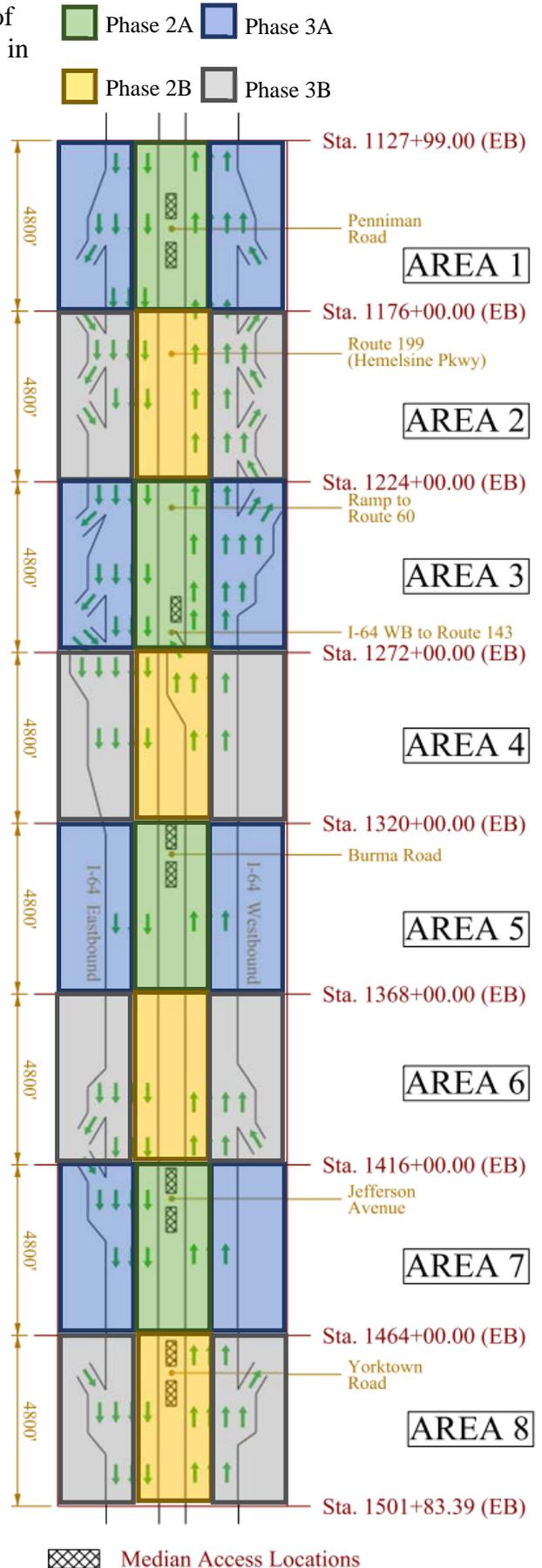


Figure 2. Proposed Work Areas

Our strategic placement of alternating concrete barrier protected work areas and our use of extended barrier openings provide many safety benefits to the project during construction. This approach avoids multiple traffic weaves throughout the project corridor and provides consistent and predictable traffic configurations to maintain driver expectations. In addition to providing a location for extended pull-off areas, the 4,800 ft long barrier openings also provide relief for drivers not having to drive alongside 7 plus miles of barrier for the entire project corridor. First responders can also use the barrier openings as access to both sides of I-64 for the entire project corridor.

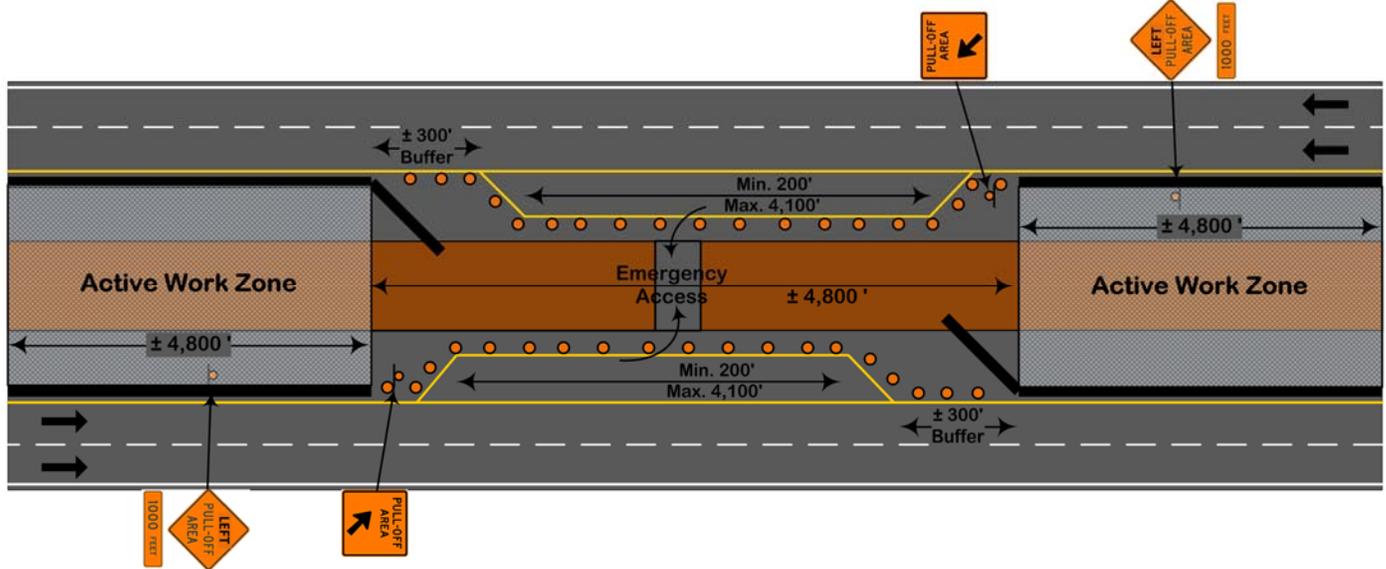


Figure 3. Phase 2 Pull-off Areas

To further clarify Phase 2 operations, LANE will complete shifting traffic onto the outside shoulder maintaining two 12 ft lanes for both the EB and WB directions. Ramp acceleration and deceleration lanes will be configured to match the mainline traffic shift. The temporary pavement markings, lane configurations, and traffic shift will be designed and installed in accordance with the Section 2.10 of the RFP and 2011 Virginia Work Area Protection Manual (VWAPM). Pull-off areas will be established in the areas between the active work zones to enhance safety to the public and ingress and egress of vehicles, each being approximately 4800 ft long between barrier settings exceeding the required pull-off length in the RFP and TTC 8.0 in the VWAPM.

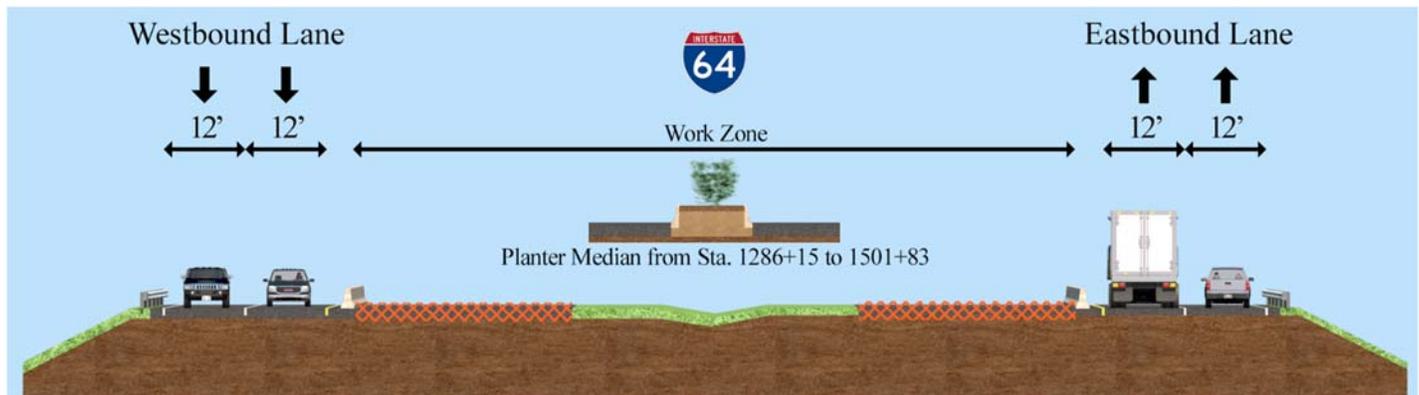


Figure 4. Phase 2 SOC

Once traffic is shifted to the right lane and outside shoulder and temporary barrier is installed to protect the travel lanes from construction activities, the existing inside shoulder and 5 ft of the now closed left lane will be demolished, crushed and reused in the proposed pavement subbase. The inside underdrains will be installed and subgrade for the new left lane and full width shoulder will then be fine graded and the proposed pavement section installed for both EB and WB I-64. The construction of the median will be finalized to

include the construction of the planter median on the eastern half of the project. Again, the median access points will be used to complete the majority of the median construction eliminating conflict with construction traffic and I-64 travelers. Concurrent with median construction, bridge widening construction for B-627, B-628, B-629, B-630, B-631, B-632, B-633, B-634, and B635 will be completed.

Phase 3 – Existing Pavement Reconstruction

Once the median roadway and bridge widening construction are finalized for all Work Areas in Phase 2, the temporary traffic control devices previously installed will be eradicated and traffic will be shifted to the newly constructed inside lane and shoulder for both the EB and WB directions of I-64 for the entire length of the project. The new traffic shift will operate on two 12 ft lanes, separated from active Work Areas by temporary concrete barrier.

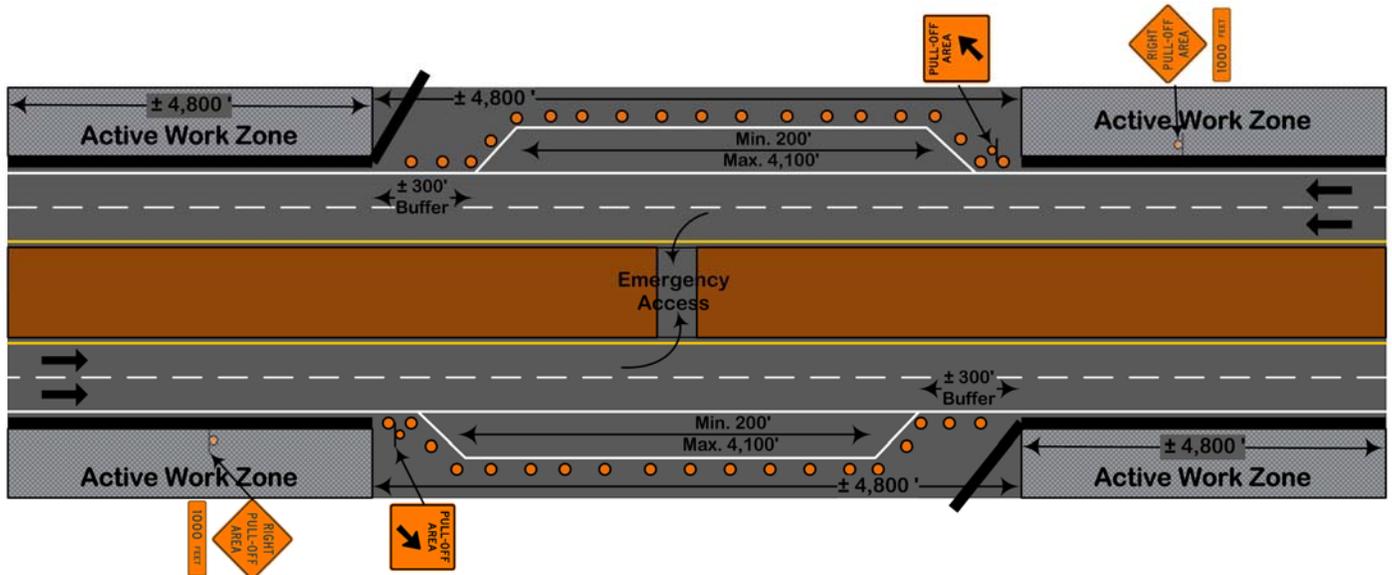


Figure 5. Phase 3 Pull-off Areas

Phase 3, while similar in many ways to Phase 2 sequencing, differs mainly because the sequence will be as follows; Work Area 1 EB and Work Area 1 WB, each 4,800 ft long, will be constructed concurrently, then Area 3 EB and WB are constructed concurrently, then Area 5 EB/WB then Area 7 EB/WB. After the Area 7 is completed, crews fall back to Area 2 EB/WB and sequentially work through all the even numbered areas. Temporary barrier will be installed along the active Work Areas only, always providing an approximate 4800-ft opening between the two active work areas. Again, pull-off areas will be established in the areas between the active work zones to enhance public safety, each being 4800 ft long exceeding the required pull-off length in the RFP and TTC 8.0 in the VWAPM.

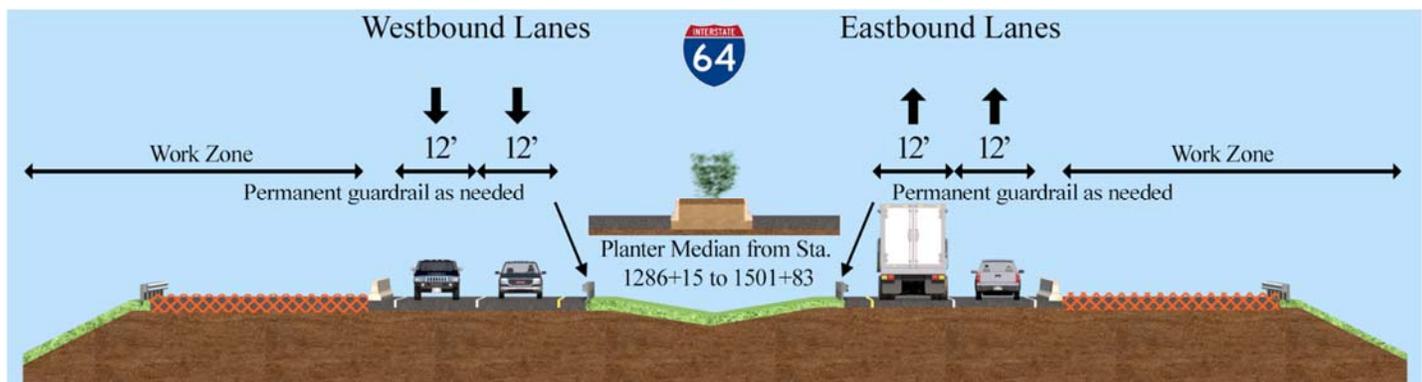


Figure 6. Phase 3 SOC

Once traffic is shifted to the inside lanes, demolition of the existing concrete travel lanes and the strengthened asphalt shoulder will begin. The existing concrete pavement will be crushed and removed. The existing lanes are being reconstructed in place, with minimal elevation changes, so there will only be light grading to establish subgrade for these two lanes and the shoulder. Based on preliminary information provided by VDOT, our Team expects to encounter isolated areas of poor and/or compressible soils and have accounted for corresponding mitigation. Depending on the extent and composition of the unsuitable areas, mitigation will primarily be either undercut and replace with suitable materials or soil-cement strengthening.

12” of Full Depth Reclamation (FDR) will be installed in-place introducing cement into the existing aggregates and soils where the mixture will be pulverized, stabilized and compacted in place to provide a base for the pavement section. All FDR work will be tightly controlled according to our VDOT approved QC plan (VDOT to provide QA) and will be directed by our Technical Representative who will be approved by VDOT and will meet all requirements of the RFP and VDOT Special Provisions for Full Depth Reclamation. Once fine grading operations are complete and the underdrain systems installed, the proposed pavement section will be installed in the previously described sequence.

Our design minimizes impacts to the existing ITS system, ROW needs, environmental impacts, and offers the opportunity to salvage any in-place guardrail that meets current design standards.

At the on and off ramps, temporary asphalt pavement will be installed with adjustments to the acceleration and deceleration lanes to provide access to the mainline roadway that has now been shifted to the inside. The ramps will also be used as construction access points to the outside work zone, again keeping construction ingress/egress away from the mainline I-64 traffic. The location of these access points will be selected to ensure a safe work zone.

Following pavement installation the proposed guardrail systems and sign structures will be installed. Once all of the outside lane construction is complete the temporary concrete barrier will be removed in preparation for final surface placement in Phase 4 of construction.

Phase 4 – Final Paving

Phase 4 of our construction plan will consist of placing the final pavement surface and completing any finishes work associated with the project. Two 12 ft lanes of traffic will be maintained in both EB and WB directions of I-64 in accordance with Section 2.10 of the RFP. Planter Box mediums will also be installed in this Phase.



Figure 7. Phase 4 SOC

ROW Considerations

Since the majority of the ROW and easements are obtained within our first phase of construction, we have developed our schedule and plan packages to advance the ROW process. Our Team plans to begin work on the ROW acquisitions during the project start-up phase of design and submit ROW plans as an early design package. There are a few critical parcels that will be needed early so that stormwater management facilities

and outfalls can be constructed. To avoid potential schedule delays associated with property acquisition from the Naval Weapons Station, our design approach is to avoid impacts in this property. We plan to work proactively to obtain right-of-entry agreements on properties, to begin our proposed construction sequencing in advance of formal acquisition to mitigate potential schedule delays. Our past experience will allow us to apply lessons learned to implement a project specific ROW approach that follows our phased construction.

Environmental Considerations

In reviewing the RFP documents, we have evaluated impacts to streams and wetlands based upon the conceptual design and developed our phased construction approach to obtain all required permits and avoid potential schedule delays including the time of year restrictions associated with the NLEB. Our Team has phased construction of the roadway and bridge work in jurisdictional areas to the second phase of construction. By doing so, we have allowed time to identify the impacts, begin the permit process, and obtain required approvals in advance of commencing construction during Phase 2.

The LANE Team will ensure all environment requirements are adhered to during construction. All environmental protection measures, stormwater management facilities, and E&S measures will be installed and maintained in accordance with the approved Stormwater Pollution Protection Plan (SWPPP). As part of Phase 1 construction, E&S elements including silt fence, temporary sediment basins, and check dams will be installed prior to any grubbing activities. Our Registered Land Disturber (RLD) will assign a team to implement all the requirements of the SWPPP and environmental permits as well as inspect and maintain all protection measure placed during construction.

Staging and Storage

Our Team understands a clean, orderly project improves safety and public perception for everyone involved. As with all our projects, storage of materials will be isolated to areas where safe delivery access will not introduce hazards such as sight line obstructions to the traveling public. Likewise, safe access for vehicles to enter and exit work zones will be a priority to keep workers, inspectors, and the traveling public safe during all construction activities lane closures.

Public Safety Considerations

Our Team’s approach to public safety is to minimize the egress/ingress conflict between construction traffic and I-64 traffic, minimize the number of traffic shifts to ease driver confusion, and to maintain a robust public outreach campaign that will provide current details to traffic conditions in the work zone. In addition, our approach minimizes impacts to ITS, which means the traffic cameras many people rely on for current conditions will remain operational.

As discussed previously, our median access scheme will provide access for the vast majority of construction traffic to the median work zone from the cross streets instead of mainline I-64 in order to minimize the conflict between construction and mainline traffic. Our project is designed to have all widening occur in the median (except for auxiliary lane improvements) completely in phase 2, which will minimize the duration of construction activities on the existing outside lanes which are reconstructed in phase 3. Minimizing this duration will also help mitigate potential conflicts between construction and the public.

Our SOC approach has been designed to reduce the number of traffic shifts during construction. With only four construction phases, traffic shifts are minimized and eliminate unnecessary weaving of traffic through the project so we can better provide a uniform work zone to meet driver expectations and avoid confusion. All traffic shifts will employ DMS, and advanced signing will be placed in accordance with the VWAPM and MUTCD well in advance of the work area.

Also, all traffic shifts will be communicated through our public outreach efforts to be detailed in our Public Information Communication Plan (PICP). We intend to keep the public informed about work zone progress through standard media outlets, Project Website updates, and employing social media tools. An effective method to mitigate congestion is gained by providing drivers the opportunity to avoid the work zone

altogether, so our outreach campaign will provide current information on activities to be expected, levels of congestion in the work zone, and suggested alternative routes.

Finally, we will work very closely with emergency responders in the area to plan, communicate, and execute a strategy to provide access and assistance for incidents occurring along the project. We know from the recent First Responders Outreach meeting for the I-64 Segment I project they are concerned about access, traffic re-routing during incidents, tow truck availability, and potential locations for emergency equipment. We have enhanced access through our construction zone with our alternating barrier openings every 4,800 ft, are maintaining at a minimum existing crossover locations per the RFP, and will address the above concerns and others with our PICP and stakeholder outreach.

Approach to Limiting Disruptions to Vehicular and Rail Traffic

Our Team is sensitive to the issues that disrupt vehicle and rail movements. We are designing our work construction to minimize planned disruptions and the risk of unplanned disruptions. However, for some operations our work requires short term stoppages of traffic, primarily for safety concerns. This is primarily true on local or cross streets where bridges are being widened. The process for successfully managing these types of disruptions, planned or not, will be outlined in the Traffic Management Plan. By pre-planning potential detour routes and the notification processes, everyone from the construction team to stakeholders aware of their role; they will also have direct input into the process to ensure consistent communication to the driving public, minimizing the impact to their daily lives.

The Burma Road rail line is the only active rail on the project; however, is anticipated to be used infrequently if at all. As with any active rail, our Team will coordinate with stakeholders for requirements such as flagging operations, time restrictions, etc. and include those requirements in the Traffic Management Plan.

4.5.2 Transportation Management Plan

Our Team will bring the same individuals who delivered the MOT and TMP for both the Elizabeth River Crossing project (ERC) and I-95 Express Lanes in Northern Virginia to the I-64 Segment II project. For the ERC project there were eleven (11) plan packages that all had a unique MOT and TMP component. These documents truly became a living document throughout design and continuing into construction. We will use the same document management approach for the I-64 project to ensure that the LANE Team always has the most accurate and current version of the approved document.

Effectively maintaining traffic during construction is critical to the success of any roadway reconstruction project. Our Team's many successes are due to our commitment to safety accommodate the traveling public, provide for efficient traffic flow, and an accelerated construction schedule. Our design considers these values from the start to ensure that a quality MOT plan is built into the design, not just layered in as an afterthought. Our Team understands the importance and value of this approach and will back it up with a robust, comprehensive Transportation Management Plan (TMP). Our TMPs are not just plan sheet notes, but a separate living document that includes temporary traffic control, public communication, and transportation operations strategies. Our TMP will be prepared in accordance with the RFP for a Type C, Category V project and as such will meet the requirements of VDOT I&IM 241.5 / TE-351.3, Manual on Uniform Traffic Control Devices (MUTCD), 2009, Virginia Supplement to the 2009 MUTCD, and the VWAPM.

Our Team's experience on other D-B projects will be used to develop this TMP, which will be a living document, tailored to a D-B environment. It will initially be submitted with MOT Design Package 1 detailing the work it pertains to and analysis to support the work zone configuration. As subsequent design packages are completed, the TMP will be revised with new information and submitted along with the design packages. Each subsequent submittal will have the amended sections highlighted to clearly identify what has been revised or included to make it easier to review and follow.

The TMP includes three general sections, 1) temporary traffic control strategies, 2) public communication strategies, and 3) transportation operations strategies.

1. **Temporary Traffic Control (TTC) Strategies** – this section describes the project, how it will be phased, what impacts are to be expected (including analysis) during each phase, detours and impacts, and TTC numbers/plan sheet references. This section also defines work hour, lane closure, and time of year restrictions. As the temporary control strategies are developed, local stakeholders (i.e. Newport News, Williamsburg, York County, James City County, and Busch Gardens) will have the opportunity to have input, particularly when MOT is required on local streets (i.e. to accommodate bridge work).
2. **Public Communication Strategies** – this section defines the methods to be used to communicate with affected audiences about the project, expected work zone impacts, and changing conditions. Communication strategies include project level communication as well as public outreach level communication. For project level communications, details about the notification process for events such as scheduled and unscheduled work plans or traffic changes / delays will be outlined. Public outreach level communication will be developed as described below and included in the TMP.
3. **Transportation Operations Strategies** – this section documents the processes used in the event of an incident in the work zone. An important aspect of incident management is the first responders. As part of the TMP development, first responders will have input into the transportation operations strategies. The TMP will also identify the contact process for emergency and non-emergency responses. This provides our Team’s field personnel a single source of reference so they can respond quickly and effectively. Details of the Team’s towing operation (as required in the RFP) and notification process will also be detailed.

Maintain Traffic through All Phases of Construction

Our Team’s approach to maintain traffic throughout all phases of construction is at a minimum in accordance with the requirements of the RFP. Our Team has developed a sequence of construction and maintenance of traffic concept that goes beyond just meeting specification requirements, we have enhanced safety and the construction schedule with our alternating concrete barrier protected work areas and vehicular pull of zones. The plan minimizes traffic shifts while maximizing work zone space enhancing production. MOT by phase is described as follows:

Phase 1: Clearing, Grubbing, Drainage, and Outside Shoulder Strengthening

- Clearing and Grubbing and Drainage completed during the day time, in the median, between the inside shoulders (no shift in traffic or public exposures to construction)
- Outside shoulder strengthening for entire project completed during allowable night time hours using an outside lane closure; all lanes and shoulders open in compliance with the RFP
- Coordinate temporary lane closures with I-64 Segment I Project
- Periodic temporary traffic control for cross streets; all interchanges operate as normal

Phase 2: Median Lane and Shoulder Widening

- Traffic is shifted to the right lane and strengthened shoulder; two 12’ lanes and the ramp auxiliary lanes remain open at all times
- Construction Access
 - Work areas will be routinely accessed from crossing streets under I-64 between the bridges directly into the median; when access from mainline interstate is necessary, it will be safely accommodated utilizing the 4,800 ft long pull-off areas which provides vehicles adequate room for acceleration and deceleration
- Emergency Vehicle Access
 - Emergency vehicles will have unrestricted access by way of the 4,800’ long pull-off areas for entire width of median as well as all non-active work areas; the existing crossovers will be maintained or temporary ones provided

Phase 3: Pavement Reconstruction

- Traffic is shifted onto the newly constructed inside lane and shoulder; two 12’ lanes remain open in each direction at all times

- Auxiliary ramp lanes to remain open at all times, using TTC #'s 37 – 39 as construction moves along the ramps
- Construction Access
 - Work areas will be accessed primarily from the interchange on and off ramps. Access from the mainline is available between active work areas, utilizing the safety pull-off zones which provides space for adequate acceleration and deceleration
- Emergency Vehicle Access
 - Emergency vehicles will have unrestricted access to the project using the 4,800' long pull-off areas for work zone access and by-passes around stopped traffic. The existing numbers of crossovers through the median are available, unrestricted and maintained

Phase 4: Final Pavement

- Final surface asphalt pavement will be placed during night time off-peak hours using lane closures

Approach to Proposed Lane Closures, Temporary Detours, Time of Day Restrictions, Flagging Operations, Minimum Lane Widths and Work Zone Speed Reductions

Our Team does not anticipate the need for temporary reductions in speed limits within the work zone. All lane shifts and lane closures will be designed to meet the VWAPM requirements for the existing posted speed. Minimum allowable lane travel lane widths as prescribed in the RFP will be used; however, we do not anticipate the need for any 11' lane widths as our plan provides 12' lanes throughout construction. Flagging operations are anticipated on side streets during short duration bridge widening operations. These flagging operations will follow the appropriate TTC's for short term closures, the requirements of the RFP, and will be coordinated with the appropriate local agencies. Time of day restrictions and lane closures will follow the RFP requirements and will be clearly outlined in the TMP.

Temporary detours will be considered for the construction of auxiliary lanes associated with on and off ramps. Detour plans and analysis for any proposed detours will be outlined in the TMP. As part of any detour route planning, the shortest most efficient safe route will be selected and coordinated with affected stakeholders.

Impacts to Major Project Stakeholders

A proactive public outreach campaign is critical to an effective TMP and a successful project. Our Team includes Mr. Jim Wright (Pulsar), who will lead the development of our PICP and as well as the public outreach program by communicating with the public and with stakeholders who could be impacted during construction activities. Stakeholders include the Yorktown Naval Weapons Station, Joint Base Langley-Eustis, the Historic Triangle attractions, Busch Gardens and Water Country U.S.A., local schools and school systems, other area businesses, neighborhood civic organizations, public officials, police, fire and rescue, and emergency medical service providers. Our public outreach program will touch all these entities with focused and timely information.

Advanced notification will be provided prior to all work area activities, to include temporary lane closures, in order to minimize congestion. The public outreach campaign will include typical media outlets, Citizen Information Meetings, website updates, press releases,

The LANE Team's commitment to Public Involvement and Outreach was demonstrated on the I-495 Express Lanes project where the Team worked with VDOT to conduct over 600 outreach meetings, employing multiple media methods to keep information flowing to residents and businesses. The success of the approach was demonstrated during closure of Chain Bridge Road for a weekend to demolish a SB bridge on our I-495 Express Project. Demolition and reconstruction of the bridge had potential to disrupt traffic for more than 100,000 people. The Team blanketed the area with early notifications and detour options using the project website, media announcements, email, telephone calls, postcards, and door-to-door outreach. When the work was completed, not a single complaint was received from businesses, motorists, or area residents.

local resident/business letter notifications, and targeted group meetings.

As an example of our interest in providing a comprehensive public outreach program, we recently solicited input from some of the major stakeholders on the project:

On September 3, 2015, members of our Team met with Mr. Shay Coates, the Director of the Transportation Department for Newport News Public Schools at the Service Center for Operations and Transportation in Newport News. Newport News Public Schools is the largest stakeholder on the Peninsula by number of employees/students, with Joint Base Langley-Eustis close behind. Mr. Coates was very concerned about the impact the project would have on the 337 buses and drivers and the 30,000 students in the system. We discussed potential impacts and mitigation options with Mr. Coates, who very much appreciated the opportunity to have a voice and participate in our planning process.

On September 10, 2015, members of our Team met at the Busch Gardens Engineering Operations Center with SeaWorld Parks and Entertainment managers from both Busch Gardens and Water Country U.S.A. Present were Mr. Larry Giles, VP of Engineering at Busch Gardens, Mr. Mark Pauls, VP of Operations at Busch Gardens, Mrs. Suzanne Cheely, Regional Director of Design and Engineering for SeaWorld, and other support staff. They noted I-64 is essentially the only route used by the vast majority of their visitors and many of their employees, and are very concerned with the impacts of the construction on their businesses. They described to us their peak periods and events, and the conditions when they experience the heaviest traffic flows which tend to back-up all the way onto eastbound I-64 in the fifteen to twenty times per year. We discussed the potential for the attractions to work with VDOT to potentially enhance signing along the corridor since billboards are not an option, and to utilize the ITS system to aid in congestion mitigation when appropriate. The SeaWorld management team was hopeful this project will provide an avenue for developing a more comprehensive relationship with VDOT.

We believe working with major stakeholders such as Newport News Schools and popular tourist attractions (and traffic generators) like Busch Gardens and Water Country U.S.A. is an important part of helping to reduce congestion during construction to the maximum extent practical, and ultimately will benefit the project, major stakeholders, and the general public.

4.6 DISADVANTAGED BUSINESS ENTERPRISES (DBE)

4.6 | DISADVANTAGED BUSINESS ENTERPRISES (DBE)

The LANE Team embraces and supports VDOT’s DBE program and is committed to meeting or exceeding the 12% goal for the design and construction of this project. Furthermore, we will take all necessary and reasonable steps to provide SWaM firms with the maximum opportunity to compete for and perform services on this contract.

DBE Subconsultants. The LANE Team includes the following highly qualified DBE subconsultants: ALA (structural design support), PMI (design survey), and Pulsar (public involvement).

Subcontracting Plan. LANE implements a subcontracting plan on all of our projects to offer the maximum opportunity for DBE and SWaM subcontractors to qualify for and provide services. The first step is source selection. LANE researches the capabilities of a wide range of subcontractors. This includes an evaluation of past performance, socioeconomic status, financial condition, current availability, and safety performance. Based on this research, a list of potential subcontractors is developed. The second step is the outcome of the proposal process. Once a solicitation for pricing has been set, potential subcontractors have the opportunity to respond with their site specific worker protection program and best price proposals. LANE reviews the price proposal to determine price reasonableness. The final selection of the subcontractor is made by combining the results of the safety and price evaluations to determine the proposal that provides the best value to VDOT and LANE.

Safety is an integral part of any scope of work performed on this project. Accordingly, a subcontractor’s safety approach is a key component of our evaluation process. All subcontractors must meet our stringent safety requirements to be a member of the Team.

LANE also conducts a technical evaluation of the qualifications presented in the subcontractor’s proposal, as well as an independent review of their past performance. References provided with their price proposal are contacted and questioned about the subcontractor’s past performance. The topics covered include safety, schedule and cost compliance, and quality of work. If the potential subcontractor has worked for LANE before, its past performance and safety record for LANE will be evaluated. If the potential subcontractor is required to submit a Quality Control Program or Worker Protection Program with their proposal, these documents will also be evaluated. If the subcontractor has not worked for LANE previously, a project interview will be required.

LANE solicits subcontractor and supplier price proposals and evaluates for award of a subcontract or purchase order based on quality, past performance, and competitiveness. Once these reviews are complete, our evaluation team members discuss the results and select the subcontractors and suppliers that best satisfy the requirements of the contract. Any subcontractor that fails to meet these requirements will be eliminated without further consideration. This approach was successfully employed on the I-495 and I-95 Express projects. Both projects obtained their goals; I-495 Express Lanes was awarded the Virginia DBE project of the year.

4.7 PROPOSAL SCHEDULE

4.7 | PROPOSAL SCHEDULE

4.7.1 Proposal Schedule

The enclosed CPM proposal schedule outlines the LANE Team’s plan to successfully construct the I-64 Segment II project in compliance with the RFP. The schedule depicts our overall sequence of work, work tasks, and major deliverables required to complete the Project. This Proposal schedule is broken down into major phases of the Project using the hierarchical Work Breakdown Structure, clearly illustrating the anticipated Critical Path, review responsibilities of VDOT, FHWA and other regulatory agencies, as well as activities for the LANE Team, its suppliers and subcontractors.

4.7.2 Proposal Schedule Narrative

The LANE Team has developed the following Proposal Schedule narrative for our overall plan to execute the work. The narrative includes overall sequencing of Project, the Critical Path, the LANE Team’s proposed means and methods, and other key assumptions on which the schedule is based. We also explain how the LANE team optimizes the benefits of the D-B delivery method to mitigate known risks, conform to MOT requirements, minimize impacts of construction activities on the environment, and deliver the Project on-time.

Key Milestone

The LANE Team is committed to a final completion date of July 26, 2019. The table below identifies Key Milestone dates, which in order to be met, will require coordination not only between the D-B Team and VDOT but also other reviewing agencies (USACE, DEQ, etc...) as well as the U.S. Navy. Post Project award, the LANE Team, comprised of experienced team members, will implement our assertive D-B approach and local experience and relationships to potentially improve these dates.

Key Milestone	Milestone Date
Notice of Intent to Award	December 21, 2015
CTB Approval / Notice of Award	January 20, 2016
Design-Build Contract Execution	January 27, 2016
Notice to Proceed	February 17, 2016
Scope Validation Period Complete	June 15, 2016
Start of Construction	July 29, 2016
Early Completion / “No Excuse” Incentive	May 24, 2019
Final Completion Date	July 26, 2019

Work Breakdown Structure (WBS)

The WBS is a multi-level, hierarchical arrangement of the work to be performed on the Project. The LANE Team has laid out the WBS to break down the major phases by Project Element and type of work. The type of work has been broken down by Phases, Areas and respective components such as Milestones, Project Management, Scope Validation, Environmental/Permitting, ROW, Design, Public Involvement, Utility Relocation, and Construction.

The WBS areas for the Project have been developed as a collaborative effort between the design and construction teams by evaluating the Project as a whole, including type of work along the alignments, in addition to design considerations and management of the construction efforts.

Levels 2, 3, 4, 5 and 6 of the WBS as depicted in the Proposal Schedule includes but is not limited to the following items for the respective Project components:

- Administration: Includes the contract milestones, the start and completion milestones of major project components, and the monitoring project durations.
- Design: includes scope validation, survey, geotechnical engineering services, plan development, QA/QC review, VDOT review, and approval of the plans. This section includes additional levels to the WBS – grouping the design activities by type of design submission packages including Geotechnical, Bridges, and Roadway packages.
- ROW: summarized the acquisition process for the ROW required including title research, appraisals, offers, and negotiations.
- Environmental and Permitting: comprises the activities required to obtain the key environmental permits. The remaining necessary permits such as: Water Quality, stormwater monitoring, NLEB and noise evaluations will be added in the Baseline schedule.
- Utility Relocation: includes the activities for development of the utility relocation plan, which incorporates UFI meetings, preparation of preliminary engineering (PE) estimates, and approval of PE estimates into its activity durations. Then the project will perform utility relocation design, approval of the utility design, and relocation of utilities for construction.

WBS Code	WBS Name
VDOT-086-7	I-64 Capacity Improvements - Seg II Proposal Schedule Ver 2.3 -
VDOT-086-7.1	Admin
VDOT-086-7.2	Design
VDOT-086-7.2.2	Early Design
VDOT-086-7.2.2.1	Noise Study
VDOT-086-7.2.2.2	PCP
VDOT-086-7.2.2.3	Design QC Plan
VDOT-086-7.2.2.4	ROW Acquisition Plan
VDOT-086-7.2.2.6	Utility Relocation Plan
VDOT-086-7.2.2.5	Geotechnical & Survey
VDOT-086-7.2.2.5.1	Geotech Data Report
VDOT-086-7.2.2.5.2	Geotech Engineering Report
VDOT-086-7.2.3	Final Design
VDOT-086-7.2.3.2	ROW Design Design
VDOT-086-7.2.3.3	Clear & Grub / Erosion & Sediment Control Design
VDOT-086-7.2.3.4	MOT Package 1 Design
VDOT-086-7.2.3.5	Roadway Geometric Design
VDOT-086-7.2.3.1	UT Relocation Design
VDOT-086-7.2.3.6	Final Roadway Design
VDOT-086-7.2.3.7	MOT Package 2 Design
VDOT-086-7.2.3.8	Bridge
VDOT-086-7.2.3.8.1	B-627 & B-628
VDOT-086-7.2.3.8.1.1	Piles, Pile Caps & Girders
VDOT-086-7.2.3.8.1.2	Remaining Substructure / Superstructure
VDOT-086-7.2.3.8.2	B-629
VDOT-086-7.2.3.8.2.1	Piles, Pile Caps & Girders
VDOT-086-7.2.3.8.2.2	Remaining Substructure / Superstructure
VDOT-086-7.2.3.8.3	B-630 & B-631
VDOT-086-7.2.3.8.3.1	Piles, Pile Caps & Girders
VDOT-086-7.2.3.8.3.2	Remaining Substructure / Superstructure
VDOT-086-7.2.3.8.4	B-632 & B-633
VDOT-086-7.2.3.8.4.1	Piles, Pile Caps & Girders
VDOT-086-7.2.3.8.4.2	Remaining Substructure / Superstructure
VDOT-086-7.2.3.8.5	B-634 & B-635
VDOT-086-7.2.3.8.5.1	Piles, Pile Caps & Girders
VDOT-086-7.2.3.8.5.2	Remaining Substructure / Superstructure
VDOT-086-7.2.3.9	Traffic Plans Design
VDOT-086-7.2.3.9.1	Final Signing & Lighting
VDOT-086-7.2.3.9.2	ITS
VDOT-086-7.2.1	Permit
VDOT-086-7.2.1.1	Environmental Permit
VDOT-086-7.2.4	ROW Acquisition
VDOT-086-7.3	Procurement
VDOT-086-7.3.1	EB Bridge over Route 641 (Penniman)
VDOT-086-7.3.2	EB Bridge over WB Off-Ramp to Route 143
VDOT-086-7.3.3	EB Bridge over Burma Rd & Naval Wpn Stn
VDOT-086-7.3.4	EB Bridge over Route 143 (Jefferson)
VDOT-086-7.3.5	EB Bridge over Route 238 (Yorktown)
VDOT-086-7.3.6	Sign Structures
VDOT-086-7.3.7	ITS
VDOT-086-7.4	Construction
VDOT-086-7.4.1	Phase 1 - Median Clearing, Rough Grading & Shoulder Strength
VDOT-086-7.4.1.1	Roadway - Shoulder Strengthening
VDOT-086-7.4.1.3	Median - Clearing, Rough Grading, & Drainage
VDOT-086-7.4.1.2	Bridges SOE
VDOT-086-7.4.1.2.1	EB / WB Bridges over Route 641 (Penniman)
VDOT-086-7.4.1.2.2	EB Bridge over WB Off-Ramp to Route 143
VDOT-086-7.4.1.2.3	EB Bridge over Burma Rd & Naval Wpn Stn
VDOT-086-7.4.1.2.4	EB Bridge over Route 143 (Jefferson)
VDOT-086-7.4.1.2.5	EB Bridge over Route 238 (Yorktown)
VDOT-086-7.4.1.8	Bridge Bearing Pad Replacement
VDOT-086-7.4.2	Phase 2 Median Widening EB & WB
VDOT-086-7.4.2.A	Phase 2 - Stage A EB & WB
VDOT-086-7.4.2.A.1	Area 1 Sta. 1126+00 to 1176+00 EB & WB
VDOT-086-7.4.2.A.1.1	EB Bridge over Route 641 (Penniman)
VDOT-086-7.4.2.A.1.2	WB Bridge over Route 641 (Penniman)
VDOT-086-7.4.2.A.3	Area 3 Sta. 1224+00 to 1272+00 EB & WB
VDOT-086-7.4.2.A.3.1	EB Bridge over WB Off-Ramp to Route 143
VDOT-086-7.4.2.A.5	Area 5 Sta. 1320+00 to 1368+00 EB & WB
VDOT-086-7.4.2.A.5.1	EB Bridge over Burma Rd & Naval Wpn Stn
VDOT-086-7.4.2.A.5.2	WB Bridge over Burma Rd & Naval Wpn Stn
VDOT-086-7.4.2.A.7	Area 7 Sta. 1416+00 to 1464+00 EB & WB
VDOT-086-7.4.2.A.7.1	EB Bridge over Route 143 (Jefferson)
VDOT-086-7.4.2.A.7.2	WB Bridge over Route 143 (Jefferson)
VDOT-086-7.4.2.B	Phase 2 - Stage B
VDOT-086-7.4.2.B.2	Area 2 Sta. 1176+00 to 1224+00 EB & WB

- Construction: includes all the components of the roadway widening and reconstruction, and existing bridge widening and repair including but not limited to: MOT, erosion & sediment controls, QA/QC, storm water management, drainage, lighting, phasing, bridge protection barriers, bridge widening, bridge repair, roadway widening and reconstruction. This section has been further subdivided into Phases and Areas.

WBS Code	WBS Name
VDOT-086-7.4.2.B.4	Area 4 Sta. 1272+00 to 1320+00 EB & WB
VDOT-086-7.4.2.B.6	Area 6 Sta. 1368+00 to 1416+00 EB & WB
VDOT-086-7.4.2.B.8	Area 8 Sta. 1464+00 to 1501+83 EB & WB
VDOT-086-7.4.2.B.8.1	EB Bridge over Route 238 (Yorktown)
VDOT-086-7.4.2.B.8.2	WB Bridge over Route 238 (Yorktown)
VDOT-086-7.4.3	Phase 3 Roadway Reconstruction & Bridge Retrofit
VDOT-086-7.4.3.A	Phase 3 - Stage A
VDOT-086-7.4.3.A.1	Area 1 EB Sta. 1128+00 to 1176+00
VDOT-086-7.4.3.A.1.1	EB Bridge over Route 641 (Penniman)
VDOT-086-7.4.3.A.3	Area 3 EB Sta. 1224+00 to 1272+00
VDOT-086-7.4.3.A.3.2	EB Bridge over WB Off-Ramp to Route 143
VDOT-086-7.4.3.A.5	Area 5 EB Sta. 1320+00 to 1368+00
VDOT-086-7.4.3.A.5.2	EB Bridge over Burma Rd & Naval Wpn Stn
VDOT-086-7.4.3.A.7	Area 7 EB Sta. 1416+00 to 1464+00
VDOT-086-7.4.3.A.7.2	EB Bridge over Route 143 (Jefferson)
VDOT-086-7.4.3.A.9	Area 1 WB Sta. 2128+53 to 2176+53
VDOT-086-7.4.3.A.9.1	WB Bridge over Route 641 (Penniman)
VDOT-086-7.4.3.A.11	Area 3 WB Sta. 2224+53 to 2272+53
VDOT-086-7.4.3.A.13	Area 5 WB Sta. 2320+53 to 2368+53
VDOT-086-7.4.3.A.13.1	WB Bridge over Burma Rd & Naval Wpn Stn
VDOT-086-7.4.3.A.15	Area 7 WB Sta. 2416+53 to 2464+53
VDOT-086-7.4.3.A.15.1	WB Bridge over Route 143 (Jefferson)
VDOT-086-7.4.3.B	Phase 3 - Stage B
VDOT-086-7.4.3.B.2	Area 2 EB Sta. 1176+00 to 1224+00
VDOT-086-7.4.3.B.4	Area 4 EB Sta. 1272+00 to 1320+00
VDOT-086-7.4.3.B.6	Area 6 EB Sta. 1368+00 to 1416+00
VDOT-086-7.4.3.B.8	Area 8 EB Sta. 1464+00 to 1501+83
VDOT-086-7.4.3.B.8.1	EB Bridge over Route 238 (Yorktown)
VDOT-086-7.4.3.B.10	Area 2 WB Sta. 2176+53 to 2224+53
VDOT-086-7.4.3.B.12	Area 4 WB Sta. 2272+53 to 2320+53
VDOT-086-7.4.3.B.14	Area 6 WB Sta. 2368+53 to 2416+53
VDOT-086-7.4.3.B.16	Area 8 WB Sta. 2464+53 to 2502+16
VDOT-086-7.4.3.B.16.1	WB Bridge over Route 238 (Yorktown)
VDOT-086-7.4.4	Phase 4
VDOT-086-7.4.4.1	Grass Median, West & Center

Calendars

The LANE Team uses four different calendars to represent a variety of work scenarios:

- “7-days per Week” – Based on seven days per week and is used for review periods and milestones.
- “5 Days with Standard Holiday” – Based on five working days per week and includes holiday restrictions. Used for design activities and work not impacted by adverse weather.
- “5-Days with Weather and Holiday” – Based on five working days per week, holiday restrictions, and anticipated weather days. Used for construction activities.
- “5 Days Paving with Holiday” – Based on the “5-Days with Weather and Holiday” with non-working periods from December through February. Used for asphalt paving activities.
- “5 Days Final Paving with Holiday” – Based on the “5-Days with Weather and Holiday” with extended non-working periods from November through February.

For weather analysis, LANE has reviewed the weather data (August 2010 to July 2015) provided by NOAA observation center at Norfolk, VA (<http://www.weather.gov/climate/index.php?wfo=akq>). Using on 0.1 inch of participation per day as the threshold for weather impact, and taking into consideration of weekends, LANE accounts the following number of weather days each month:

Month	Anticipated Weather Days
Jan	4
Feb	5
Mar	5
Apr	4

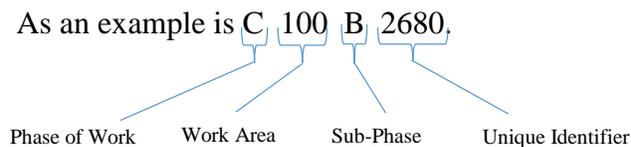
May	4
Jun	4
Jul	5
Aug	5
Sep	4
Oct	4
Nov	3
Dec	4

LANE will observe and has reflected the following holidays between 2015 and 2019 as non-work days.

<i>Holiday</i>	<i>2015</i>	<i>2016</i>	<i>2017</i>	<i>2018</i>	<i>2019</i>
<i>New Year</i>	1/1/2015	1/1/2016	1/2/2017	1/1/2018	1/1/2019
<i>Memorial Day</i>	5/25/2015	5/30/2016	5/29/2017	5/28/2018	5/27/2019
<i>4th July</i>	7/3/2015	7/4/2016	7/4/2017	7/4/2018	7/4/2019
<i>Labor Day</i>	9/7/2015	9/5/2016	9/4/2017	9/3/2018	9/2/2019
<i>Thanksgiving 1</i>	11/26/2015	11/24/2016	11/23/2017	11/22/2018	11/28/2019
<i>Thanksgiving 2</i>	11/27/2015	11/25/2016	11/24/2017	11/23/2018	11/29/2019
<i>Christmas</i>	12/25/2015	12/26/2016	12/25/2017	12/25/2018	12/25/2019

Activity Identification

LANE is proposing a smart activity identification system in the Level II Master Schedule, in which a unique alphanumeric is utilized. Each activity identification is broken down into four parts identifying: Phase of Work, Work Area, Sub-Location, and Unique Identifier, described in detail below:



- A. Project Phase of Work – The first digit in the Activity ID pertains to the phase of the project with the abbreviation and orders as follows:
 - Ø A = Administration / Project Management
 - Ø D = Design
 - Ø P = Procurement
 - Ø C = Construction
- B. Work Area – The 2nd to 4th digit in the Activity ID pertains to the work area of the project with the abbreviation and orders as follows:
 - Ø 000 = Project Wide
 - Ø 100, 101, etc... = Phase 1 – Project Wide, Phase 1 – Area 1, etc...
 - Ø 200, 201, etc... = Phase 2 – Project Wide, Phase 2 – Area 1, etc...
 - Ø 300, 401, etc... = Phase 3 – Project Wide, Phase 3 – Area 1, etc...

Ø 400, 401, etc... = Phase 4 – Project Wide, Phase 4 – Area 1, etc...

- C. Sub-Location – The 5th digit in the Activity ID pertains to the sub-location within a work area of the project with the abbreviation and orders as follows:
- Ø - = Area Wide
 - Ø A = Subarea A (Bridge B-627, etc...)
- D. Unique Identifier - The last four digits in the activity identification structure are numeric increments starting with 1000, and incremented in steps of 10. This is done to leave ample room between activities so that additional activities may be inserted as necessary.

Plan and Strategy

The LANE Team has developed a comprehensive plan to complete the I-64 Segment II Project in a safe and timely manner. Our goal is to provide an optimal level of safety to the traveling public and our workforce, provide unimpeded first responder’s access and identify a realistic completion date while meeting all RFP requirements. This will reduce the overall duration of construction, which, in-turn, will diminish interruptions to the traveling public, allowing LANE time to provide a better quality and more economical product.

Design

The design phase includes the scope validation period, public involvement, environmental, right-of-way (ROW), and utility relocation. The design generally starts with plan / document preparation, QA/QC reviews, and submission of 100%, 100% resubmission or Final, and Final Approval or Approved for Construction (ATC) design. The process reflects the 21-day periods for VDOT reviews. Survey, geotechnical investigation, and subsurface exploration activities are included to support plan preparation. The design phase will begin immediately upon Notice of Intent to Award, starting with early design packages, and critical final design packages. The key deliverables are as follow:

- Noise Study
- Public Information and Communications Plans (PICP).
- Design QC Plan.
- ROW Acquisition Plan and Design.
- Utility Relocation Plan and Design.
- Geotechnical Reports - a 90-day period for VDOT’s review of the geotechnical report prior to submitting the final bridge packages is included.
- Roadway Geometrics and Final Design.
- Clear & Grub / Erosion Control Design (SWPPP).
- Early MOT Package 1, and final MOT Package 2.
- Bridge Final Design – Substructure (include girders) and Superstructure.
- Traffic Plan Design for ITS, Signing and Lighting.

Environmental /Permitting

The environmental and permitting for the I-64 Capacity Improvement - Segment II will begin with wetland delineation followed by the USACE review. The LANE Team expects to receive written wetland confirmation by 4/25/2016. After which, the LANE team will prepare the permit document, which will include the Threatened / Endangered species – NLEB survey, VMRC requirements, VDEQ requirements and all other US Wildlife and Fisheries requirements. Then the LANE Team will submit the permit for final approval. The proposal schedule shows the permit approval on 9/14/2016, which is end of the “pupping” period. For the purpose of the proposal schedule, the LANE Team only showed the permits that will impact the project progress, but the baseline schedule will contain all necessary environmental and permitting

activities as required. Detailed information on the permitting process is discussed in section 4.4.1 of this document.

ROW Acquisition

ROW acquisition will be performed in accordance with VDOT requirements and the RFP. The initiation of the ROW Acquisition phase is dependent on the Approval of the Acquisition and Relocation Plan and obtaining the Notice to Commence Acquisition from VDOT. Our project schedule reflects the necessary durations required to perform all ROW acquisition tasks including Title Reports, Appraisals, Appraisal Reviews, Submittal of Offers, Negotiations, and Settlement/Closing. The LANE Team has minimized schedule risk due to ROW acquisition utilizing the following approaches:

- Preparing our construction phasing in a manner that minimizes the reliance of early construction stages of ROW acquisition.
- Design refinements eliminated ROW takes on 5 land parcels
- The alignment and geometry of the roadway final design shall be contained within the ROW limits shown in the RFP Conceptual Plans. This will minimize modifications to the proposed parcels, and allow for a greater ease in the review and approval by VDOT.

Utility Relocation

The project schedule incorporates all utility relocation activities necessary to clear existing utilities from the work areas. Utility related activities include utility designation and location, UFI meetings, utility plan and estimate preparation by utility owners, review and approval of plan and estimates, authorization to relocate, and the relocation of utilities by utility owners. Schedule risk due to utility relocation has been minimized by:

- Design approach which minimizes utility conflicts; like adjusting the BMP depth and locations to avoid relocation of natural gas lines.
- Developing means, methods and equipment utilization to avoid potential conflicts with the overhead transmission and distribution power lines.
- Subsurface exploration to confirm the depth of existing utilities in all foundation areas i.e. - within the proposed guardrail alignment.

Public Involvement

Public Involvement activities will be performed as required in the contract documents and relevant tasks are included in our proposal schedule. The activities included in our proposal schedule consist of:

- Noise Study / Sound Wall Analysis Report
- Development of Public Information and Communications Plans (PICP)
- ROW Acquisitions duration based on RFP Part 2 - Technical Requirement Section 2.12.

QA/QC Inspection and Testing

QA/QC activities will be performed as required in the contract documents and relevant tasks are included in our proposal schedule. The activities included in the schedule consist of:

- QA/QC Plan Submittal
- QA/QC Plan Presentation
- QA/QC review of design packages
- Design and Construction Hold Points
- VDOT Inspections are taken into consideration for estimating the duration of construction operations.

Construction

The LANE Team's overall Project Phasing, on which this schedule is based, has been developed to provide motorist and work zone safety, mitigate impacts to the traveling public, delays to construction and ultimately,

facilitate final completion of the project within established parameters. Some potential delays include, but not limited to: geotechnical constraints, environmental impacts, right of way acquisition, and the risk of potential impacts from other active construction projects.

In developing the schedule and construction sequencing, the LANE Team has put public safety first by including measures to limit disruptions to traffic flows on I-64. We have accomplished this by optimizing the size of work areas and associated temporary barrier without negatively impacting production rates or activity durations. This, in turn, will keep traffic moving more efficiently and reduce the potential for incidents by: providing longer, safer pull-off areas than required and providing superior first responder access. This sequencing also allows for greater flexibility within phases to work around unforeseen delay issues. The LANE Team’s plan is to construct the Project in four phases and key features of each phase are highlighted below:

Phase 1 - The scope of work includes the strengthening of the existing outside shoulders on both I-64 EB and WB lanes; median clearing, earthwork, deep drainage, and installation of SOE for all bridge widening activities.

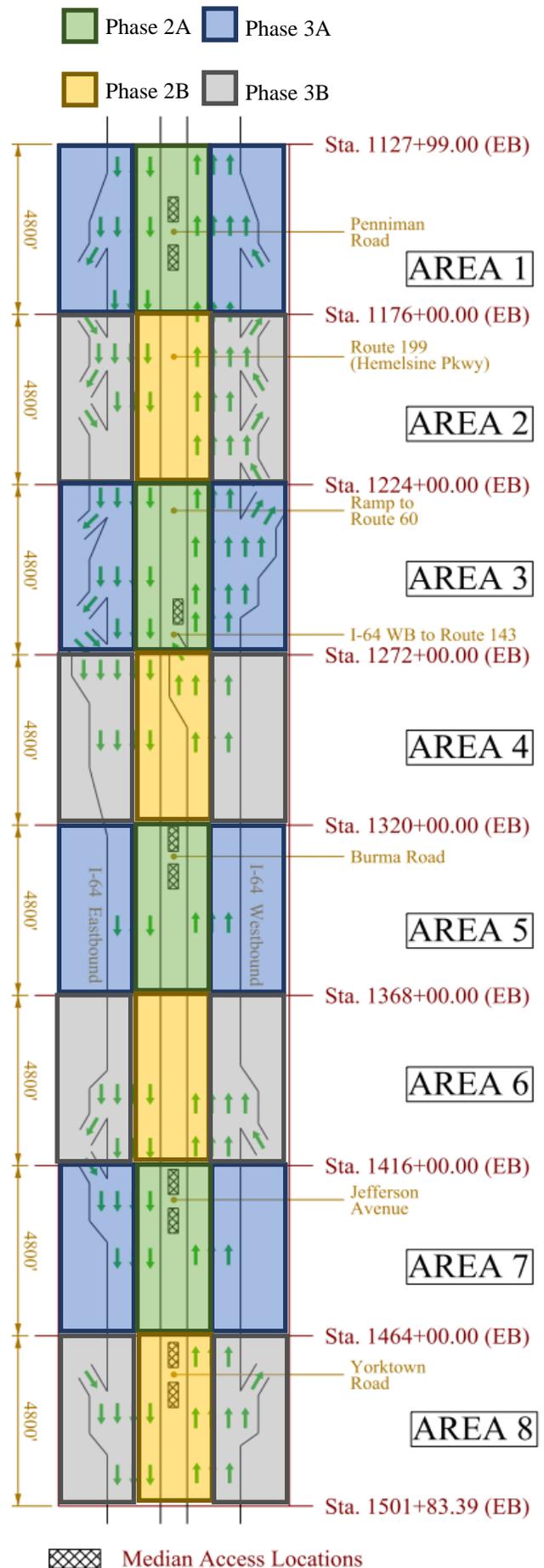
Phase 2 –

Stage A: The scope of work includes constructing the pavement sections for the median widening in the odd numbered work areas 1, 3, 5 & 7 as described above for both EB and WB directions, planter box construction and the widening of four EB and three WB bridges.

Stage B: The scope of work includes constructing the pavement sections for the median widening in the even numbered work areas 2, 4, 6 & 8 as described above for both EB and WB directions and planter box construction. LANE will also widen the remaining EB and WB bridges.

Throughout the entire length of the project in Phase 2, the vehicular traffic will be shifted outward from the existing alignment utilizing the existing outside lane and newly strengthened outside shoulders as travel lanes. The travel pattern will be maintained until the completion of Phase 2.

Phase 3 – The scope of work is to reconstruct the existing I-64 roadway, and the retrofitting of the existing 9 bridges. The Project will be subdivided in Work Areas 1 through 8 EB and WB, and the Work will also be constructed in Stage A and B.



Stage A: The scope of work includes the reconstruction of the existing lanes and shoulder for the odd numbered work areas 1, 3, 5 & 7 for both EB and WB directions and the repair, retrofit, and resurfacing of four EB and three WB bridges.

Stage B: The scope of work includes the remaining reconstruction of the existing lanes and shoulders for the even numbered work areas 2, 4, 6 & 8 for both EB and WB directions and the repair, retrofit and resurfacing of one EB and one WB Bridge.

Throughout the entire length of the project in Phase 3, the vehicular traffic will be shifted inward onto the newly constructed median roadway of Phase 2. This travel pattern will be maintained until the completion of Phase 3.

Phase 4 - The scope of work includes the final surface paving and planter box media installation. Two 12 ft lanes at a minimum will be maintained in each direction at all times.

Critical Path

The Critical path of the Project starts with the Notice of Intent to Award, which will kick off the start of the design activities (at risk). The critical path follows the utility relocation design sequence into the relocation of the existing utilities, which drives the start of bridge pile driving operations in Phase 2.

During Phase 2 construction, the critical path starts with pile driving operations in Bridge B-628. The critical path follows the flow of the pile driving operations, until it reaches Bridge B-635. The construction logic of the Bridge B-635 widening took over as the critical path until the completion of the bridge, and the end of Phase 2 construction.

During Phase 3 construction, the critical path starts with the bridge deck repair and extension work of Bridge B-628 (Area 1 EB), then it follows the superstructure retrofitting work flow until it reaches Bridge B-635 (Area 8). The construction logic of the Bridge B-635 retrofitting took over as the critical path until the completion of the bridge, and the end of Phase 3 construction.

The critical path work in Phase 4 is the final paving and striping of the roadway, followed by the final punch list work, and Project Final Completion.

Key Assumptions

The LANE Team made the following key assumptions on which our Proposal Schedule is based:

- The project assumes that it will find endangered bats in the May 2016 survey.
- The project assumes that there are no SWP habitats within the Project limit.
- For all bridge structure locations, the project is allowed to drive test piles at production pile locations. Effective partnering and coordination between the LANE Team, VDOT, the adjacent active contract, as well as all stake holders.

Schedule Management

Effective management and control of a construction project of this magnitude requires the use of a proven software package for scheduling, document control, cost control, and design and construction functions of our D-B approach. The LANE Team will develop and maintain the Project Schedule in accordance with the VDOT Special Provision for Design-Build Project Schedule (RFP Exhibit 11.1).

The LANE Team will use Primavera P6 (P6) scheduling software to plan, schedule, and monitor all activities, milestones and resources. This software, an industry standard of practice for scheduling projects, allows us to plan, organize, and control the project with the Precedence Diagram Method (PDM) of scheduling. As a management tool, P6 is powerful and flexible enough to handle all project scheduling needs, including the following capabilities:

- CPM scheduling

- Cost management
- Resource management
- Data exchange
- Reporting capabilities
- Networking

P6 also has tools to assist the project management team in tracking and forecasting the project performance from the milestone level to the smallest work activity.

The LANE Team will coordinate the scope of all project-related activities to establish a timely Critical Path Method (CPM) job schedule that will help ensure an on-time completion and identify potential risks. LANE's Project Controls will be coordinated from the on-site project office. The Project Engineer is responsible for scheduling, cost engineering, and cost forecasting. The DBPM, supported by the Construction Manager, is ultimately responsible for the implementation of the project controls system.

Upon award of the contract, LANE's Project Team will collaborate to develop the Preliminary and the Baseline schedules based on the proposal design plans and contract requirements. Internal analysis and reviews of the general schedule logic, constructability and critical paths will be held to ensure a complete and accurate schedule has been provided. The P6 software program is used to generate a time-scaled logic diagram reflecting the interdependencies of all the activities incorporated into the schedule. In addition, other various tabular reports are produced, as required, for submission to VDOT. This schedule will indicate the necessary procurement and construction activities for each area of the project. Various calendars will be incorporated into the project schedule to reflect holidays, seasonal work, temperature and precipitation restrictions, owner requirements, etc. The activities within the CPM schedule will be organized according to a WBS that has been developed for the project. An Activity Coding Structure will be utilized in the project schedule to organize data output. The project schedule will be the tool used for coordination by both on-site and off-site LANE management. Schedule updates are used by managers to review progress and coordinate the efforts of all entities involved. A full-time on-site engineer is tasked with the responsibility to track schedule progress on a daily basis and provide monthly updates. The LANE Team will have weekly schedule update meetings and any changes will be incorporated into the CPM schedule. Monthly updates of the CPM schedule will be provided to VDOT.

When changes or unforeseen circumstances arise that impacts the project schedule, the LANE Team will immediately notify VDOT (and other appropriate stakeholders) and begin incorporating changes into the "live" CPM schedule. If changes to any task or phase in the schedule result in schedule slippage, the DBPM will divide the task into its components to determine the reason(s) for falling behind. LANE will develop and implement a recovery plan to put the project back on track. Progress can then be tracked daily via the schedule compared to the previously accepted schedule. LANE's management will evaluate any slippage to determine if additional manpower, equipment, multiple shifts, a change in subcontractor, or additional subcontractors are required. If so, the necessary resources will be mobilized to correct the slippage and maintain the schedule. Scheduling practices and concerns will be clearly communicated to all subcontractors and key suppliers. Delays and schedule slippage will not be tolerated.

Conclusion

The LANE Team has developed a Proposal Schedule and Narrative that demonstrates our understanding of the complexities and interrelationships of the technical elements of the Project. Additionally, our Proposal Schedule takes into account: internal plan reviews, VDOT plan reviews and approvals, environmental permitting, ROW acquisitions, utility relocations, and construction activities.

ATTACHMENT 4.0.1.1
TECHNICAL PROPOSAL CHECKLIST

ATTACHMENT 4.0.1.1
I-64 CAPACITY IMPROVEMENTS – SEGMENT II
VDOT PROJECT NO.: 0064-965-264
TECHNICAL PROPOSAL CHECKLIST AND CONTENTS

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

Technical Proposal Component	Form (if any)	RFP Part 1 Cross Reference	Included within page limit?	Technical Proposal Page Reference
Technical Proposal Checklist and Contents	Attachment 4.0.1.1	Section 4.0.1.1	no	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	2
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	2
Final Completion Date	NA	Section 4.1.6	yes	2
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		3-4

ATTACHMENT 4.0.1.1
I-64 CAPACITY IMPROVEMENTS – SEGMENT II
VDOT PROJECT NO.: 0064-965-264
TECHNICAL PROPOSAL CHECKLIST AND CONTENTS

Technical Proposal Component	Form (if any)	RFP Part 1 Cross Reference	Included within page limit?	Technical Proposal Page Reference
Confirmation that the information provided in the SOQ submittal remains true and accurate or indicates that any requested changes were previously approved by VDOT.	NA	Section 4.2.1	yes	3
Design Concept	NA	Section 4.3		5-13
Conceptual Roadway Plans and description	NA	Section 4.3.1.1	yes	5-8; Vol. II
Conceptual Structural Plans and description	NA	Section 4.3.1.2	yes	8-13; Vol. II
Project Approach	NA	Section 4.4		14-29
Environmental Management	NA	Section 4.4.1	yes	14-17
Utilities	NA	Section 4.4.2	yes	18-22
Geotechnical	NA	Section 4.4.3	yes	22-25
Quality Assurance/ Quality Control (QA/QC)	NA	Section 4.4.4	yes	25-29
Construction of Project	NA	Section 4.5		30-40
Sequence of Construction	NA	Section 4.5.1	yes	30-37
Transportation Management Plan	NA	Section 4.5.2	yes	37-40
Disadvantaged Business Enterprises (DBE)	NA	Section 4.6		41

ATTACHMENT 4.0.1.1
I-64 CAPACITY IMPROVEMENTS – SEGMENT II
VDOT PROJECT NO.: 0064-965-264
TECHNICAL PROPOSAL CHECKLIST AND CONTENTS

Technical Proposal Component	Form (if any)	RFP Part 1 Cross Reference	Included within page limit?	Technical Proposal Page Reference
Written statement of percent DBE participation	NA	Section 4.6	yes	41
DBE subcontracting narrative	NA	Section 4.6	yes	41
Proposal Schedule	NA	Section 4.7		S1-S9; Vol. II
Proposal Schedule <u>(to be included in Volume II)</u>	NA	Section 4.7	no	Vol. II
Proposal Schedule Narrative <u>(to be included in Appendix of Volume I)</u>	NA	Section 4.7	no	Vol. 1, Section 4.7; S1-S9
Proposal Schedule in electronic format (CD-ROM)	NA	Section 4.7	no	CD-ROM

**ATTACHMENT 3.6 (FORM C-78-RFP)
ACKNOWLEDGEMENT OF RECEIPT OF RFP,
REVISIONS, AND/OR ADDENDA**

ATTACHMENT 3.6**COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION**RFP NO. C00106665DB82PROJECT NO.: 0064-965-264**ACKNOWLEDGEMENT OF RFP, REVISION AND/OR ADDENDA**

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

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

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



SIGNATURE

November 16, 2015

DATE

Robert E. Watt

PRINTED NAME

Pursuit Manager

TITLE

**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 16th day of November, 2015, by and between the Virginia Department of Transportation (“VDOT”), and The Lane Construction Corporation (“Offeror”).

WITNESSETH:

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

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

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

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

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

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

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

3. **Proposal Payment.** VDOT agrees to pay Offeror the lump sum amount of **Eighty-Five Thousand and 00/100 Dollars (\$8085,000.00)** ("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] The Lane Construction Corporation

By:  _____

Name: Robert E. Watt

Title: Pursuit Manager

ATTACHMENT 11.8.6(a)
CERTIFICATION REGARDING DEBARMENT;
PRIMARY COVERED TRANSACTIONS

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

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

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

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

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

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

<u>R. COTT</u>	<u>8/20/15</u>	<u>MANAGER</u>
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
Contract ID: C00106665DB82

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

	8/19/2015	President
_____ Signature	_____ Date	_____ Title

Athavale, Lystad & Associates, 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.

	October 5, 2015	President
Signature	Date	Title

CES-Consulting, Inc.
Name of Firm

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

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

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<u>Eric Goodwin</u>	<u>8/20/2015</u>	<u>PARTNER</u>
Signature	Date	Title
<u>BY. ERIC GOODWIN</u>		
<u>CRIDER, BOUYE, & GOODWIN, LLC</u>		
Name of Firm		

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

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

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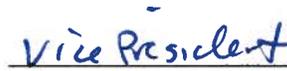
The undersigned makes the foregoing statements to be filed with the proposal submitted on behalf of the Offeror for contracts to be let by the Commonwealth Transportation Board.



Signature

October 5, 2015

Date



Title

ECS Mid-Atlantic, LLC

Name of Firm

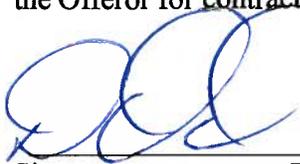
ATTACHMENT 11.8.6(b)
CERTIFICATION REGARDING DEBARMENT
LOWER TIER COVERED TRANSACTIONS

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

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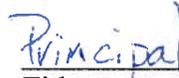
The undersigned makes the foregoing statements to be filed with the proposal submitted on behalf of the Offeror for contracts to be let by the Commonwealth Transportation Board.



Signature

October 5, 2015

Date



Title

Geotechnical Environmental and Testing Solutions, Inc.
Name of Firm

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

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

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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.

	August 21, 2015	President and CEO
Signature	Date	Title

Harris Miller Miller & Hanson Inc. d/b/a HMMH
Name of Firm

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

Project No.: 0064-965-264
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August 19, 2015

Kenneth Aducci, PE, Sr. Vice President

Signature

Date

Title

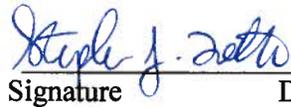
HDR Engineering, Inc.
Name of Firm

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

Project No.: 0064-965-264
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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.

	<u>August 20, 2015</u>	<u>Chief Operating Officer</u>
Signature	Date	Title

O. R. Colan Associates of Florida, LLC
Name of Firm

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

Project No.: 0064-965-264

Contract ID: C00106665DB82

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Signature
Katherine D. Poterjoy

August 24, 2015
Date

Senior Compliance Manager
Title

Parsons Brinckerhoff, Inc.

Name of Firm

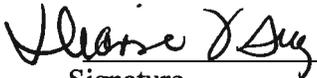
ATTACHMENT 11.8.6(b)
CERTIFICATION REGARDING DEBARMENT
LOWER TIER COVERED TRANSACTIONS

Project No.: 0064-965-264
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	August 21, 2015	President
Signature	Date	Title

Precision Measurements, 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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	October 5, 2015	<u>PARTNER</u>
Signature	Date	Title

Pulsar Advertising, Inc.
Name of Firm

SECTION 4.3.1.1
CONCEPTUAL ROADWAY PLANS

FOR INDEX OF SHEETS SEE SHEET 1B

FHWA - 534 DATA 3A103

STATE	FEDERAL AID PROJECT	ROUTE	STATE PROJECT	SHEET NO.
VA.	IM-965-5(086)	64	(FO) 0064-965-264	1
(SEE TABULATION BELOW FOR SECTION NUMBERS)		(SEE TABULATION BELOW FOR SECTION NUMBERS)		

THIS PROJECT WAS DEVELOPED UTILIZING THE DEPARTMENT'S ENGINEERING DESIGN PACKAGE (GEOPAK).
GEOPAK Computer Identification No. 106665

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION

PLAN AND PROFILE OF PROPOSED
STATE HIGHWAY
CITY OF NEWPORT NEWS
I-64 CAPACITY IMPROVEMENTS - SEGMENT II
FROM: 1.05 MILES WEST OF ROUTE 199
(HUMELSINE PKWY / MARQUIS CENTER PKWY)
TO: 0.54 MILES EAST OF ROUTE 238 (YORKTOWN ROAD)

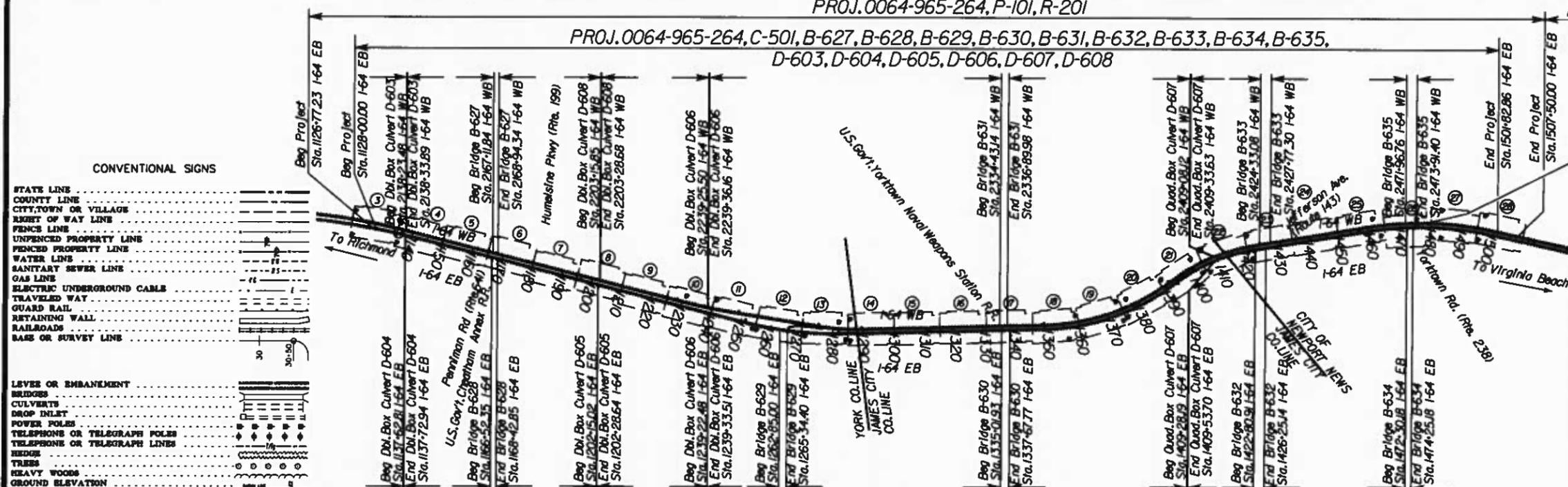
PROJ.0064-965-264,P-101,R-201

FUNCTIONAL CLASSIFICATION AND TRAFFIC DATA	
Interstate - Urban Principal Arterial - 70 MPH Min. Design Speed	
FROM: 1.05 MILES WEST OF ROUTE 199 (HUMELSINE PKWY / MARQUIS CENTER PKWY)	
TO: 0.54 MILES EAST OF ROUTE 238 (YORKTOWN ROAD)	
ADT (2015)	94,000
ADT (2037)	128,000
DHV (2037)	10,000
D (%) (design hour)	55%
T (%) (design hour)	9%
V (MPH)	x

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

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,
SURVEYED BY, DATE
DESIGN BY
SUBSURFACE UTILITY BY, DATE



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	.....

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
BY OTHERS

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

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.

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

STATE PROJECT NO.	SECTION	FEDERAL AID PROJECT NO.	TYPE CODE	UPC NO.	EQUALITIES	LENGTH INCLUDING BRIDGE(S)		LENGTH EXCLUDING BRIDGE(S)		BRIDGE PROJECT NO.	TYPE PROJECT	DESCRIPTION
						FEET	MILES	FEET	MILES			
0064-965-264	P-101	IM-965-5(086)	PCNG	106665	NONE	38072.77	7.21	36827.80	6.975		Prelim. Engr.	FROM 1.05 MILES WEST OF ROUTE 199 (HUMELSINE PKWY) / MARQUIS CENTER PKWY)
	R-201	IM-965-5(086)	ROWA	106665	NONE	38072.77	7.21	36827.80	6.975		Right of Way	TO: 0.54 MILES EAST OF ROUTE 238 (YORKTOWN ROAD)
	C-501	IM-965-5(086)		106665	NONE	37382.86	7.080	36137.89	6.844		Construction	
	B-627	IM-965-5(086)	X281	106665	NONE	182.50	0.035				Constr. - Rehab.	64 WB Bridge @ Pennington Rd.
	B-628	IM-965-5(086)	X281	106665	NONE	190.50	0.036				Constr. - Rehab.	64 EB Bridge @ Pennington Rd.
	B-629	IM-965-5(086)	X231	106665	NONE	249.40	0.047				Constr. - Rehab.	64 EB Bridge @ Rte.143 Off-Ramp
	B-630	IM-965-5(086)	X531	106665	NONE	265.84	0.050				Constr. - Rehab.	64 EB Bridge @ RR to Naval Weapons Station
	B-631	IM-965-5(086)	X531	106665	NONE	246.84	0.047				Constr. - Rehab.	64 WB Bridge @ RR to Naval Weapons Station
	B-632	IM-965-5(086)	X231	106665	NONE	344.23	0.065				Constr. - Rehab.	64 EB Bridge @ Jefferson Ave.
	B-633	IM-965-5(086)	X231	106665	NONE	344.22	0.065				Constr. - Rehab.	64 WB Bridge @ Jefferson Ave.
	B-634	IM-965-5(086)	X281	106665	NONE	195.00	0.037				Constr. - Rehab.	64 EB Bridge @ Yorktown Rd.
	B-635	IM-965-5(086)	X281	106665	NONE	194.64	0.037				Constr. - Rehab.	64 WB Bridge @ Yorktown Rd.
	D-603	IM-965-5(086)	X028	106665	NONE	10.41	0.002				Constr. - Rehab.	64 WB Dbl. Box Culv. @ Jones Mill Pond
	D-604	IM-965-5(086)	X028	106665	NONE	10.13	0.002				Constr. - Rehab.	64 EB Dbl. Box Culv. @ Jones Mill Pond
	D-605	IM-965-5(086)	X028	106665	NONE	13.62	0.003				Constr. - Rehab.	64 EB Dbl. Box Culv. @ Whiteman Swamp
	D-606	IM-965-5(086)	X028	106665	NONE	11.03	0.002				Constr. - Rehab.	64 EB & WB Dbl. Box Culv. @ King Creek
	D-607	IM-965-5(086)	X028	106665	NONE	25.51	0.005				Constr. - Rehab.	64 EB & WB Quad. Box Culv. @ Shiffes Creek
	D-608	IM-965-5(086)	X028	106665	NONE	12.84	0.002				Constr. - Rehab.	64 WB Dbl. Box Culv. @ Whiteman Swamp

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

Copyright 2015, Commonwealth of Virginia

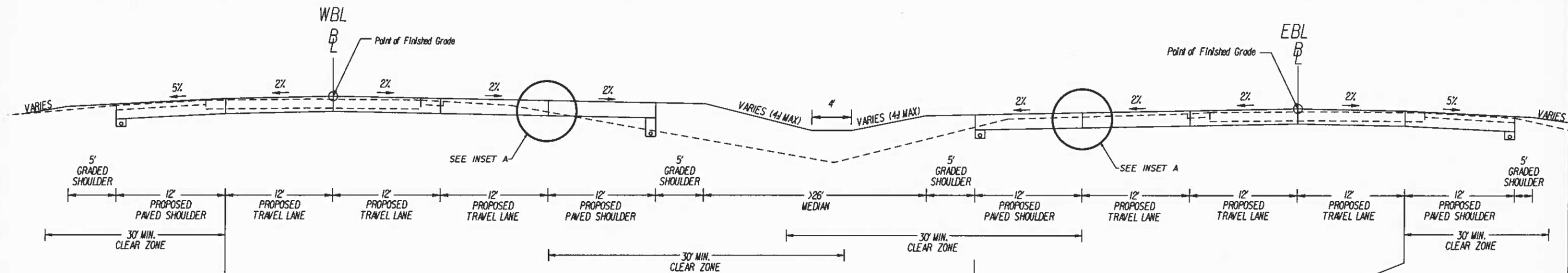
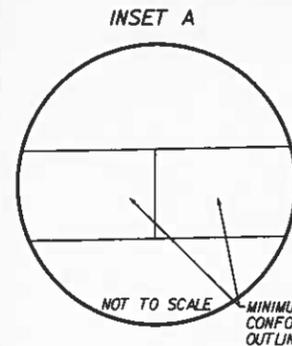
PROJECT MANAGER _____
 SURVEYED BY, DATE _____
 DESIGN BY _____
 SUBSURFACE UTILITY BY, DATE _____

REVISED	STATE	ROUTE	PROJECT	SHEET NO.
2015-11-10	VA.	64	0064-965-265, R201C-501	2A

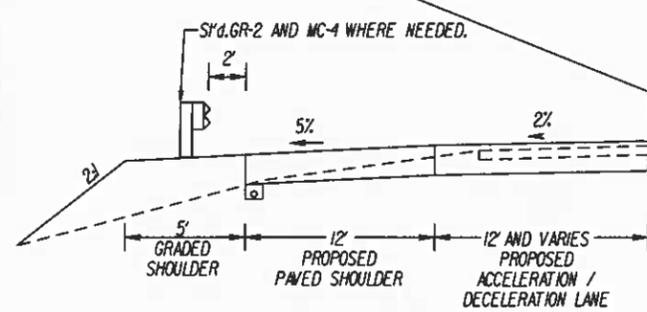
TYPICAL SECTIONS I-64 MAINLINE

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

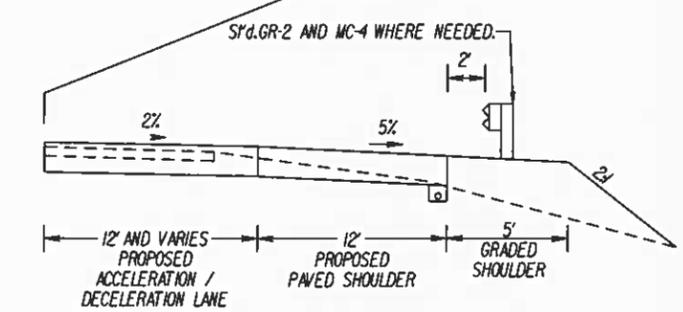
PRELIMINARY PLANS
THESE PLANS NOT TO BE USED FOR CONSTRUCTION



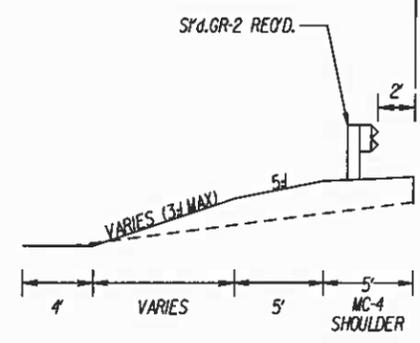
STATION TO STATION
 (I-64 WB) 2128+52 - 2240+93
 (I-64 EB) 1128+00 - 1240+36



TYPICAL ACCELERATION / DECELERATION LANE



TYPICAL ACCELERATION / DECELERATION LANE



TYPICAL GUARDRAIL INSTALLATION ON INSIDE SHOULDER

NOTE:
 STATION RANGES SHOWN ARE APPROXIMATE ONLY. DESIGN BUILDER TO DETERMINE FINAL TYPICAL SECTION STATION LIMITS.

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

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

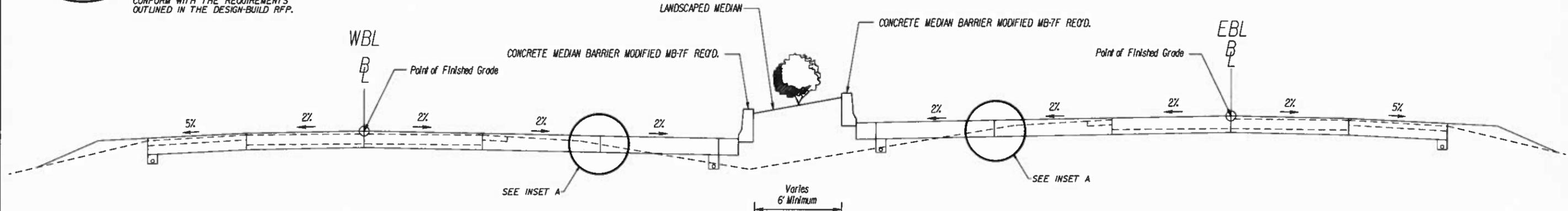
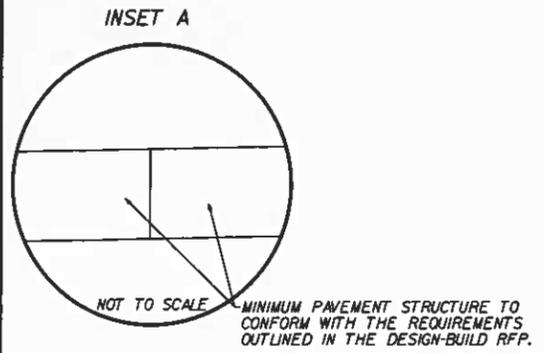
PROJECT MANAGER _____
 SURVEYED BY, DATE _____
 DESIGN BY _____
 SUBSURFACE UTILITY BY, DATE _____

REVISED	STATE	ROUTE	STATE	PROJECT	SHEET NO.
2015-11-10	VA.	64		0064-965-265, R201C-501	2B

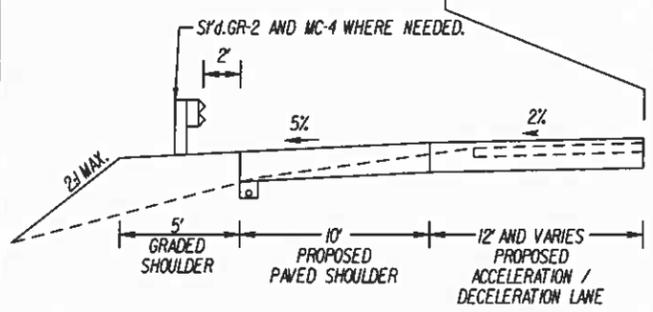
TYPICAL SECTIONS I-64 MAINLINE

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

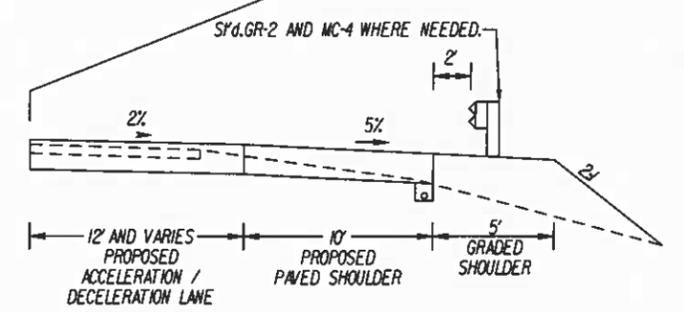
PRELIMINARY PLANS
THESE PLANS NOT TO BE USED FOR CONSTRUCTION



STATION TO STATION
(I-64 WB) (I-64 EB)
 2286+30 - 2502+15 1286+15 - 1501+83



TYPICAL ACCELERATION / DECELERATION LANE



TYPICAL ACCELERATION / DECELERATION LANE

NOTE:
 STATION RANGES SHOWN ARE APPROXIMATE ONLY. DESIGN BUILDER TO DETERMINE FINAL TYPICAL SECTION STATION LIMITS.

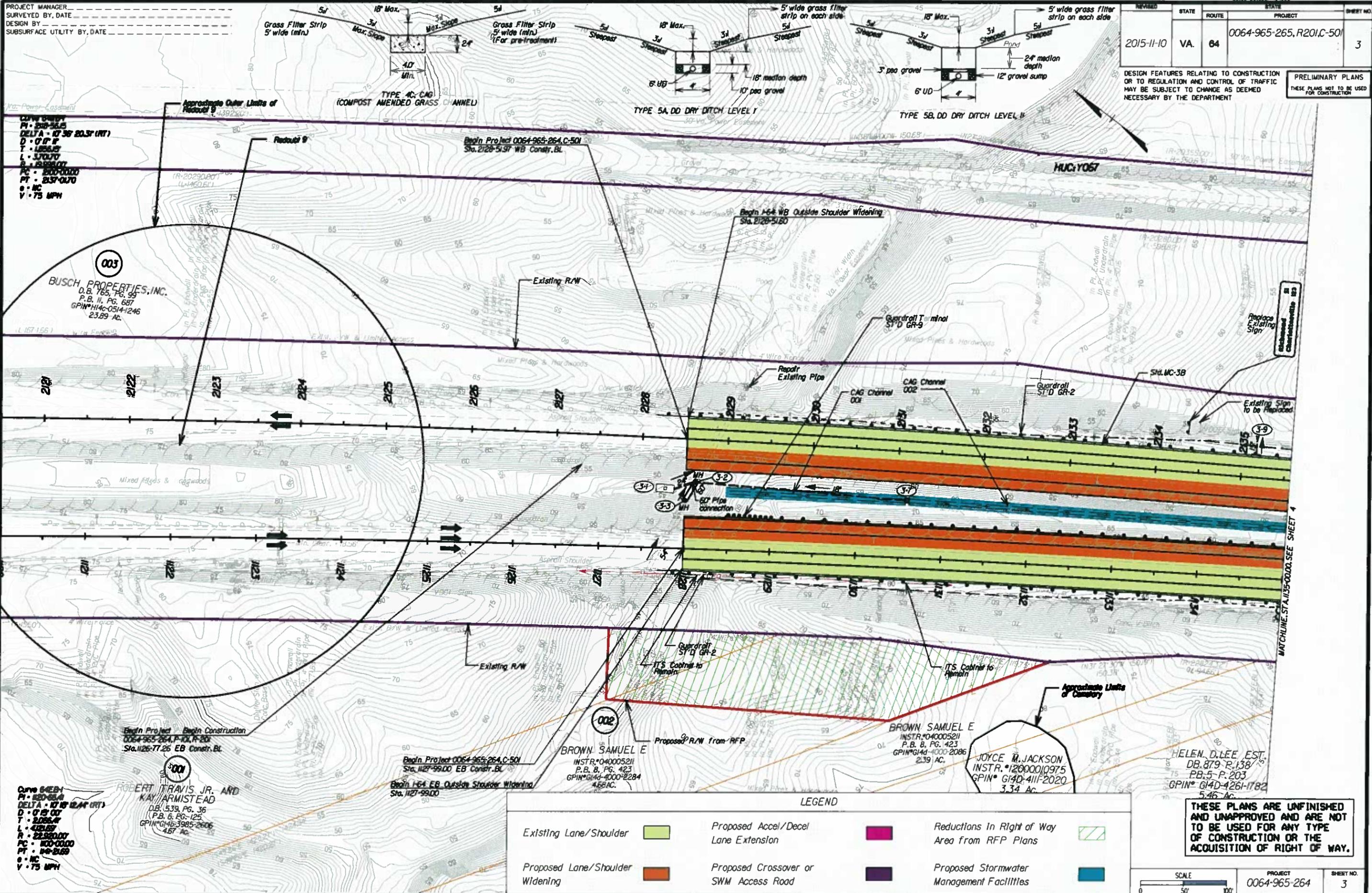
THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

Not To Scale	PROJECT 0064-965-264	SHEET NO. 2B
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PROJECT MANAGER SURVEYED BY, DATE DESIGN BY SUBSURFACE UTILITY BY, DATE

REVISION	STATE	ROUTE	PROJECT	SHEET NO.
2015-11-10	VA.	64	0064-965-265, R201C-501	3

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT PRELIMINARY PLANS THESE PLANS NOT TO BE USED FOR CONSTRUCTION



Curve 001
 PI - 210-26.15
 DELTA - 17° 56' 20.37 (RT)
 D - 0' 0" 0"
 T - 1886.15
 L - 370.70
 R - 1998.07
 PC - 210-00.00
 PT - 213-07.70
 e - MC
 v - 75 MPH

003
 BUSCH PROPERTIES, INC.
 D.B. 765, PG. 95
 P.B. II, PG. 687
 GPIN*H4C-0514-1246
 23.89 AC.

Curve 002
 PI - 120-68.8
 DELTA - 17° 15' 12.41 (RT)
 D - 0' 0" 0"
 T - 2086.4
 L - 426.69
 R - 2290.07
 PC - 120-00.00
 PT - 124-21.69
 e - MC
 v - 75 MPH

ROBERT TRAVIS JR. AND
 KAY ARMISTEAD
 D.B. 539, PG. 36
 P.B. 6, PG. 125
 GPIN*G4B-3985-2606
 4.57 AC.

Begin Project 0064-965-264, C-501
 Sta. 1127-99.00 EB Const. BL

Begin I-64 EB Outside Shoulder Widening
 Sta. 1127-99.00

BROWN SAMUEL E
 INSTR.*040005211
 P.B. 8, PG. 423
 GPIN*G4D-4000-2284
 4.68 AC.

BROWN SAMUEL E
 INSTR.*040005211
 P.B. 8, PG. 423
 GPIN*G4D-4000-2086
 2.39 AC.

JOYCE M. JACKSON
 INSTR.*12000010975
 GPIN*G4D-4111-2020
 3.34 AC.

HELEN D. LEE EST.
 DB. 879, P. 138
 PB. 5-P. 203
 GPIN*G4D-4261-1782
 5.46 AC.

LEGEND

Existing Lane/Shoulder		Proposed Accel/Decel Lane Extension		Reductions in Right of Way Area from RFP Plans	
Proposed Lane/Shoulder Widening		Proposed Crossover or SWM Access Road		Proposed Stormwater Management Facilities	

SCALE 0 50' 100'

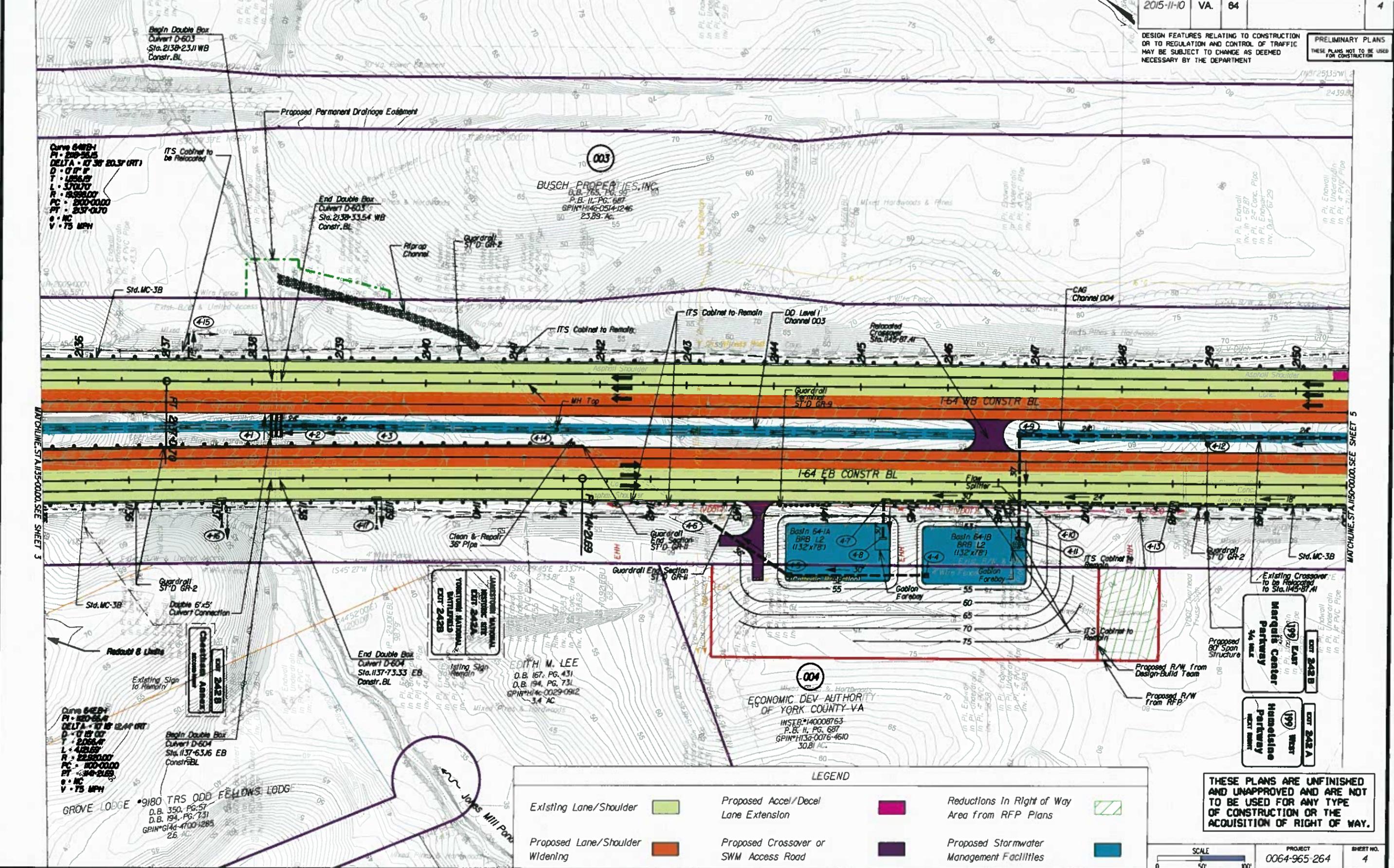
PROJECT 0064-965-264 SHEET NO. 3

PROJECT MANAGER
SURVEYED BY, DATE
DESIGN BY
SUBSURFACE UTILITY BY, DATE

REVISED	STATE	ROUTE	PROJECT	SHEET NO
2015-11-10	VA.	64	0064-965-265, R201C-501	4

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

PRELIMINARY PLANS
THESE PLANS NOT TO BE USED FOR CONSTRUCTION



INTCHLINE STA 1135+00.00 SEE SHEET 3

INTCHLINE STA 1150+00.00 SEE SHEET 5

LEGEND

Existing Lane/Shoulder		Proposed Accel/Decel Lane Extension		Reductions In Right of Way Area from RFP Plans	
Proposed Lane/Shoulder Widening		Proposed Crossover or SWM Access Road		Proposed Stormwater Management Facilities	

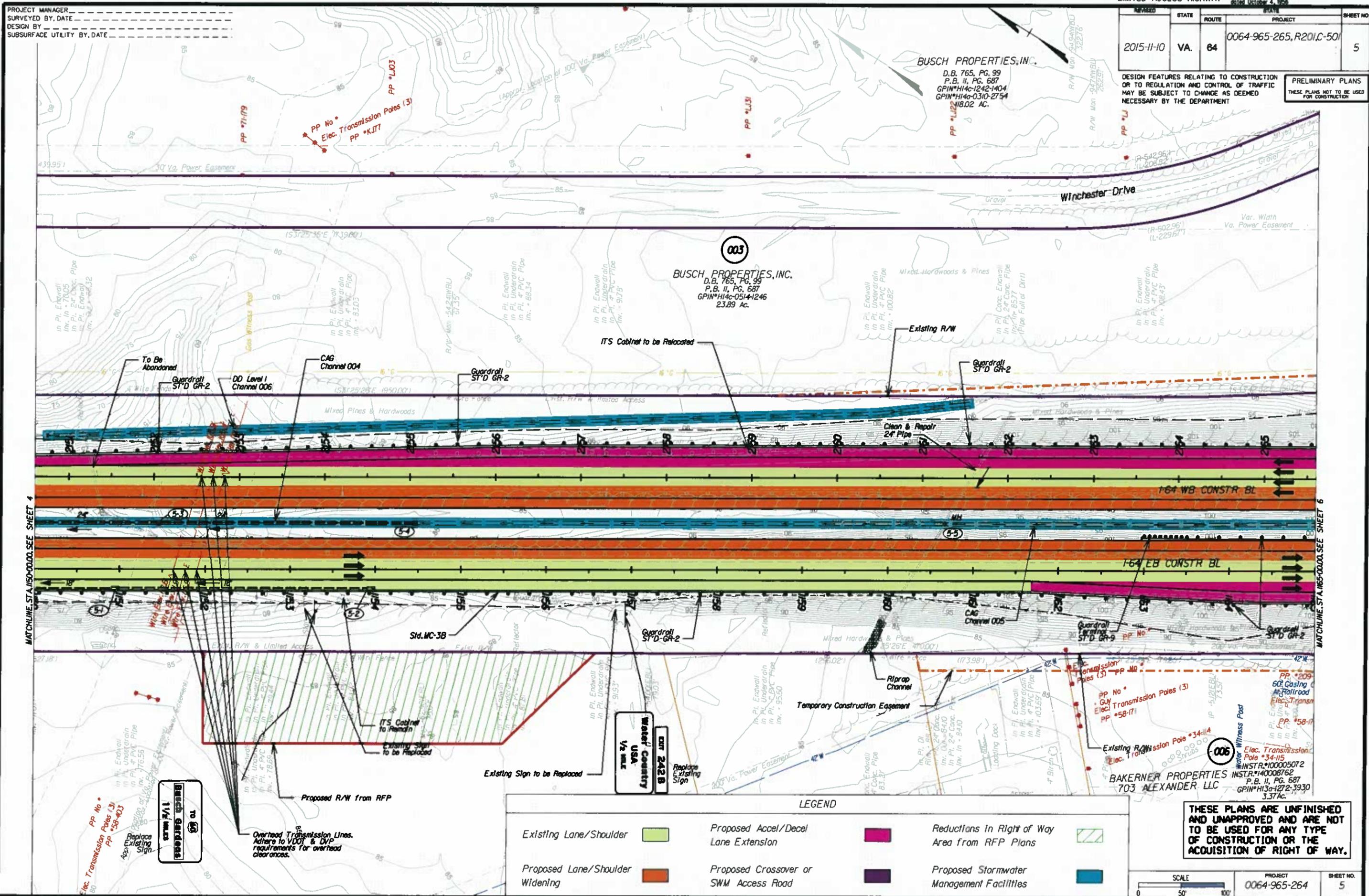
THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

PROJECT MANAGER _____
SURVEYED BY, DATE _____
DESIGN BY _____
SUBSURFACE UTILITY BY, DATE _____

REFILED	STATE	ROUTE	PROJECT	SHEET NO
2015-11-10	VA.	64	0064-965-265, R201C-501	5

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

PRELIMINARY PLANS
THESE PLANS NOT TO BE USED FOR CONSTRUCTION



MATCHLINE STA. 195+00.00, SEE SHEET 4

MATCHLINE STA. 195+00.00, SEE SHEET 6

LEGEND

Existing Lane/Shoulder		Proposed Accel/Decel Lane Extension		Reductions In Right of Way Area from RFP Plans	
Proposed Lane/Shoulder Widening		Proposed Crossover or SWM Access Road		Proposed Stormwater Management Facilities	

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

SCALE	PROJECT	SHEET NO.
0 50' 100'	0064-965-264	5

PROJECT MANAGER
SURVEYED BY, DATE
DESIGN BY
SUBSURFACE UTILITY BY, DATE

BUSCH PROPERTIES, INC.
D.B. 785, Pg. 39
P.B. II, Pg. 687
GPIN#H130-3270-4715
3312 Ac.

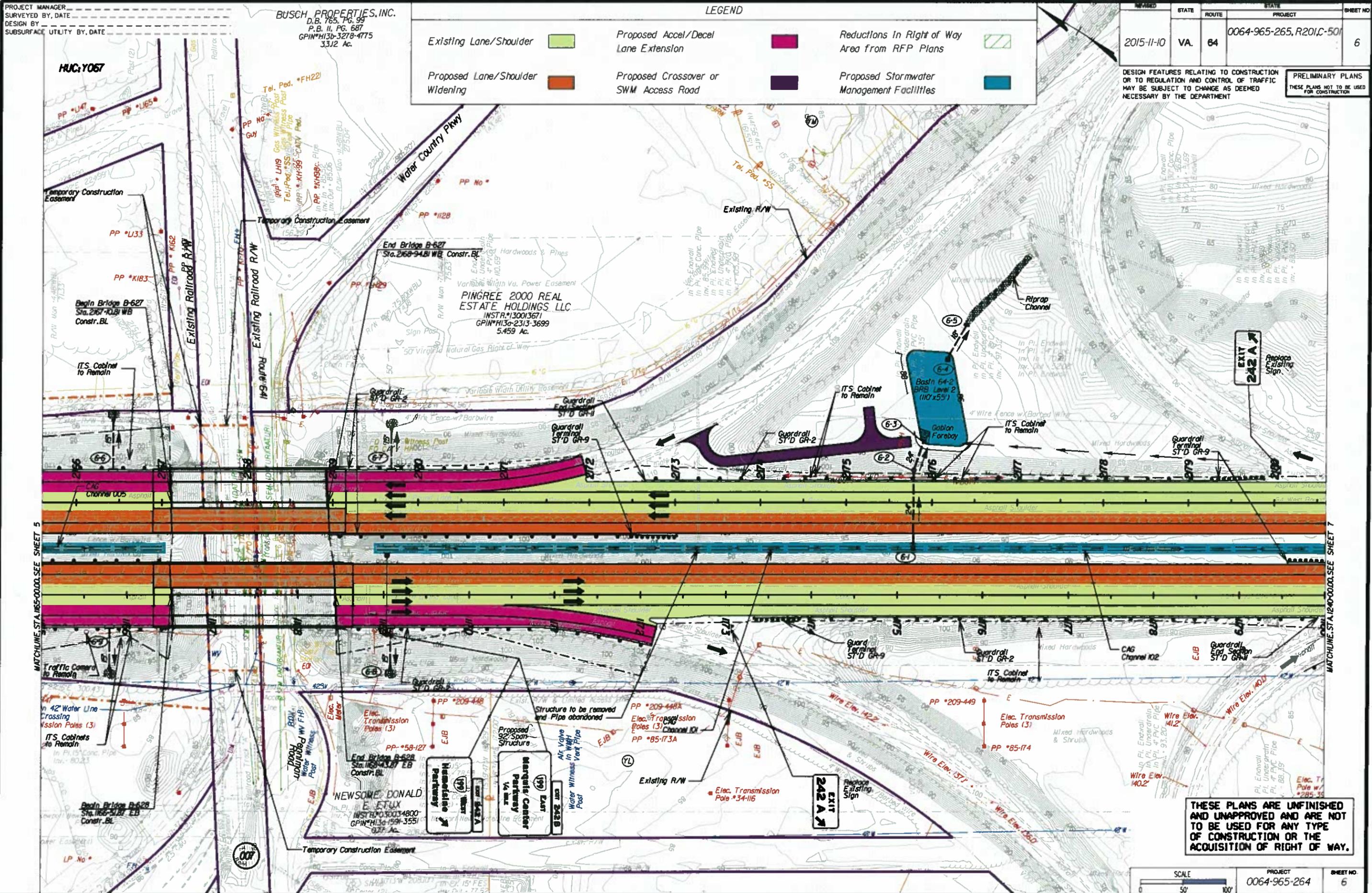
LEGEND

Existing Lane/Shoulder		Proposed Accel/Decel Lane Extension		Reductions In Right of Way Area from RFP Plans	
Proposed Lane/Shoulder Widening		Proposed Crossover or SWM Access Road		Proposed Stormwater Management Facilities	

DATE	STATE	ROUTE	PROJECT	SHEET NO.
2015-11-10	VA.	64	0064-965-265, R201C-501	6

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

PRELIMINARY PLANS
THESE PLANS NOT TO BE USED FOR CONSTRUCTION



MATCHLINE STA. 185+00.00 SEE SHEET 5

MATCHLINE STA. 12+00.00 SEE SHEET 7

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

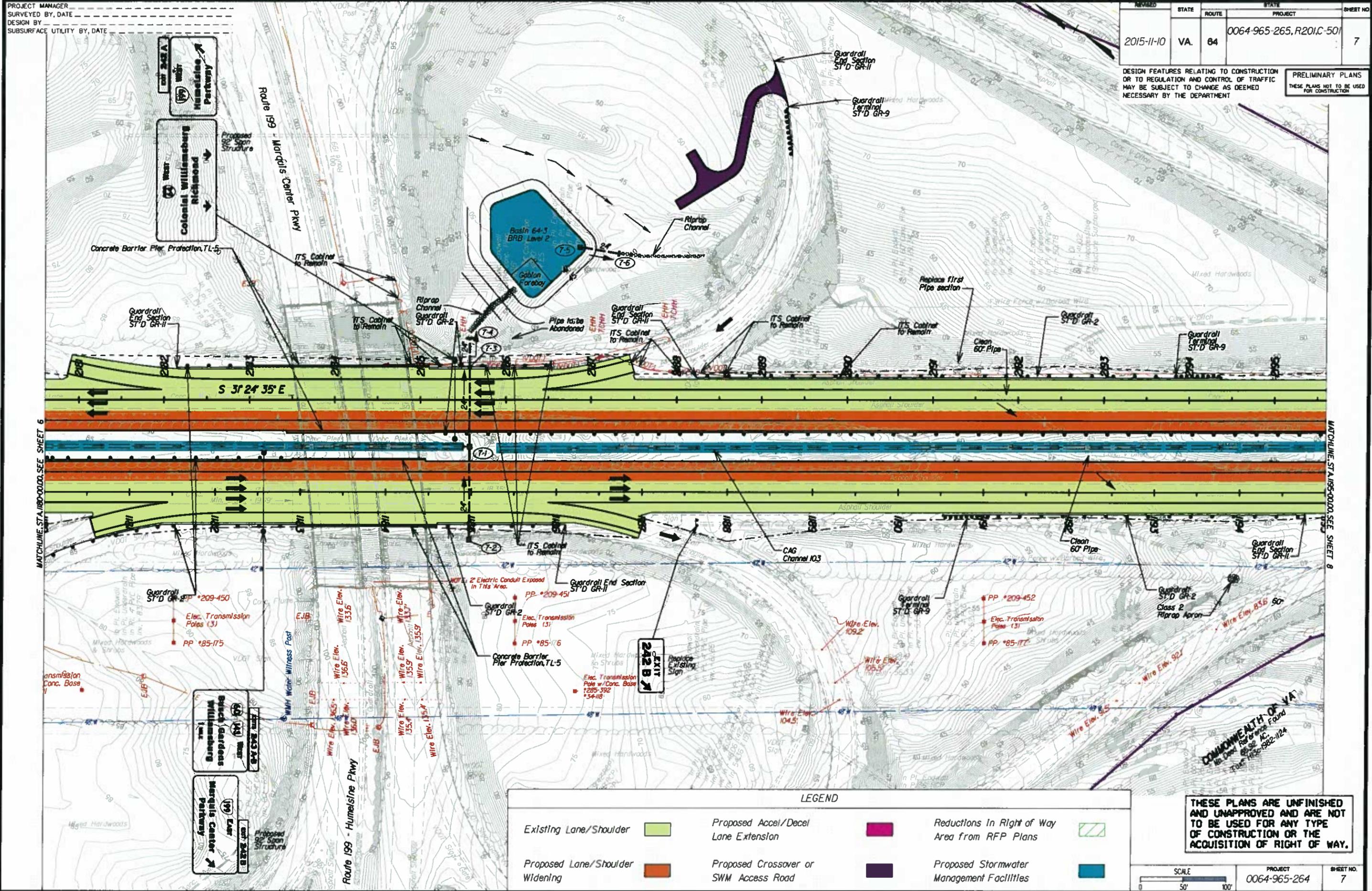
SCALE	PROJECT	SHEET NO.
0 50' 100'	0064-965-264	6

PROJECT MANAGER
SURVEYED BY, DATE
DESIGN BY
SUBSURFACE UTILITY BY, DATE

REVISED	STATE	ROUTE	PROJECT	SHEET NO
2015-11-10	VA.	64	0064-965-265, R201C-501	7

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

PRELIMINARY PLANS
THESE PLANS NOT TO BE USED FOR CONSTRUCTION



MATCHLINE STA 180+00.00 SEE SHEET 6

MATCHLINE STA 185+00.00 SEE SHEET 8

LEGEND

Existing Lane/Shoulder		Proposed Accel/Decel Lane Extension		Reductions in Right of Way Area from RFP Plans	
Proposed Lane/Shoulder Widening		Proposed Crossover or SWM Access Road		Proposed Stormwater Management Facilities	

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

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

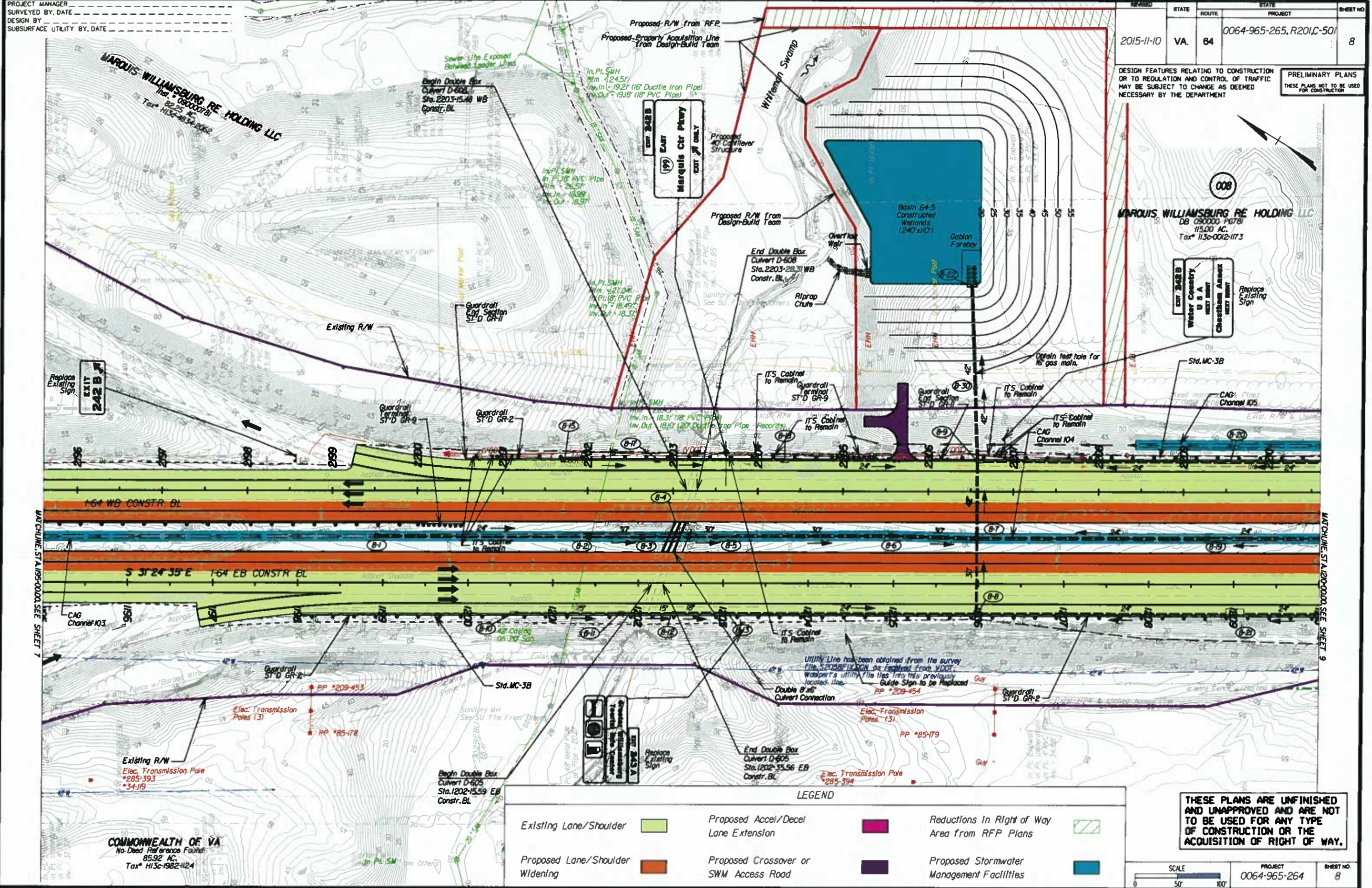
COMMONWEALTH OF VA
No. 1000
AC
1000-1000-1000-1000

PROJECT MANAGER
SURVEYED BY, DATE
DESIGN BY
SUBSURFACE UTILITY BY, DATE

REVISED	STATE	ROUTE	PROJECT	SHEET NO
2015-11-10	VA.	64	0064-965-265.R201C-501	8

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

PRELIMINARY PLANS
THESE PLANS NOT TO BE USED FOR CONSTRUCTION



LEGEND

Existing Lane/Shoulder		Proposed Accel/Decel Lane Extension		Reductions in Right of Way Area from RFP Plans	
Proposed Lane/Shoulder Widening		Proposed Crossover or SWM Access Road		Proposed Stormwater Management Facilities	

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

SCALE 0 50' 100'

PROJECT	SHEET NO.
0064-965-264	8

COMMONWEALTH OF VA
No-Dead Reference Foundation
85.92 AC.
Tax# H13c-1962-1124

MATCHLINE STA 195+00.00 SEE SHEET 7

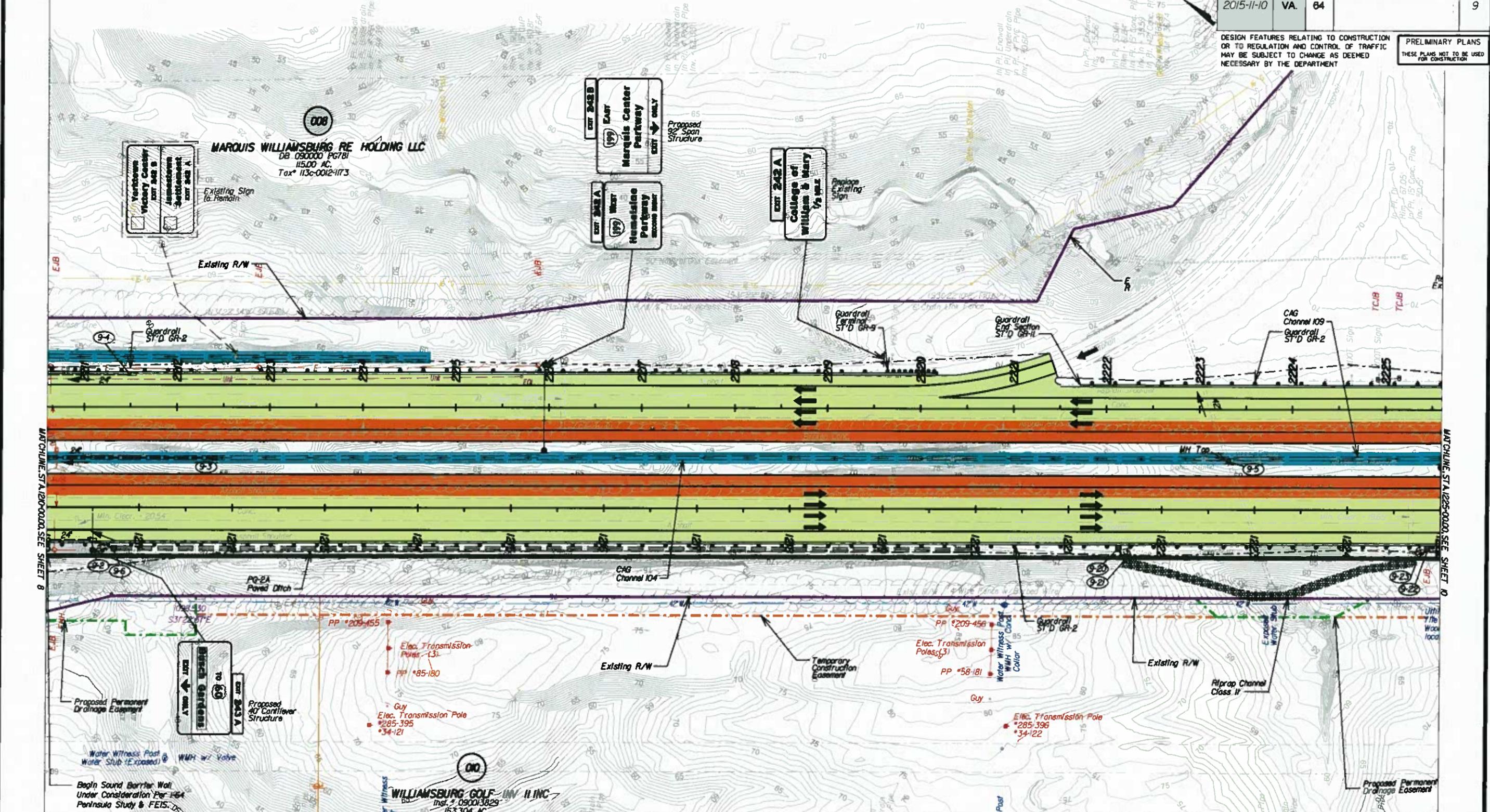
MATCHLINE STA 120+00.00 SEE SHEET 9

REVISED	STATE	ROUTE	PROJECT	SHEET NO.
2015-11-10	VA.	64	0064-965-265, R201C-501	9

PROJECT MANAGER _____
 SURVEYED BY, DATE _____
 DESIGN BY _____
 SUBSURFACE UTILITY BY, DATE _____

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

PRELIMINARY PLANS
 THESE PLANS NOT TO BE USED FOR CONSTRUCTION



MARQUIS WILLIAMSBURG RE HOLDING LLC
 DB 090000 PG781
 11500 AC
 Tax# 113c-0012-1173

Bush Gardens
 Exit 243A
 Proposed 40' Cantilever Structure

Exit 243B
 (99) East
Margolis Center Parkway
 Proposed 92' Span Structure

Exit 243A
 (99) West
Hemlocke Parkway
 Proposed 92' Span Structure

Exit 243A
College of William & Mary
 1/2 mile

WILLIAMSBURG GOLF & INN, INC.
 Inst. # 090013829
 53304 AC
 Tax# 112b-3671-2710

COUNTRY CLUB PARTNERS LLC
 Inst. # 020012432
 43.39 AC
 Tax# 112b-3185-4590

LEGEND

Existing Lane/Shoulder		Proposed Accel/Decel Lane Extension		Reductions In Right of Way Area from RFP Plans	
Proposed Lane/Shoulder Widening		Proposed Crossover or SWM Access Road		Proposed Stormwater Management Facilities	

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SCALE 0 50' 100'

PROJECT	SHEET NO.
0064-965-264	9

MATCHLINE STA 180+00.00 SEE SHEET 8

MATCHLINE STA 1225+00.00 SEE SHEET 10

PROJECT MANAGER
SURVEYED BY, DATE
DESIGN BY
SUBSURFACE UTILITY BY, DATE

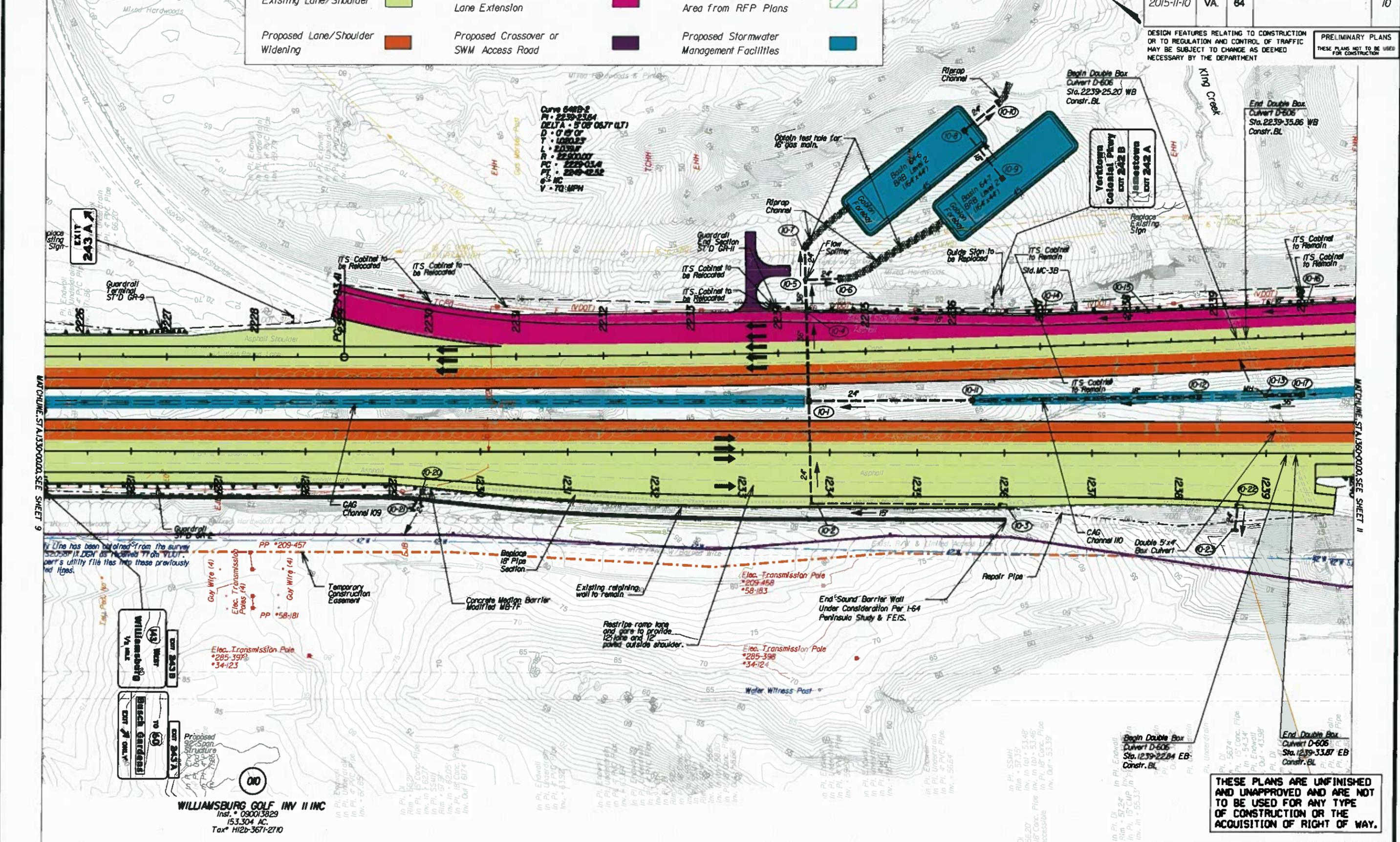
LEGEND

Existing Lane/Shoulder		Proposed Accel/Decel Lane Extension		Reductions In Right of Way Area from RFP Plans	
Proposed Lane/Shoulder Widening		Proposed Crossover or SWM Access Road		Proposed Stormwater Management Facilities	

DATE	STATE	ROUTE	PROJECT	SHEET NO
2015-11-10	VA.	64	0064-965-265, R201C-501	10

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

PRELIMINARY PLANS THESE PLANS NOT TO BE USED FOR CONSTRUCTION



WILLIAMSBURG INV II INC
 Inst. # 090013829
 153.304 AC.
 Tax# H12b-3671-2710

Williamsburg Inv II Inc
 149 West
 Bush Gardens
 Sta. 242 B
 Sta. 242 A

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
SURVEYED BY, DATE
DESIGN BY
SUBSURFACE UTILITY BY, DATE

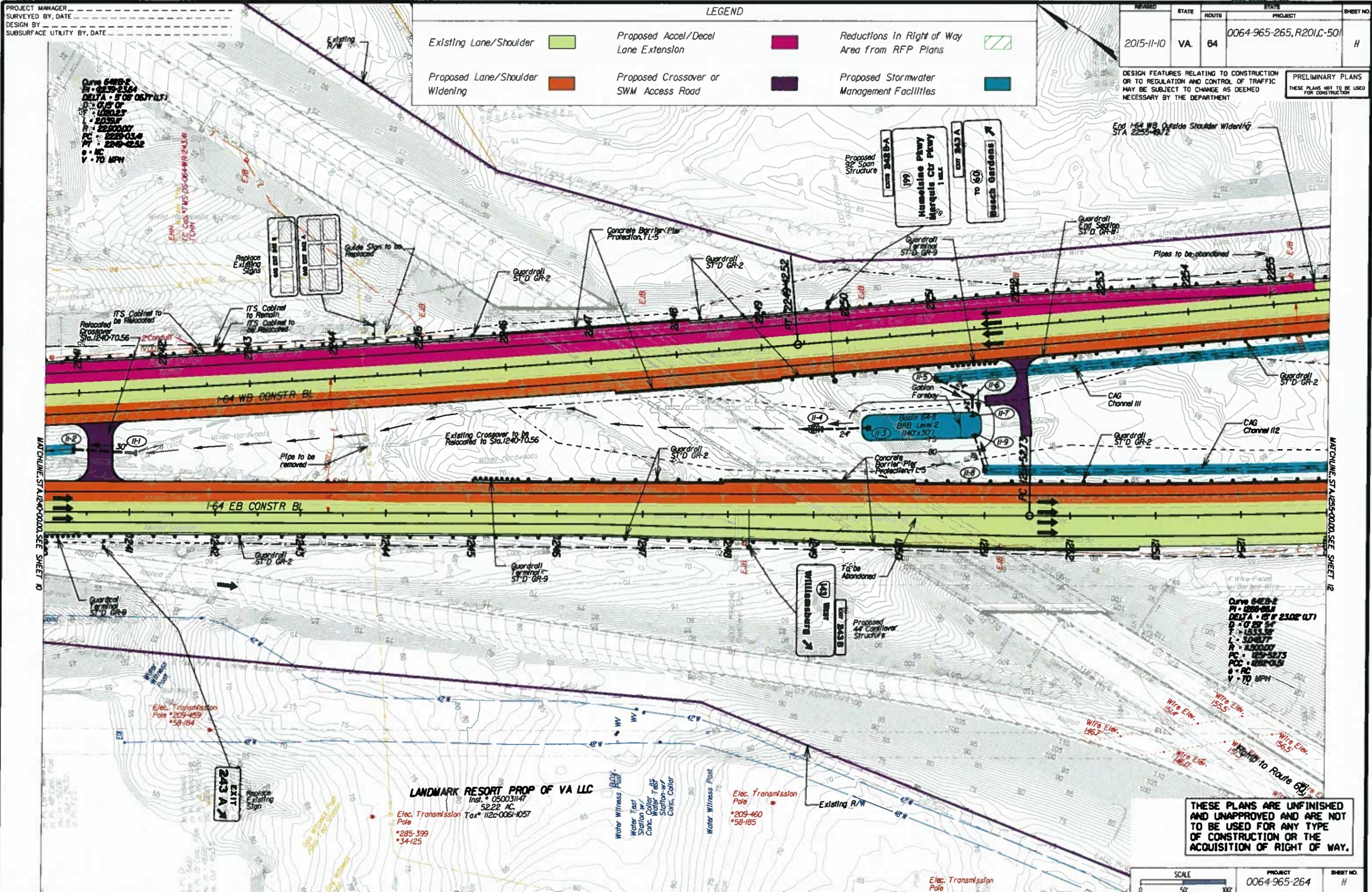
LEGEND

Existing Lane/Shoulder		Proposed Accel/Decel Lane Extension		Reductions in Right of Way Area from RFP Plans	
Proposed Lane/Shoulder Widening		Proposed Crossover or SWM Access Road		Proposed Stormwater Management Facilities	

REVISED	STATE	ROUTE	PROJECT	SHEET NO.
2015-11-10	VA.	64	0064-965-265, R201C-501	H

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

PRELIMINARY PLANS
THESE PLANS NOT TO BE USED FOR CONSTRUCTION



Curve 64B-2
PI = 2235-2364
DELTA = 5 OF 087(LT)
R = 1000.25
ELEV = 203.94
PC = 2235-03.4
PT = 2240-02.32
V = 70 MPH

Curve 64E-2
PI = 1550-051
DELTA = 6 OF 230E(LT)
R = 1553.37
ELEV = 300.77
PC = 1550-00
PT = 1550-273
V = 70 MPH

LANDMARK RESORT PROP OF VA LLC
Inst. # 050031147
S222 AC
Elec. Transmission Pole # 112c-0061-1057
•285-399
•34-125

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

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

MATCHLINE: STA 1240+00.00 SEE SHEET R

MATCHLINE: STA 1255+00.00 SEE SHEET L2

PROJECT MANAGER _____
SURVEYED BY, DATE _____
DESIGN BY _____
SUBSURFACE UTILITY BY, DATE _____

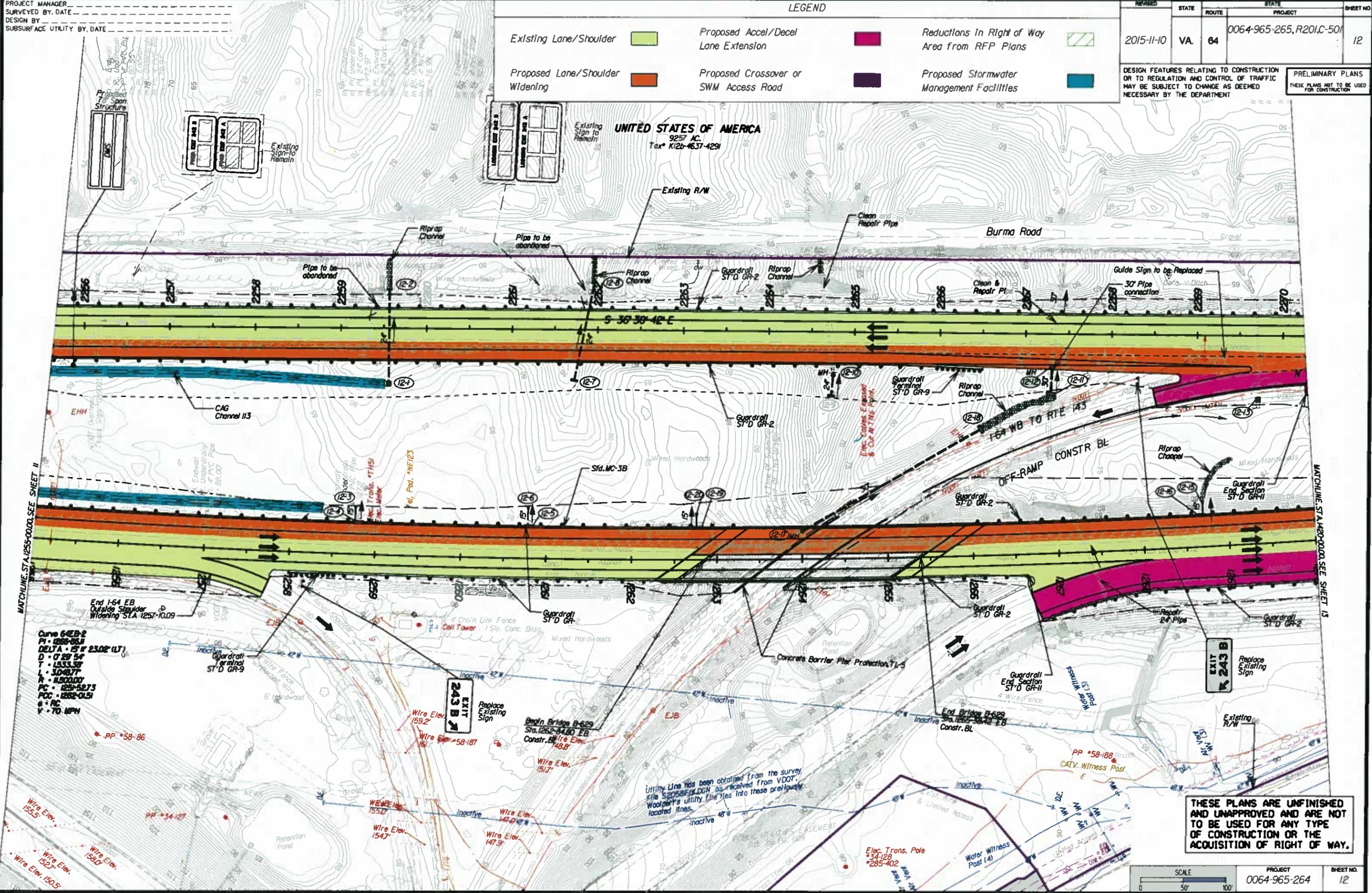
LEGEND

- Existing Lane/Shoulder
- Proposed Lane/Shoulder Widening
- Proposed Accel/Decel Lane Extension
- Proposed Crossover or SWM Access Road
- Reductions In Right of Way Area from RFP Plans
- Proposed Stormwater Management Facilities

REVISED	STATE	ROUTE	PROJECT	SHEET NO
2015-11-10	VA.	64	0064-965-265, R201C-501	12

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

PRELIMINARY PLANS
THESE PLANS NOT TO BE USED FOR CONSTRUCTION



UNITED STATES OF AMERICA
9257 AC.
Tax# K12b-4637-4291

MATCHLINE STA 1255+00.00, SEE SHEET 11

MATCHLINE STA 1480+00.00, SEE SHEET 13

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

Curve 64EB-2
PI = 1250+00.00
DELTA = 151° 23.02' (LT)
D = 0' 29' 54"
T = 1533.38'
L = 30+48.77'
K = 11500.00'
PC = 1251+52.73'
PCC = 1252+01.51'
S = PC
V = 70 MPH

PROJECT MANAGER
SURVEYED BY, DATE
DESIGN BY
SUBSURFACE UTILITY BY, DATE

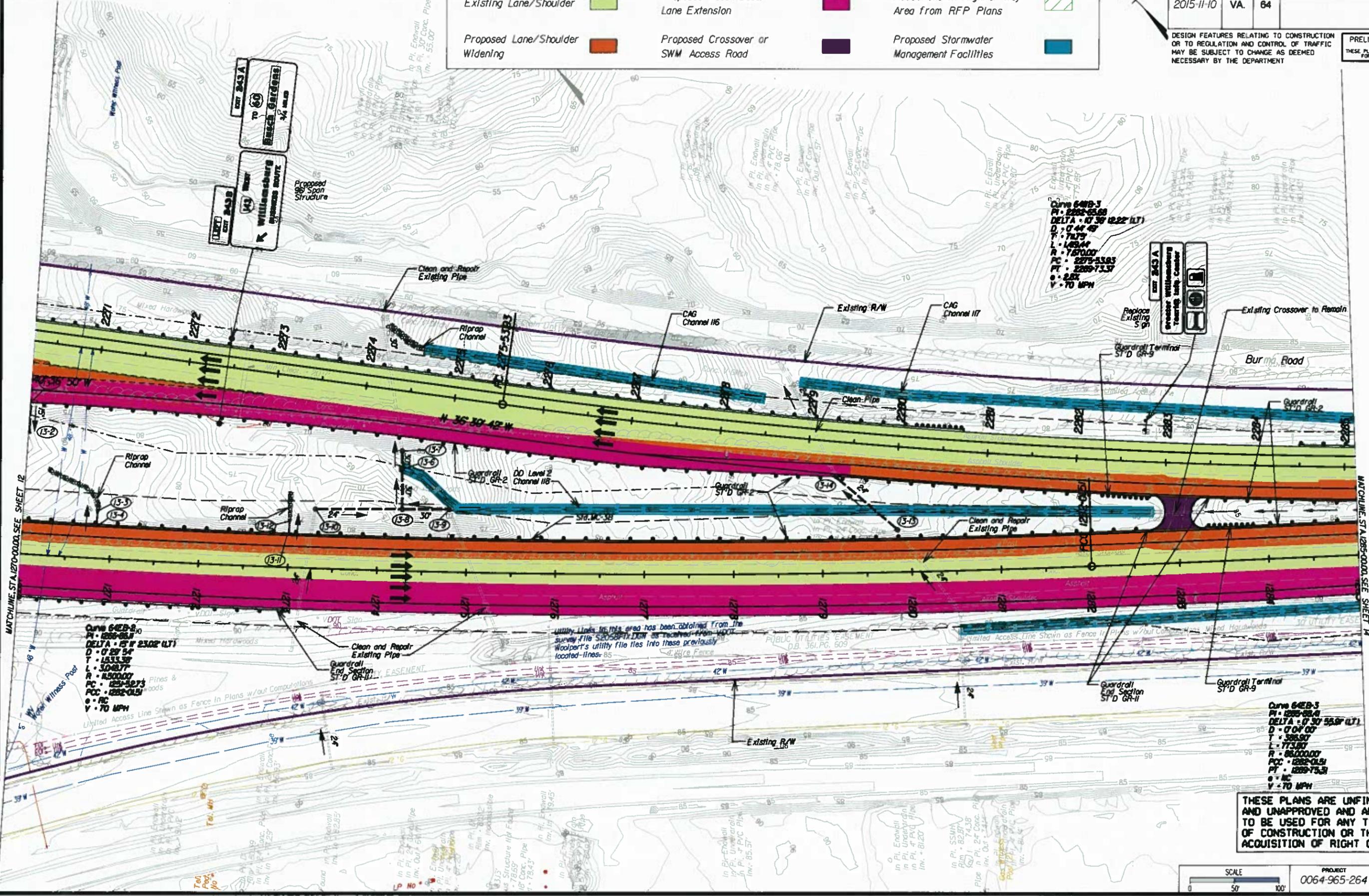
LEGEND

Existing Lane/Shoulder		Proposed Accel/Decel Lane Extension		Reductions in Right of Way Area from RFP Plans	
Proposed Lane/Shoulder Widening		Proposed Crossover or SWM Access Road		Proposed Stormwater Management Facilities	

REVISED	STATE	ROUTE	PROJECT	SHEET NO.
2015-11-10	VA.	64	0064-965-265, R201C-501	13

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

PRELIMINARY PLANS
THESE PLANS NOT TO BE USED FOR CONSTRUCTION



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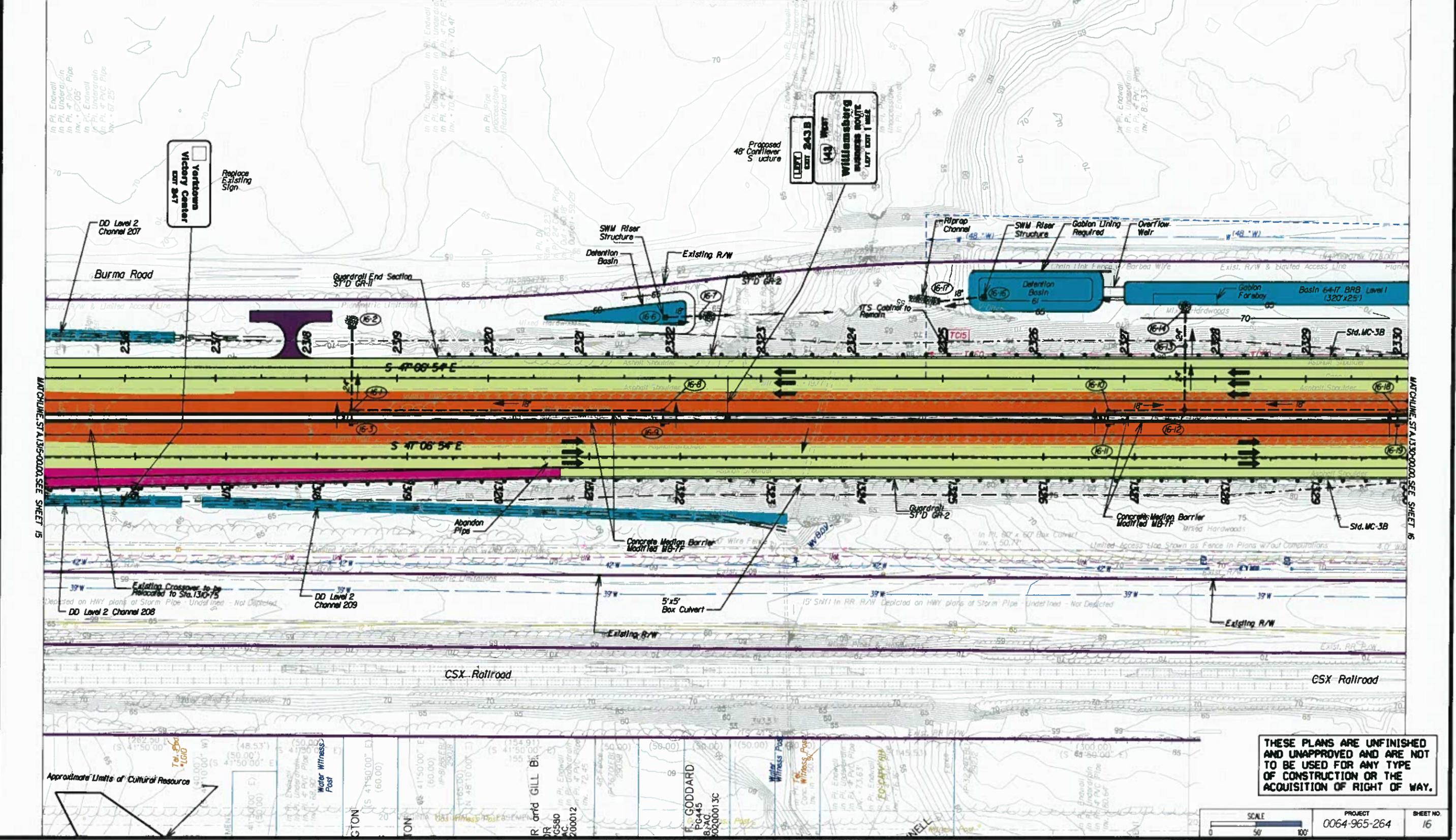
PROJECT MANAGER _____
SURVEYED BY, DATE _____
DESIGN BY _____
SUBSURFACE UTILITY BY, DATE _____

LEGEND

Existing Lane/Shoulder		Proposed Accel/Decel Lane Extension		Reductions in Right of Way Area from RFP Plans	
Proposed Lane/Shoulder Widening		Proposed Crossover or SWM Access Road		Proposed Stormwater Management Facilities	

REVISED	STATE	ROUTE	PROJECT	SHEET NO.
2015-11-10	VA.	64	0064-965-265, R201, C-501	16

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT
PRELIMINARY PLANS
THESE PLANS NOT TO BE USED FOR CONSTRUCTION



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

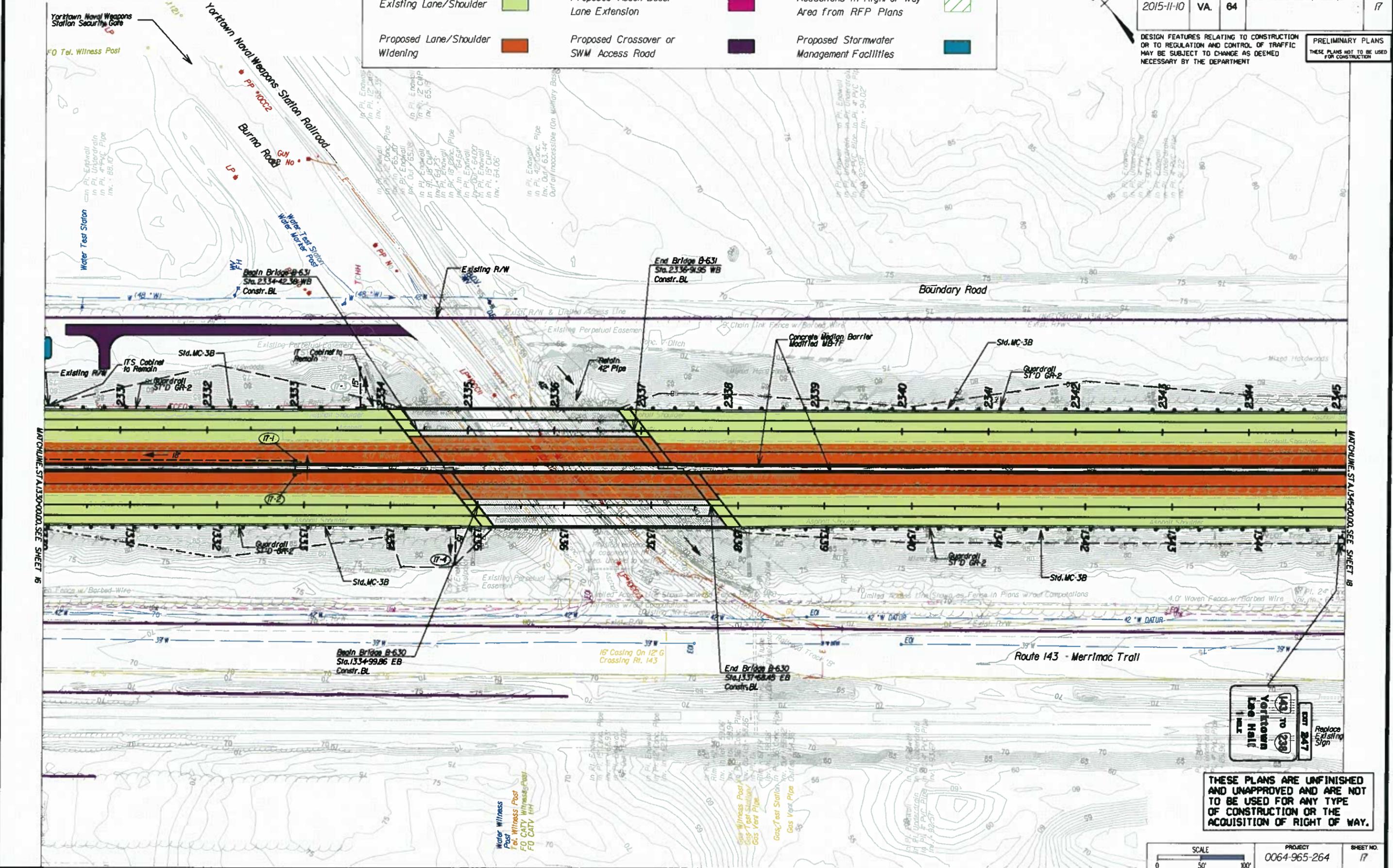
PROJECT MANAGER _____
SURVEYED BY, DATE _____
DESIGN BY _____
SUBSURFACE UTILITY BY, DATE _____

LEGEND

Existing Lane/Shoulder		Proposed Accel/Decel Lane Extension		Reductions In Right of Way Area from RFP Plans	
Proposed Lane/Shoulder Widening		Proposed Crossover or SWM Access Road		Proposed Stormwater Management Facilities	

REVISED	STATE	ROUTE	PROJECT	SHEET NO
2015-11-10	VA.	64	0064-965-265, R201.C-501	17

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT
PRELIMINARY PLANS
THESE PLANS NOT TO BE USED FOR CONSTRUCTION



MATCHLINE STA. 1330+00.00, SEE SHEET 16

MATCHLINE STA. 1345+00.00, SEE SHEET 18



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 _____
SURVEYED BY, DATE _____
DESIGN BY _____
SUBSURFACE UTILITY BY, DATE _____

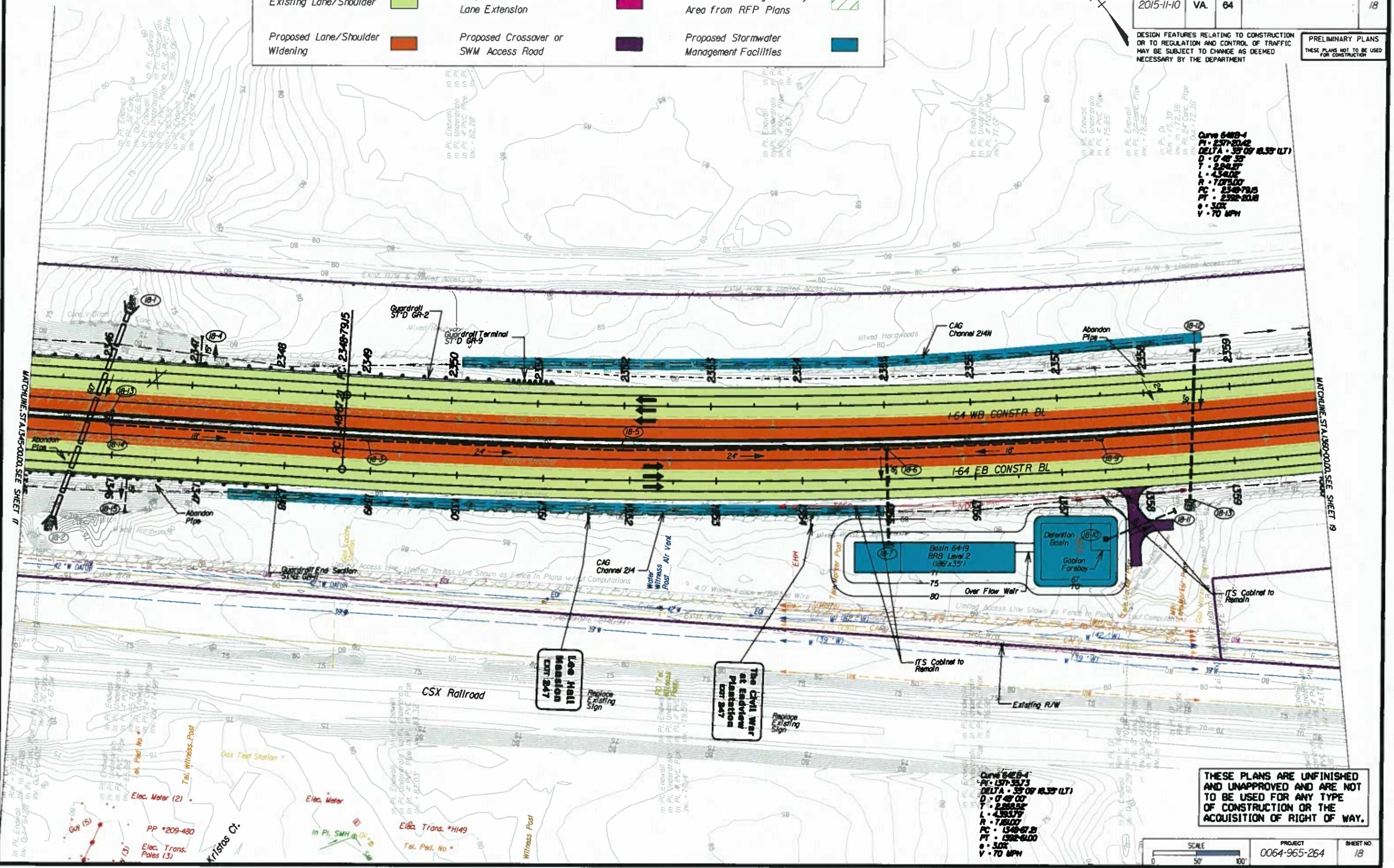
LEGEND

Existing Lane/Shoulder		Proposed Accel/Decel Lane Extension		Reductions in Right of Way Area from RFP Plans	
Proposed Lane/Shoulder Widening		Proposed Crossover or SWM Access Road		Proposed Stormwater Management Facilities	

REVISED	STATE	ROUTE	PROJECT	SHEET NO.
2015-11-10	VA.	64	0064-965-265, R201, C-501	18

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

PRELIMINARY PLANS
THESE PLANS NOT TO BE USED FOR CONSTRUCTION



Curve 6419-1
 PI - 237+20.42
 DELTA - 35° 08' 18.35" (LT)
 D - 6' 48" 58"
 T - 2.26857'
 L - 4.33402'
 R - 7.02100'
 PC - 234+78.5
 PT - 232+20.8
 e - 3.02
 v - 70 MPH

Curve 6425-4
 PI - 137+35.73
 DELTA - 35° 08' 18.35" (LT)
 D - 6' 48" 00"
 T - 2.26852'
 L - 4.33379'
 R - 7.02100'
 PC - 134+67.21
 PT - 132+61.00
 e - 3.02
 v - 70 MPH

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

SCALE	PROJECT	SHEET NO.
0 50' 100'	0064-965-264	18

PROJECT MANAGER
SURVEYED BY, DATE
DESIGN BY
SUBSURFACE UTILITY BY, DATE

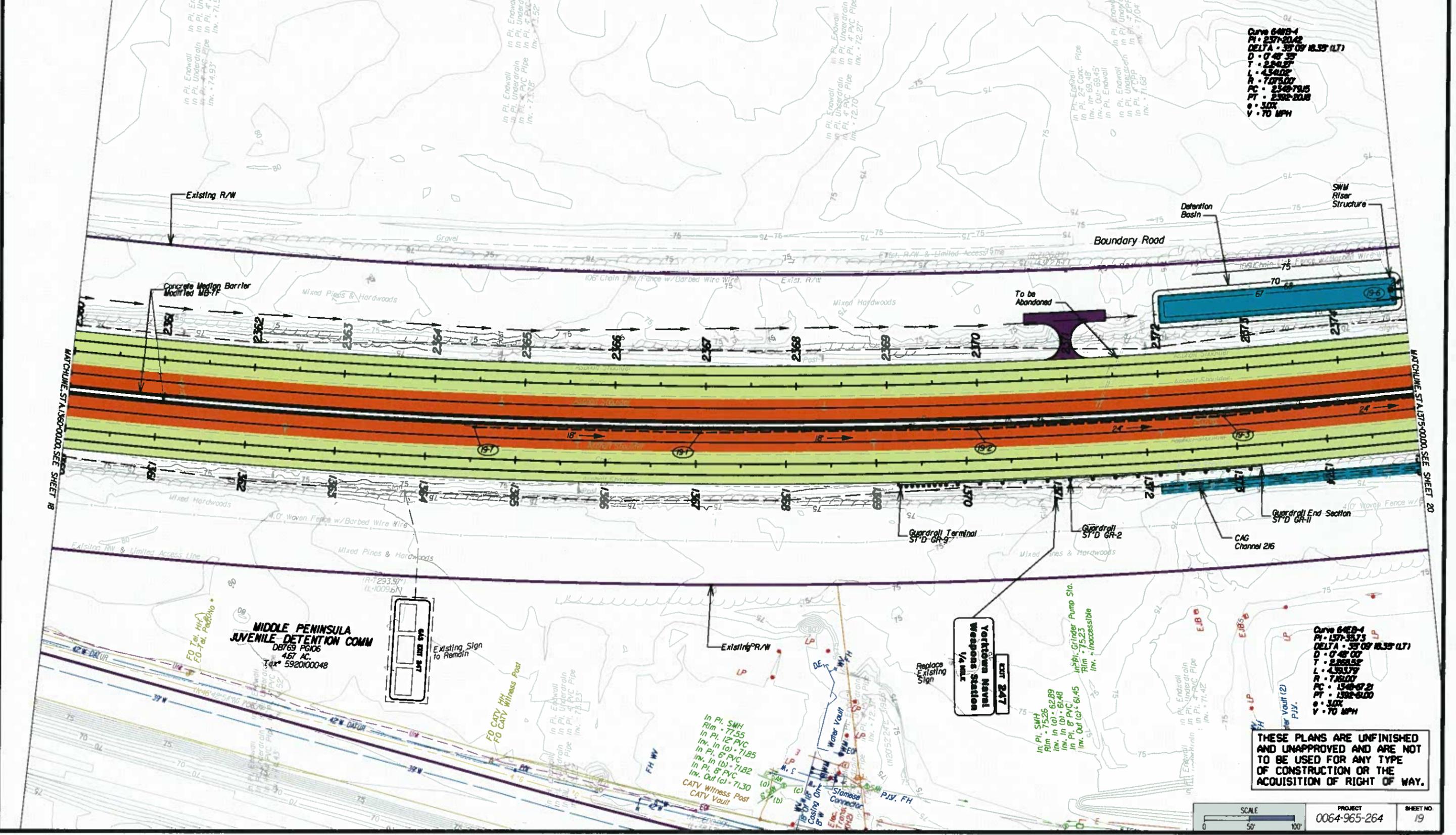
LEGEND

Existing Lane/Shoulder		Proposed Accel/Decel Lane Extension		Reductions In Right of Way Area from RFP Plans	
Proposed Lane/Shoulder Widening		Proposed Crossover or SWM Access Road		Proposed Stormwater Management Facilities	

REVISED	STATE	ROUTE	PROJECT	SHEET NO.
2015-11-10	VA.	64	0064-965-265, R201.C-501	19

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

PRELIMINARY PLANS
THESE PLANS NOT TO BE USED FOR CONSTRUCTION



Curve 64B-4
 PI = 2371.8042
 DELTA = 35° 09' 18.35" (LT)
 D = 0' 48" 35"
 T = 2.8627
 L = 4.3402
 R = 7.07507
 PC = 2368.7945
 PT = 2382.8048
 e = 3.0X
 V = 70 MPH

Curve 64B-4
 PI = 1377.5573
 DELTA = 35° 09' 18.35" (LT)
 D = 0' 48" 35"
 T = 2.8627
 L = 4.3402
 R = 7.07507
 PC = 1348.6721
 PT = 1382.8100
 e = 3.0X
 V = 70 MPH

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

REVISED	STATE	ROUTE	PROJECT	SHEET NO.
2015-11-10	VA.	64	0064-965-265, R201, C-501	20

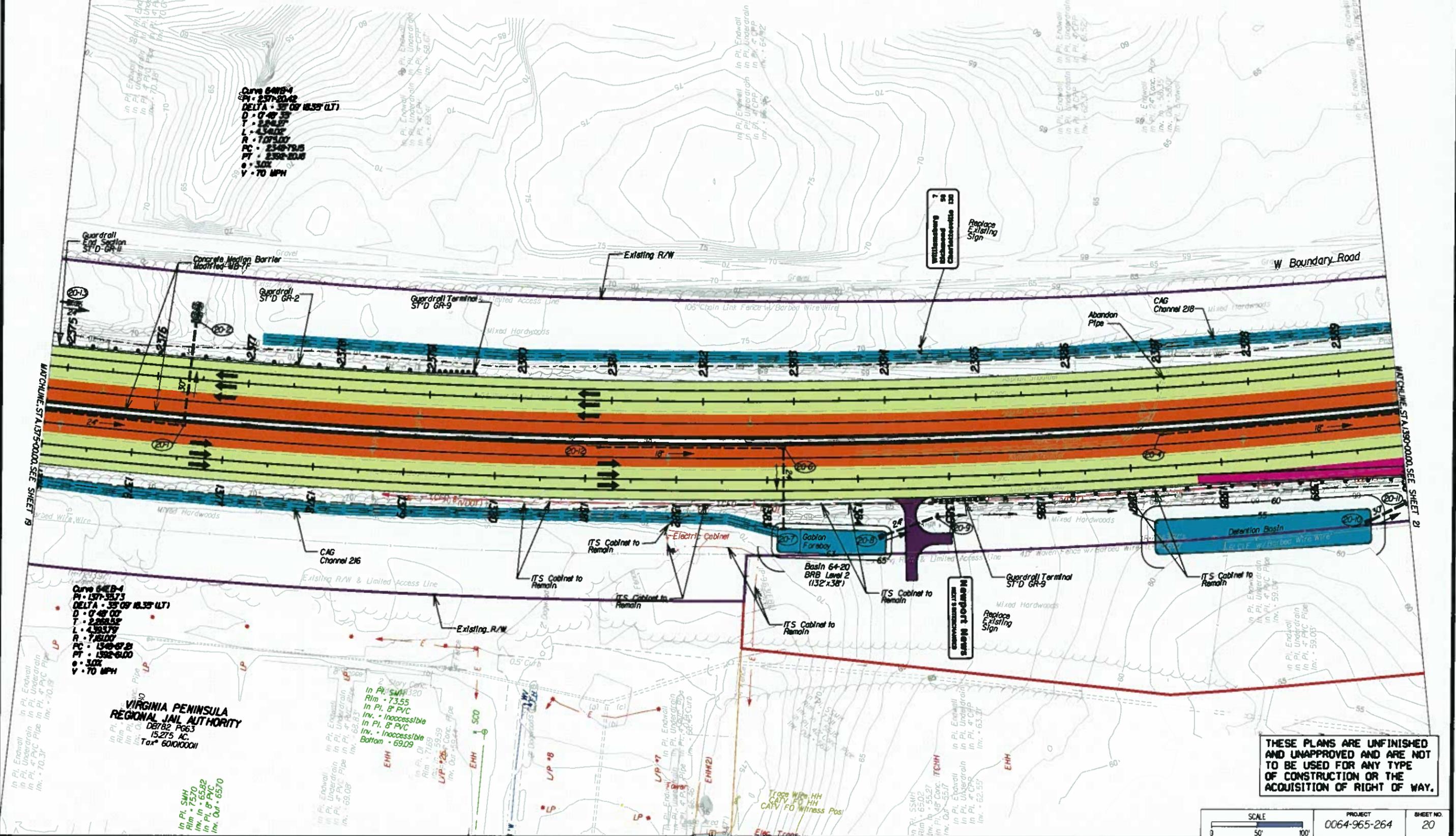
PROJECT MANAGER _____
 SURVEYED BY, DATE _____
 DESIGN BY _____
 SUBSURFACE UTILITY BY, DATE _____

LEGEND

Existing Lane/Shoulder		Proposed Accel/Decel Lane Extension		Reductions In Right of Way Area from RFP Plans	
Proposed Lane/Shoulder Widening		Proposed Crossover or SWM Access Road		Proposed Stormwater Management Facilities	

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

PRELIMINARY PLANS
 THESE PLANS NOT TO BE USED FOR CONSTRUCTION



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

SCALE 0 50' 100'

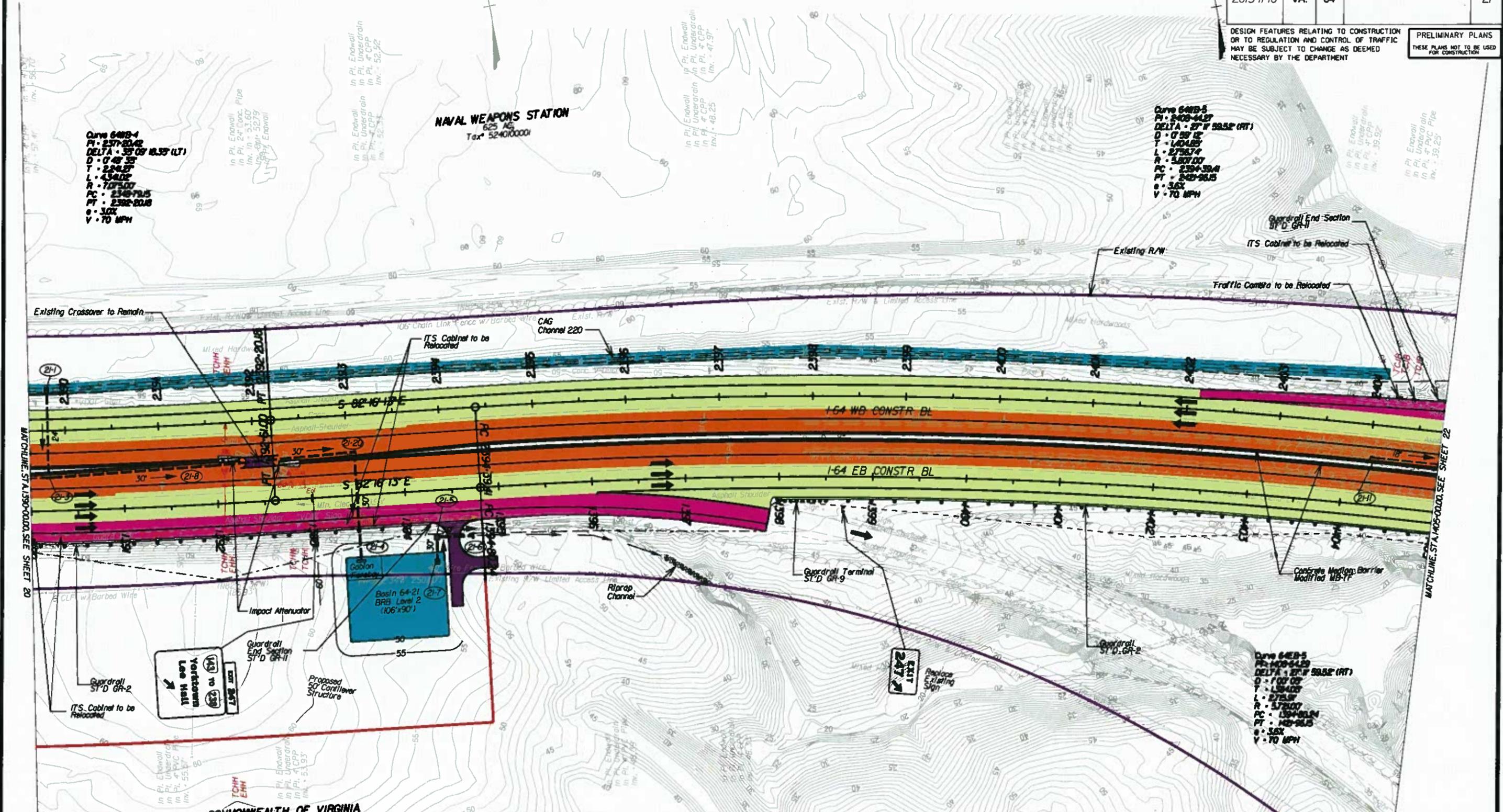
PROJECT	SHEET NO.
0064-965-264	20

PROJECT MANAGER _____
SURVEYED BY, DATE _____
DESIGN BY _____
SUBSURFACE UTILITY BY, DATE _____

REVISED	STATE	ROUTE	PROJECT	SHEET NO
2015-11-10	VA.	64	0064-965-265, R201C-501	21

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

PRELIMINARY PLANS
THESE PLANS NOT TO BE USED FOR CONSTRUCTION



Curve 64B-4
PI - 237-2042
DELTA - 35° 09' 18.33" (LT)
D - 0' 48' 35"
T - 2' 24' 25"
L - 434.02'
R - 7075.00'
PC - 234-7345
PT - 238-2048
e - 3.0X
V - 70 MPH

Curve 64B-5
PI - 240-4427
DELTA - 27° 11' 58.52" (RT)
D - 0' 59' 12"
T - 1' 40' 45"
L - 2756.74'
R - 5807.00'
PC - 239-3948
PT - 242-9645
e - 3.6X
V - 70 MPH

Curve 64B-1
PI - 157-3573
DELTA - 35° 09' 18.33" (LT)
D - 0' 48' 00"
T - 2' 28' 52"
L - 4393.79'
R - 7181.00'
PC - 154-6721
PT - 158-6400
e - 3.0X
V - 70 MPH

Curve 64B-5
PI - 100-6429
DELTA - 27° 11' 58.52" (RT)
D - 1' 00' 00"
T - 1' 58' 00"
L - 2756.74'
R - 5720.00'
PC - 104-6624
PT - 108-6645
e - 3.6X
V - 70 MPH

COMMONWEALTH OF VIRGINIA
DB782 PG63
34054 AC.
Tax# 60100012

LEGEND

Existing Lane/Shoulder		Proposed Accel/Decel Lane Extension		Reductions In Right of Way Area from RFP Plans	
Proposed Lane/Shoulder Widening		Proposed Crossover or SWM Access Road		Proposed Stormwater Management Facilities	

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

SCALE 0 50' 100'

PROJECT	SHEET NO.
0064-965-264	21

PROJECT MANAGER _____
SURVEYED BY, DATE _____
DESIGN BY _____
SUBSURFACE UTILITY BY, DATE _____

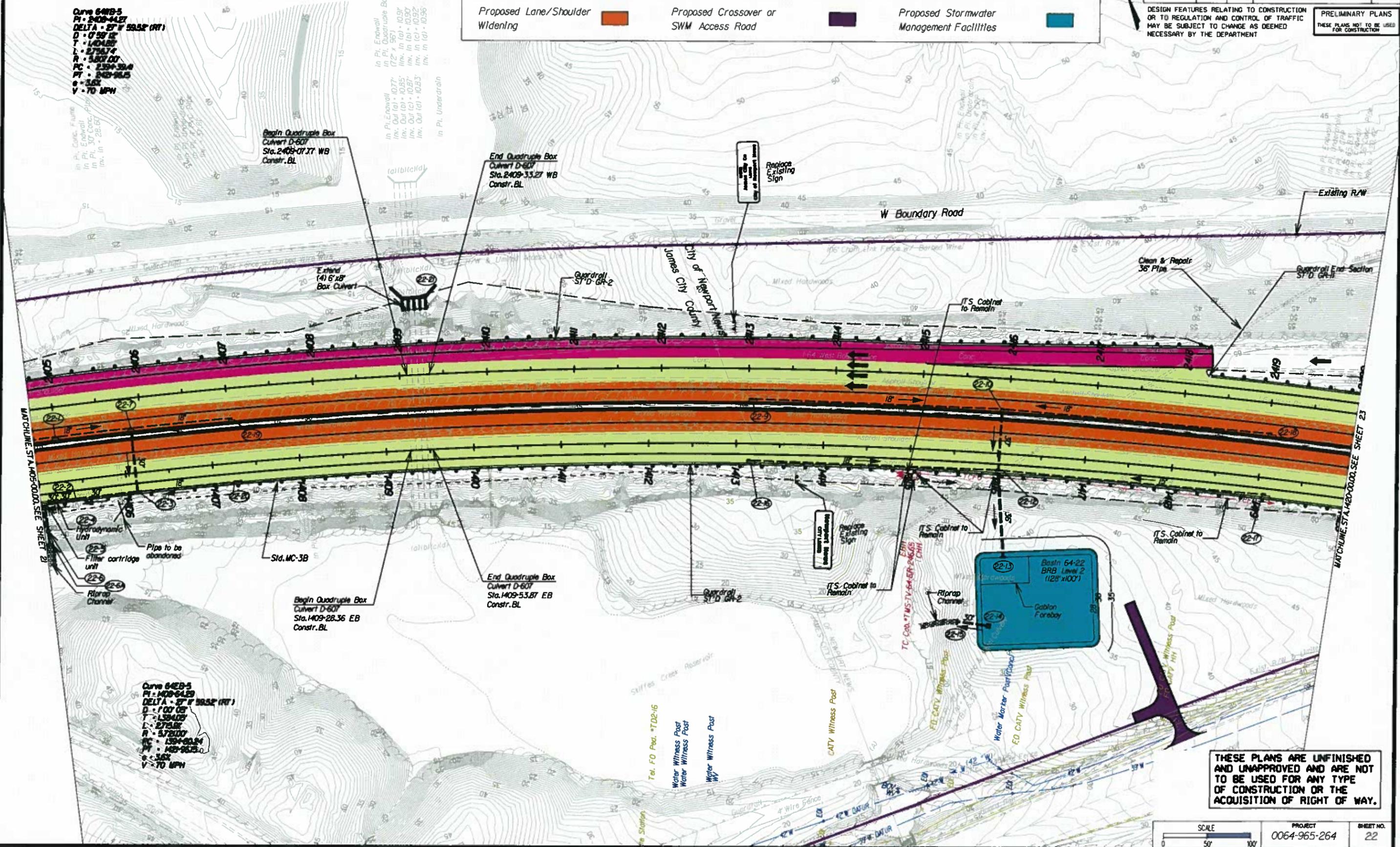
REVISED	STATE	ROUTE	PROJECT	SHEET NO.
2015-11-10	VA.	64	0064-965-265.R201C-501	22

LEGEND

Existing Lane/Shoulder		Proposed Accel/Decel Lane Extension		Reductions In Right of Way Area from RFP Plans	
Proposed Lane/Shoulder Widening		Proposed Crossover or SWM Access Road		Proposed Stormwater Management Facilities	

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

PRELIMINARY PLANS THESE PLANS NOT TO BE USED FOR CONSTRUCTION



PROJECT MANAGER
SURVEYED BY, DATE
DESIGN BY
SUBSURFACE UTILITY BY, DATE

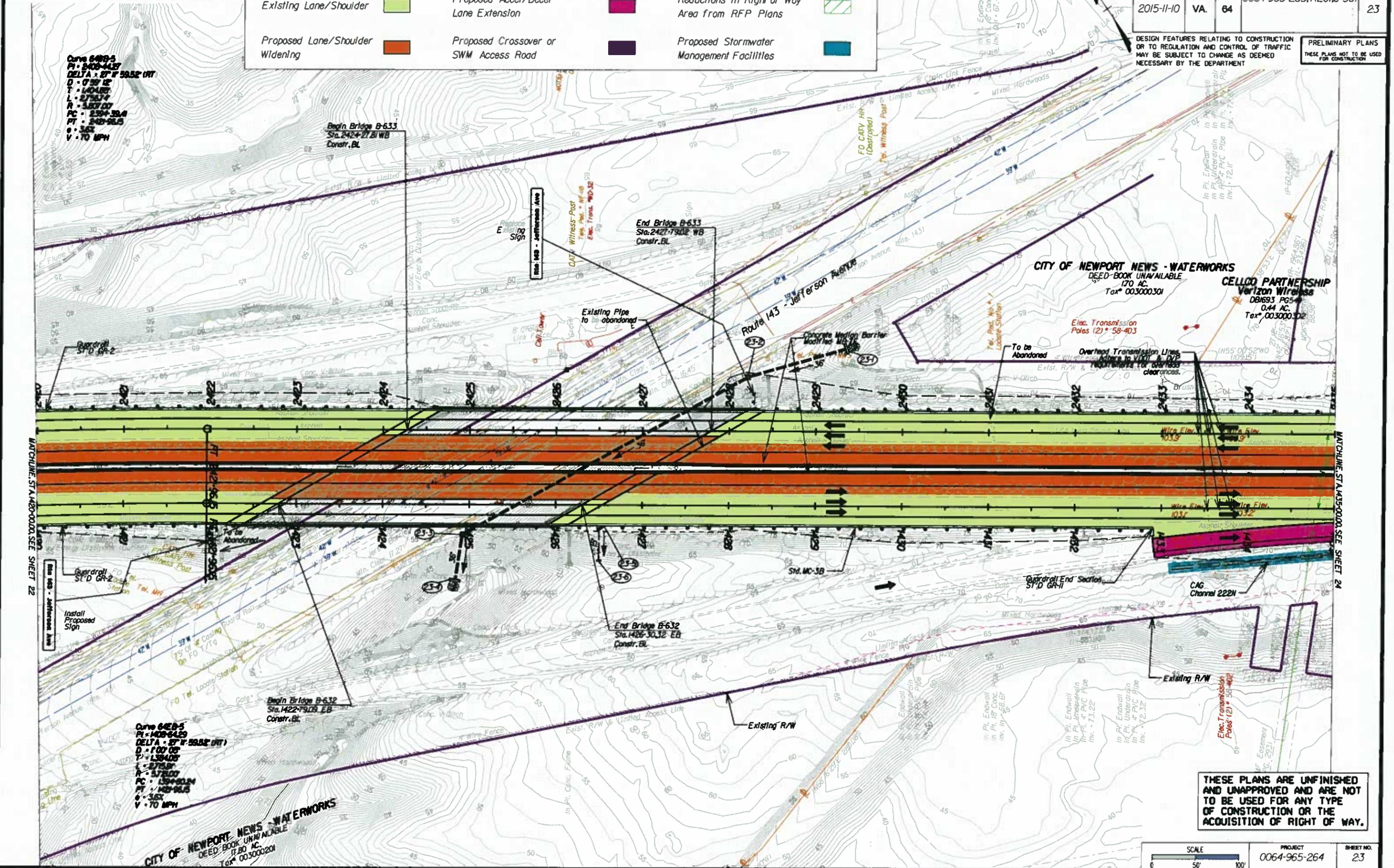
LEGEND

Existing Lane/Shoulder		Proposed Accel/Decel Lane Extension		Reductions in Right of Way Area from RFP Plans	
Proposed Lane/Shoulder Widening		Proposed Crossover or SWM Access Road		Proposed Stormwater Management Facilities	

REVISED	STATE	ROUTE	PROJECT	SHEET NO
2015-11-10	VA.	64	0064-965-265, R201C-501	23

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

PRELIMINARY PLANS
THESE PLANS NOT TO BE USED FOR CONSTRUCTION



Curve 64B-5
PI = 2408+44.27
DELTA = 27° 58.55' (RT)
D = 739' 12"
T = 1404.05'
L = 2756.74'
R = 3807.07'
PC = 2394+39.41
PT = 2420+96.5
e = 3.62
V = 70 MPH

Curve 64E-5
PI = 1422+94.29
DELTA = 27° 58.55' (RT)
D = 739' 12"
T = 1394.05'
L = 2756.74'
R = 3807.07'
PC = 1409+04.14
PT = 1425+61.25
e = 3.62
V = 70 MPH

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

MATCHLINE: STA 1420+00.00, SEE SHEET 22

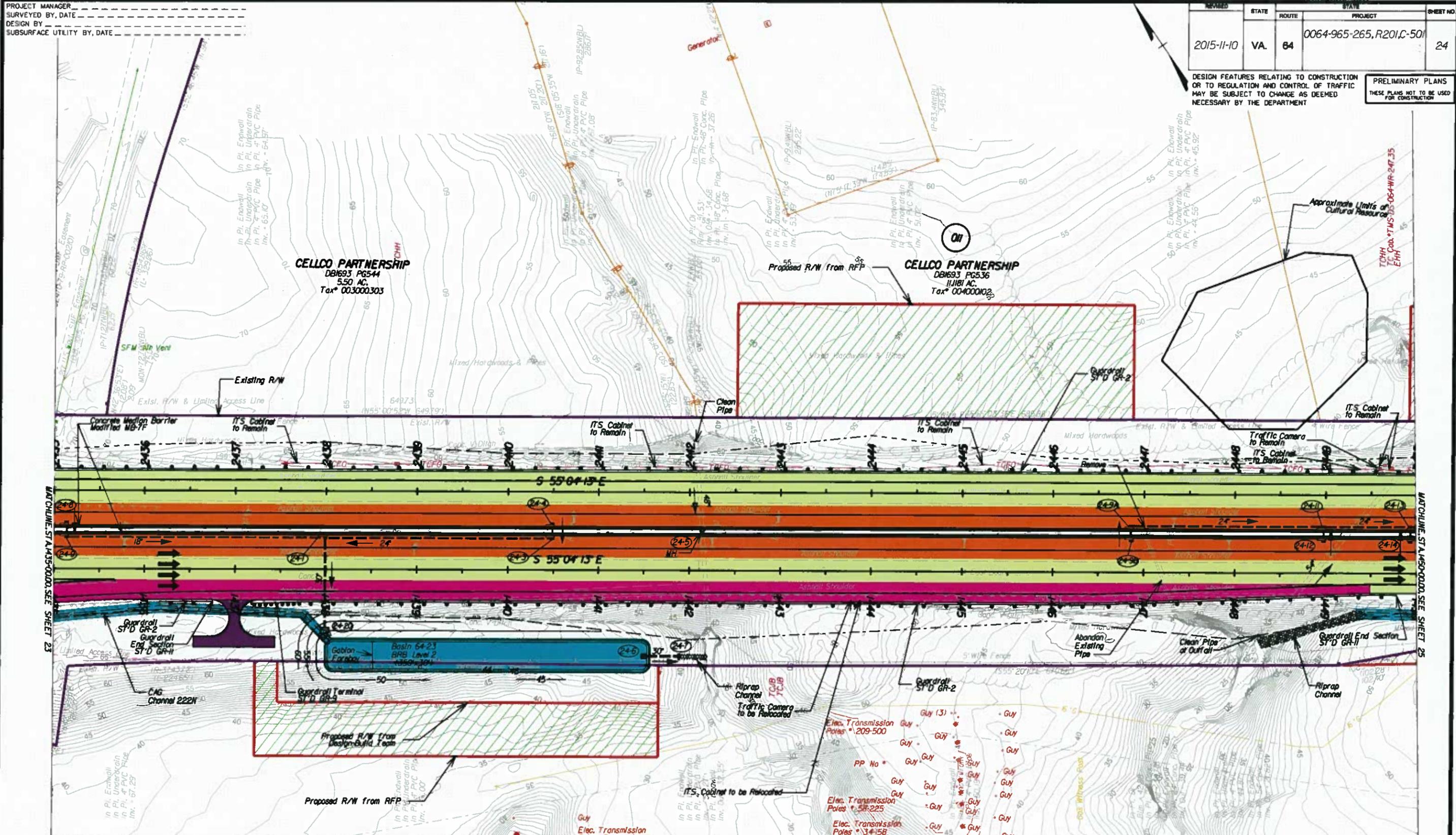
MATCHLINE: STA 1435+00.00, SEE SHEET 24

PROJECT MANAGER
SURVEYED BY, DATE
DESIGN BY
SUBSURFACE UTILITY BY, DATE

REVISED	STATE	ROUTE	PROJECT	SHEET NO
2015-11-10	VA.	64	0064-965-265, R201.C-501	24

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

PRELIMINARY PLANS
THESE PLANS NOT TO BE USED FOR CONSTRUCTION



MATCHLINE STA 4435+00.00, SEE SHEET 23

MATCHLINE STA 4900+00.00, SEE SHEET 25

LEGEND

Existing Lane/Shoulder	Proposed Accel/Decel Lane Extension	Reductions in Right of Way Area from RFP Plans
Proposed Lane/Shoulder Widening	Proposed Crossover or SWM Access Road	Proposed Stormwater Management Facilities

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

ECONOMIC DEVELOPMENT AUTHORITY OF THE CITY OF NEWPORT NEWS
Inst. # 0013962155
143,6067 AC.
Tax # 00600002

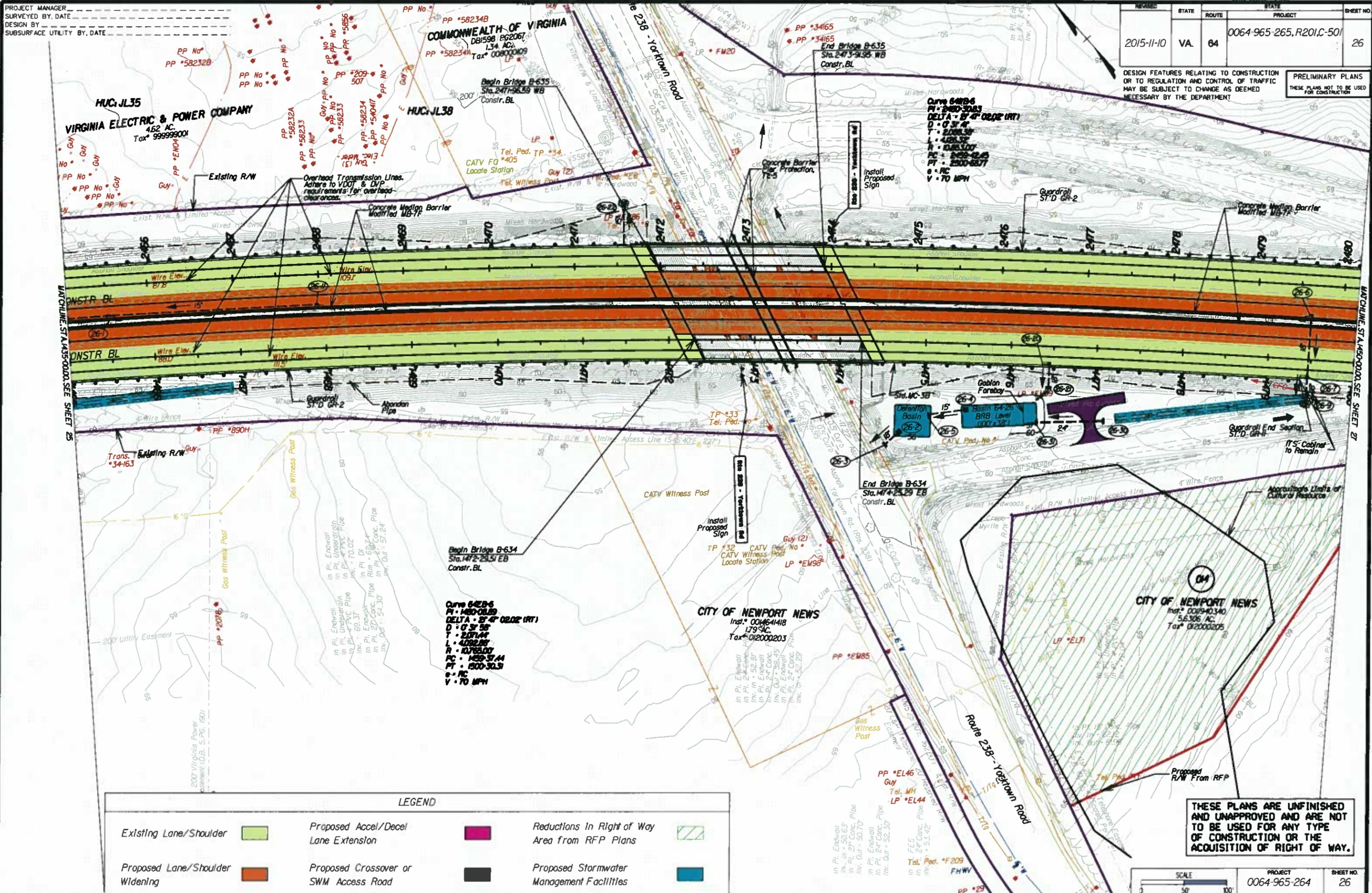
SCALE	PROJECT	SHEET NO.
0 50' 100'	0064-965-264	24

PROJECT MANAGER
SURVEYED BY, DATE
DESIGN BY
SUBSURFACE UTILITY BY, DATE

REVISION	STATE	ROUTE	PROJECT	SHEET NO
2015-11-10	VA.	64	0064-965-265, R201.C-501	26

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

PRELIMINARY PLANS
THESE PLANS NOT TO BE USED FOR CONSTRUCTION



LEGEND

Existing Lane/Shoulder	Proposed Lane/Shoulder Widening	Proposed Accel/Decel Lane Extension	Proposed Crossover or SWM Access Road	Reductions In Right of Way Area from RFP Plans	Proposed Stormwater Management Facilities
------------------------	---------------------------------	-------------------------------------	---------------------------------------	--	---

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

SCALE 0 50 100'

PROJECT	SHEET NO.
0064-965-264	26

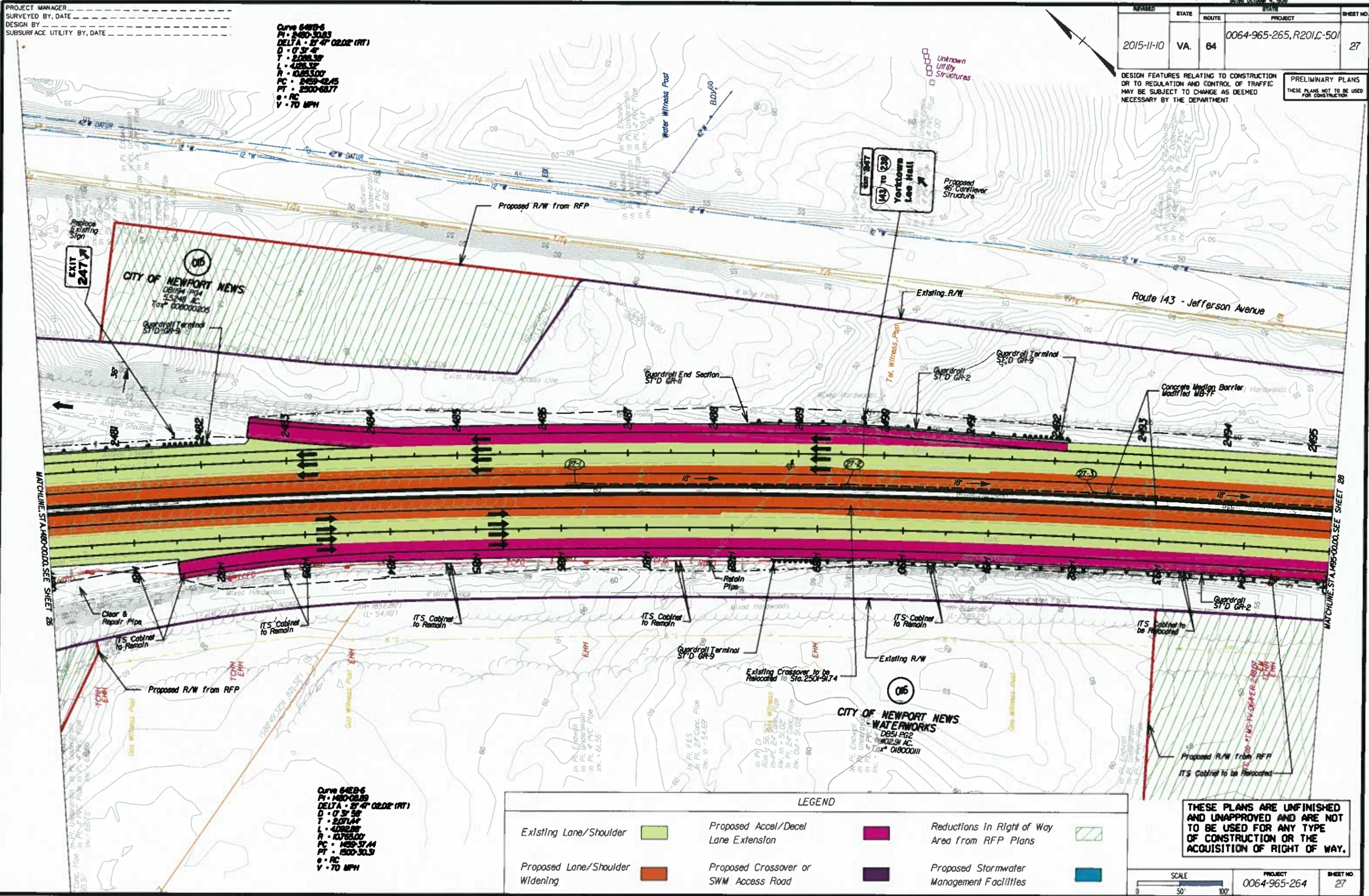
PROJECT MANAGER
SURVEYED BY, DATE
DESIGN BY
SUBSURFACE UTILITY BY, DATE

DATE	STATE	ROUTE	PROJECT	SHEET NO.
2015-11-10	VA.	64	0064-965-265, R201C-501	27

Curve 64B-6
 PI = 2450-30.83
 DELTA = 27° 47' 02.02" (RT)
 D = 0' 37" 4"
 T = 2788.39'
 L = 4088.30'
 R = 10763.00'
 PC = 2459-42.45
 PT = 2500-68.77
 e = RC
 v = 70 MPH

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

PRELIMINARY PLANS
THESE PLANS NOT TO BE USED FOR CONSTRUCTION



Curve 64B-6
 PI = 1450-08.89
 DELTA = 27° 47' 02.02" (RT)
 D = 0' 37" 55"
 T = 2071.44'
 L = 4088.30'
 R = 10763.00'
 PC = 1459-37.44
 PT = 1500-30.3
 e = RC
 v = 70 MPH

LEGEND

Existing Lane/Shoulder	Proposed Lane/Shoulder Widening	Proposed Accel/Decel Lane Extension	Proposed Crossover or SWM Access Road	Reductions in Right of Way Area from RFP Plans	Proposed Stormwater Management Facilities
[Light Green Box]	[Orange Box]	[Pink Box]	[Purple Box]	[Hatched Green Box]	[Blue Box]

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

SCALE 0 50' 100'

PROJECT	SHEET NO.
0064-965-264	27

PROJECT MANAGER _____
SURVEYED BY, DATE _____
DESIGN BY _____
SUBSURFACE UTILITY BY, DATE _____

LEGEND

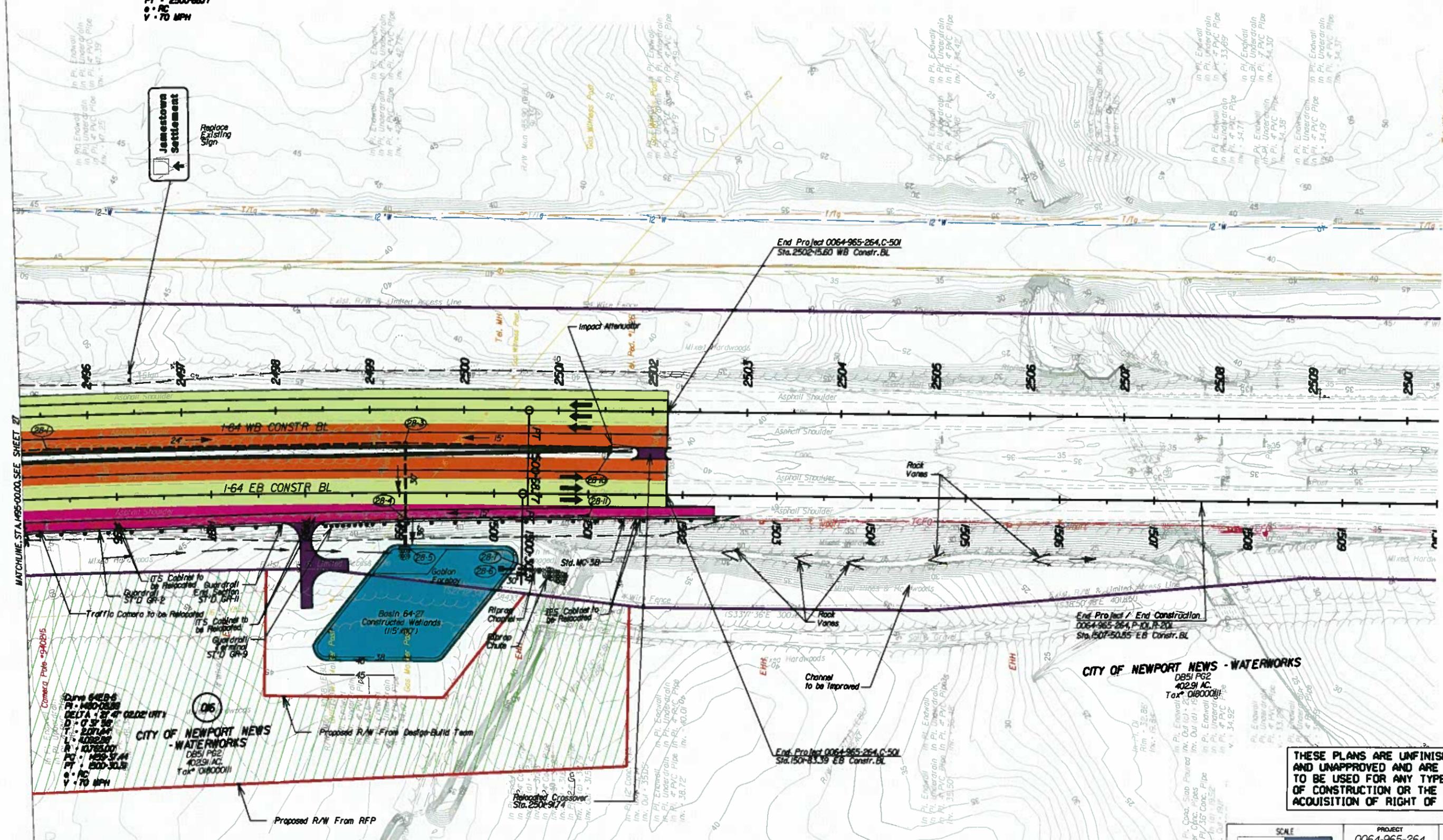
- Existing Lane/Shoulder Proposed Accel/Decel Lane Extension Reductions In Right of Way Area from RFP Plans
- Proposed Lane/Shoulder Widening Proposed Crossover or SWM Access Road Proposed Stormwater Management Facilities

REVISED	STATE	ROUTE	PROJECT	SHEET NO
2015-11-10	VA.	64	0064-965-265.R201.C-501	28

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

PRELIMINARY PLANS
THESE PLANS NOT TO BE USED FOR CONSTRUCTION

Curve 6418-6
PI = 2450-30.85
DELTA = 27° 47' 02.02" (RT)
D = 0' 3" 4"
T = 208.38
L = 488.52
R = 4083.00
PC = 2450-42.45
PT = 2500-68.77
e = .05
v = 70 MPH



MATCHLINE STA. 495+00.00, SEE SHEET 27

Curve 6420-6
PI = 480-08.88
DELTA = 27° 47' 02.02" (RT)
D = 0' 3" 4"
T = 207.44
L = 488.52
R = 4083.00
PC = 480-37.44
PT = 500-30.88
e = .05
v = 70 MPH

CITY OF NEWPORT NEWS - WATERWORKS
DB51 PG2
40291 AC.
Tax# 01800011

CITY OF NEWPORT NEWS - WATERWORKS
DB51 PG2
40291 AC.
Tax# 01800011

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

SECTION 4.3.1.2
CONCEPTUAL STRUCTURAL PLANS

STATE	FEDERAL AID		STATE		SHEET
ROUTE	PROJECT		ROUTE	PROJECT	NO.
VA.			64	0064-965-264, B629	
NBIS Number: 00000000019832			UPC No. 106665		
Federal Oversight Code: FO			FHWA Construction and Scour Code: X231-SN		

DESIGN EXCEPTION(S):

None

GENERAL NOTES:

Width: 60'-9 3/4" min. face-to-face of rails

Span layout:
76'-6 1/4" - 72'-11 3/4" - 50'-2 3/4" - 53'-10 1/2"

Capacity: HL-93 loading.

Specifications:

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

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

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

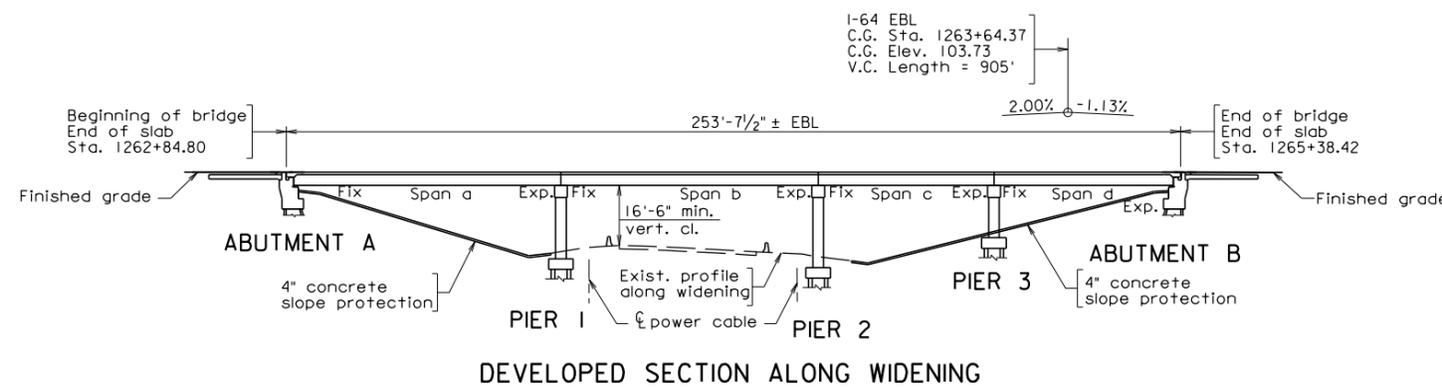
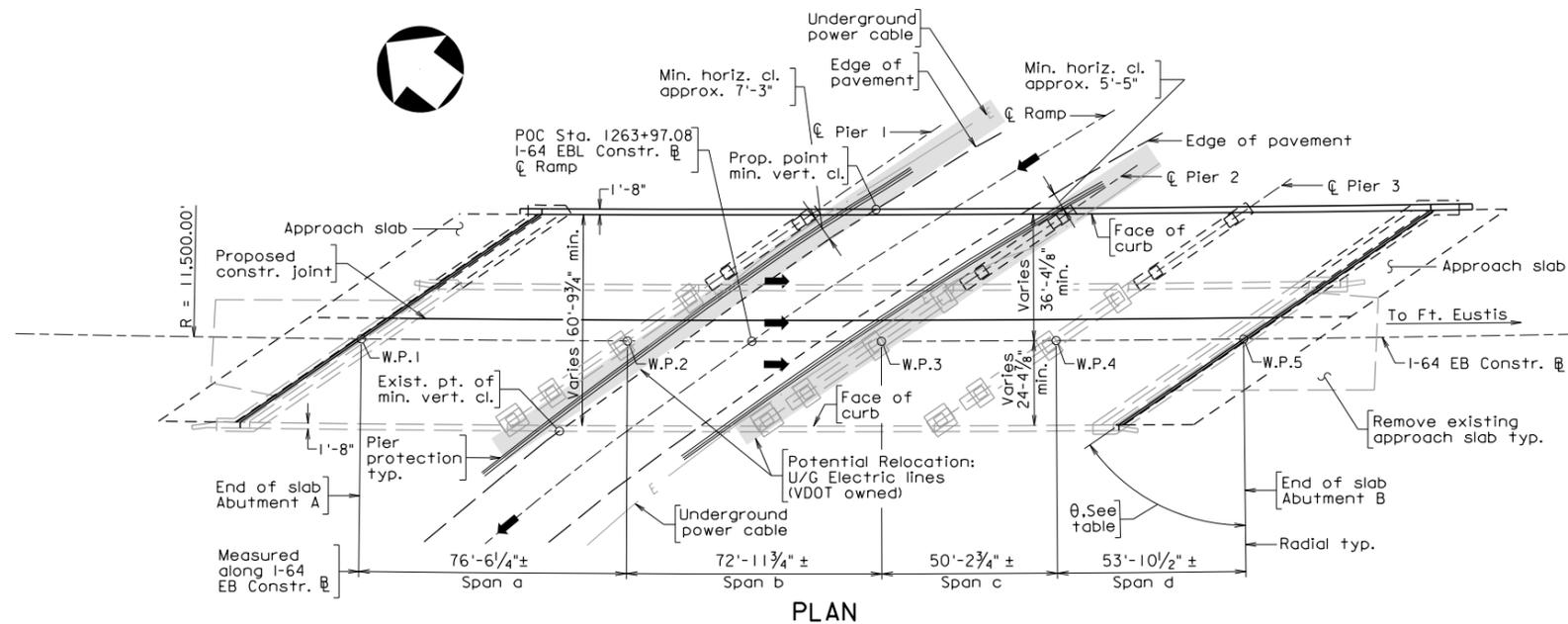
These plans are incomplete unless accompanied by the Supplemental Specifications and Special Provisions included in the contract documents.

Bridge Nos. of existing bridge is 2002, Plan Nos. are 163-21, 163-21A, and 163-21B.

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

Legend:

 Denotes potential utility conflicts in this area.



WORKING POINTS			
Point	Station	Elevation	θ
W.P.1	1262+84.80	99.73	54°-42'-41"
W.P.2	1263+61.32	100.18	55°-05'-56"
W.P.3	1264+34.30	100.41	55°-27'-22"
W.P.4	1264+84.54	100.46	55°-41'-52"
W.P.5	1265+38.42	100.42	55°-57'-36"



COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION

PROPOSED BRIDGE WIDENING ON
RTE. 64 EB OVER 64 WB TO RTE. 143
PROJ. 0064-965-264, B629

PRELIMINARY PLANS
THESE PLANS NOT TO BE USED
FOR CONSTRUCTION

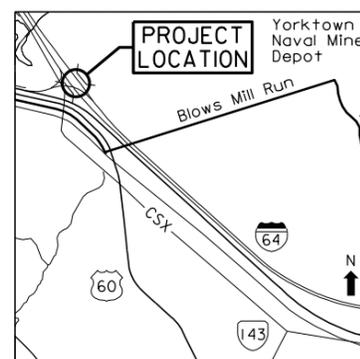
No.	Description	Date
REVISIONS		
For Table of Revisions, see Sheet 2.		

Recommended for Approval: _____ Date _____
District Project Development Engineer

Approved: _____ Date _____
District Administrator

163-21C

Date: November 12, 2015 © 2015, Commonwealth of Virginia



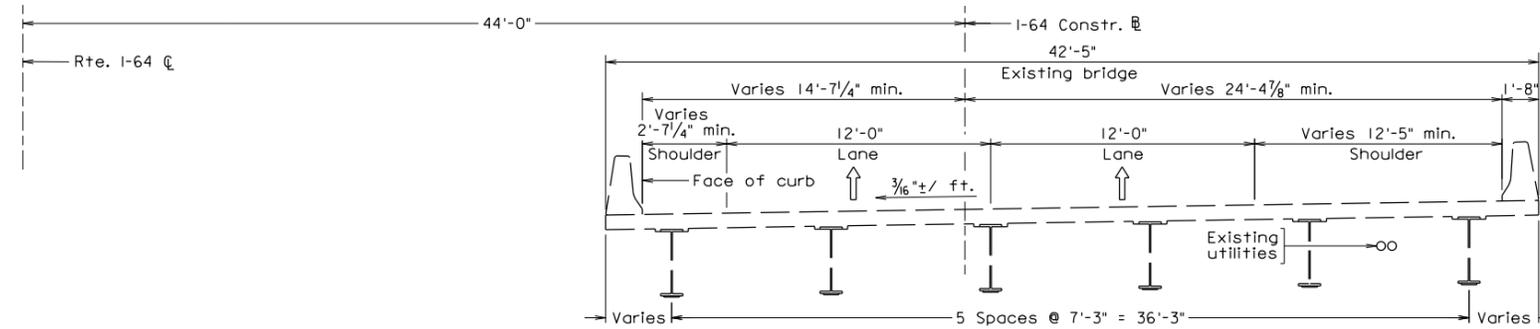
LOCATION MAP
Not to scale

Scale: 1" = 25'

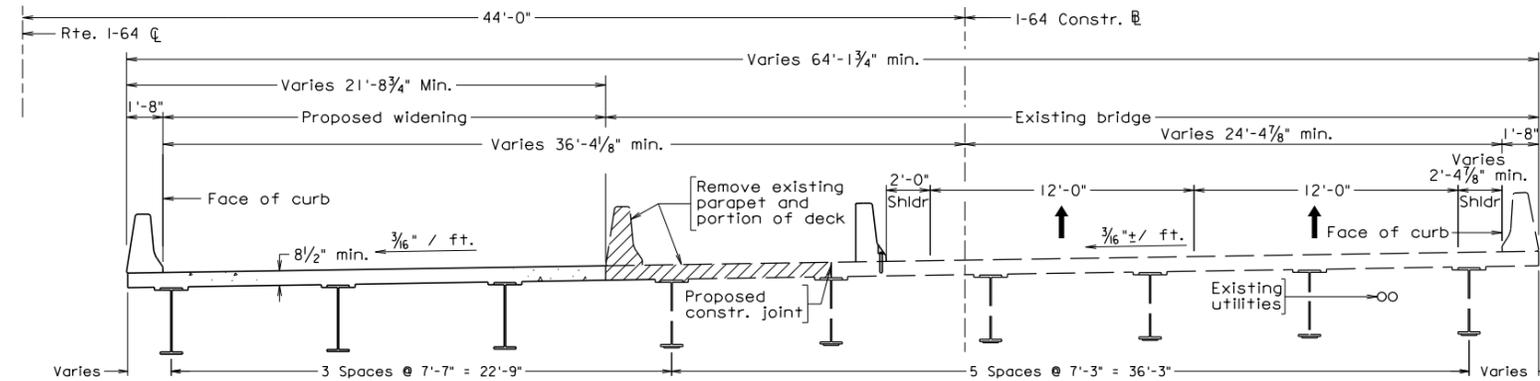
b106665_CPE_Ramp.dgn

HDR ENGINEERING INC. NORFOLK, VA. STRUCTURAL ENGINEER	
PLANS BY:	Consultant
COORDINATED:	John Sproles
SUPERVISED:	Vijay Modi
DESIGNED:	Jennifer Modugno
DRAWN:	Lynnette Myers
CHECKED:	---

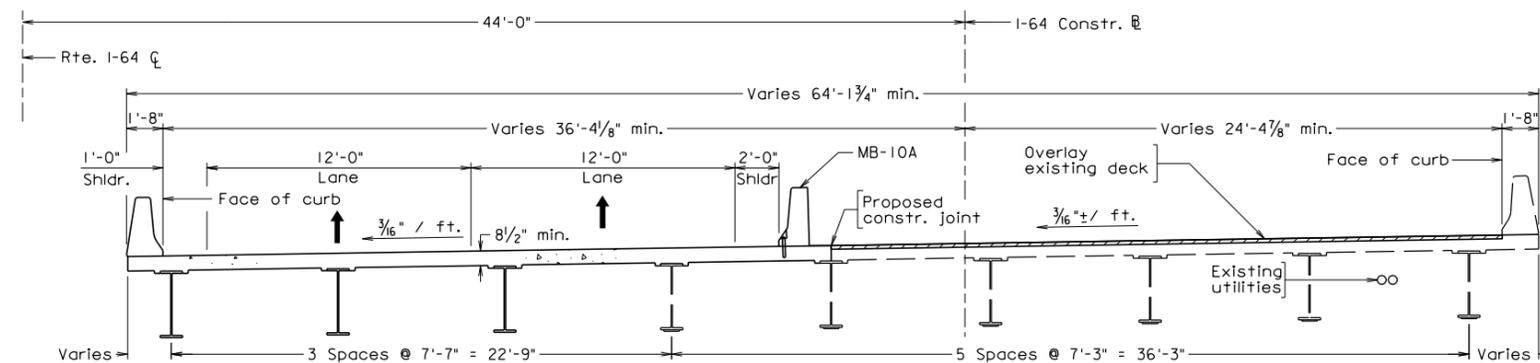
STATE	FEDERAL AID		STATE		SHEET
ROUTE	PROJECT		ROUTE	PROJECT	NO.
VA.			64	0064-965-264, B629	



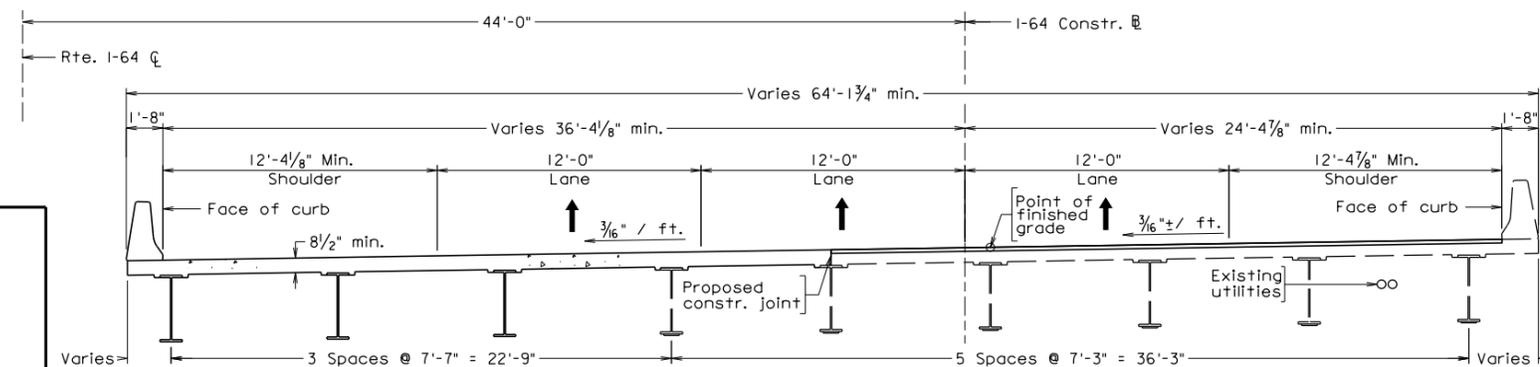
EXISTING BRIDGE - TRANSVERSE SECTION STAGE 1



DEMOLITION AND CONSTRUCTION - TRANSVERSE SECTION STAGE 2



OVERLAY - TRANSVERSE SECTION STAGE 3



FINAL - TRANSVERSE SECTION - STAGE 4

Notes:

- All sections shown looking station-ahead (to the east).
A suggested sequence of construction for each bridge is provided below.
- Stage 1: Confirm underground utility location. Install temporary single-faced traffic barrier and shift traffic towards the outside of the existing bridge, maintaining two 12'-0" lanes. Remove parapet and portion of deck from median side of existing bridge.
 - Stage 2: Construct proposed bridge widening. Construction joint shall be located over an existing beam/girder line.
 - Stage 3: Install temporary double-faced traffic barrier. Shift traffic to the previously constructed widening, providing two 12'-0" lanes. Perform deck patching as required and place new concrete overlay on existing deck. Close the existing joints over the piers, and extend deck slabs over the backwalls.
 - Stage 4: Remove temporary barrier and shift traffic to final alignment.

Legend:

Existing structure to be removed.

b106665_Typ_Romp.dgn

PRELIMINARY PLANS
THESE PLANS NOT TO BE USED FOR CONSTRUCTION

COMMONWEALTH OF VIRGINIA DEPARTMENT OF TRANSPORTATION		STRUCTURE AND BRIDGE DIVISION	
TRANSVERSE SECTION (I-64 EB OVER I-64 WB TO RTE. 143)			
No.	Description	Date	Revisions
Designed: JM	Date	Plan No.	Sheet No.
Drawn: JM	Nov. 2015	163-21C	
Checked: JM			

HDR ENGINEERING INC.
NORFOLK, VA.
STRUCTURAL ENGINEER

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

© 2015, Commonwealth of Virginia

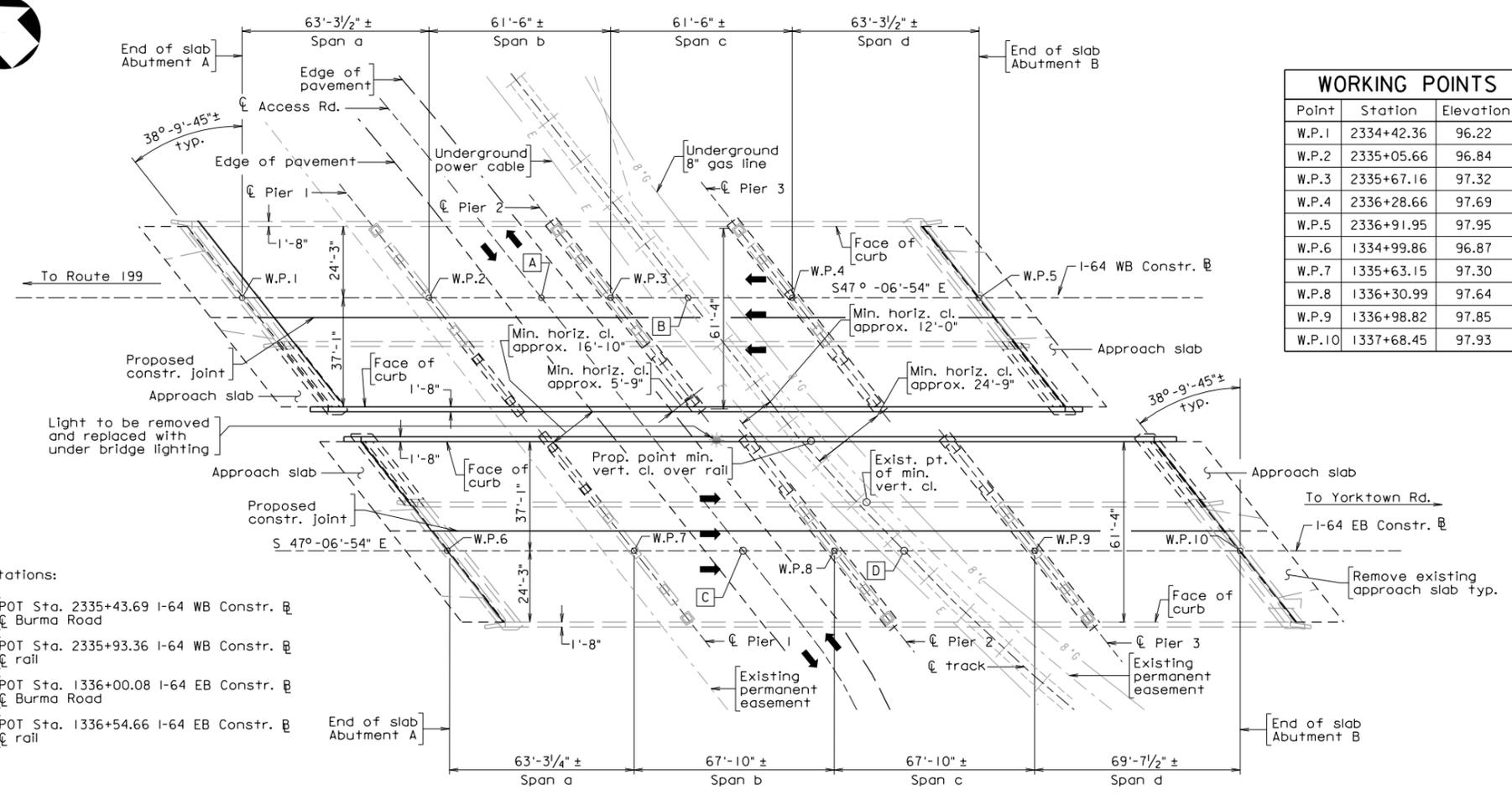
STATE	ROUTE	FEDERAL AID PROJECT	ROUTE	STATE PROJECT	SHEET NO.
VA.	64	0064-965-264, B630, B631	64	0064-965-264, B630, B631	
NBIS Number: 00000000010489 00000000010491			UPC No. 106665		
Federal Oversight Code: FO			FHWA Construction and Scour Code: X531-SN		

DESIGN EXCEPTION(S):
None

GENERAL NOTES:

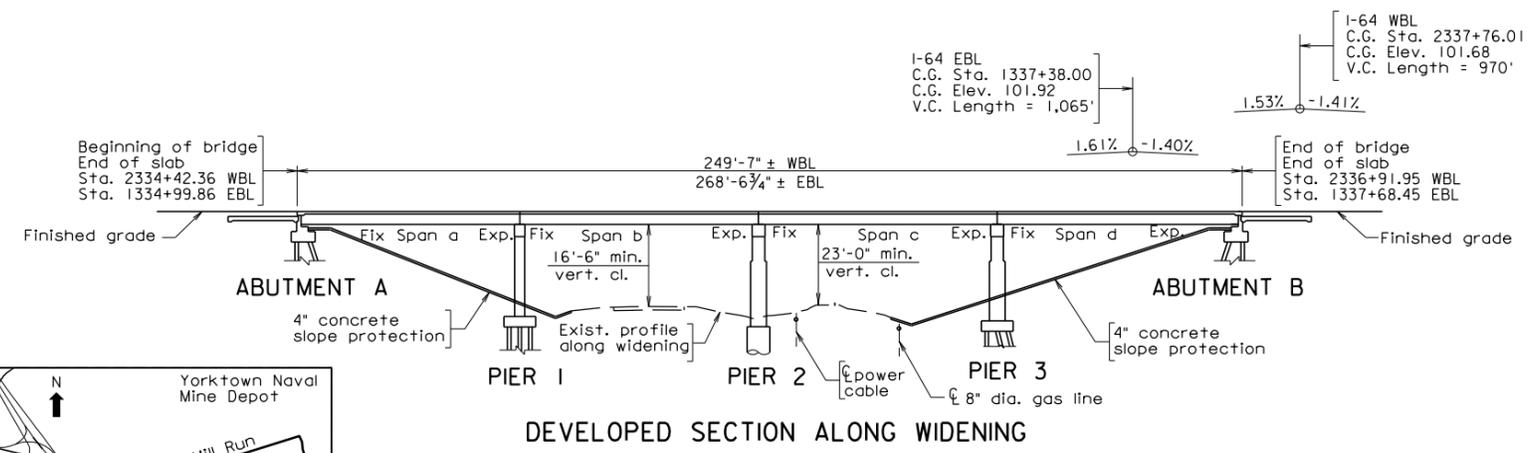
Width: 61'-4" face-to-face of rails.
Span layout:
EBL: 63'-3/4" - 67'-10" - 67'-10" - 69'-7/2"
WBL: 63'-3/2" - 61'-6" - 61'-6" - 63'-3/2"
Capacity: HL-93 loading.
Specifications:
Construction: Virginia Department of Transportation Road and Bridge Specifications, 2007.
Design: AASHTO LRFD Bridge Design Specifications, 7th Edition, 2014; and VDOT Modifications.
Standards: Virginia Department of Transportation Road and Bridge Standards, 2008.
These plans are incomplete unless accompanied by the Supplemental Specifications and Special Provisions included in the contract documents.
Bridge Nos. of existing bridges are 2000 (EBL) and 2001 (WBL). Plan Nos. are 163-22 and 163-22A.
The existing structure is designated a Type B structure in accordance with Sec. 411.

WORKING POINTS		
Point	Station	Elevation
W.P.1	2334+42.36	96.22
W.P.2	2335+05.66	96.84
W.P.3	2335+67.16	97.32
W.P.4	2336+28.66	97.69
W.P.5	2336+91.95	97.95
W.P.6	1334+99.86	96.87
W.P.7	1335+63.15	97.30
W.P.8	1336+30.99	97.64
W.P.9	1336+98.82	97.85
W.P.10	1337+68.45	97.93

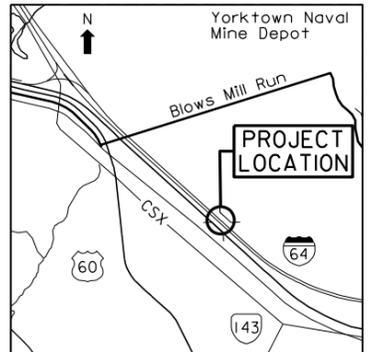


- Tie Stations:
- [A] POT Sta. 2335+43.69 I-64 WB Constr. @ Burma Road
 - [B] POT Sta. 2335+93.36 I-64 WB Constr. @ rail
 - [C] POT Sta. 1336+00.08 I-64 EB Constr. @ Burma Road
 - [D] POT Sta. 1336+54.66 I-64 EB Constr. @ rail

PLAN



DEVELOPED SECTION ALONG WIDENING



LOCATION MAP
Not to scale

PRELIMINARY PLANS
THESE PLANS NOT TO BE USED FOR CONSTRUCTION

No.	Description	Date
REVISIONS		
For Table of Revisions, see Sheet 2.		

Recommended for Approval: _____ Date _____
District Project Development Engineer

Approved: _____ Date _____
District Administrator

Date: November 12, 2015 © 2015, Commonwealth of Virginia Sheet

VDOT
COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION
PROPOSED BRIDGE WIDENING ON
RTE. 64 OVER BURMA ROAD AND RAILROAD
TO NAVAL WEAPONS STATION
PROJ. 0064-965-264, B630, B631

b106665_OPE_Burma.dgn

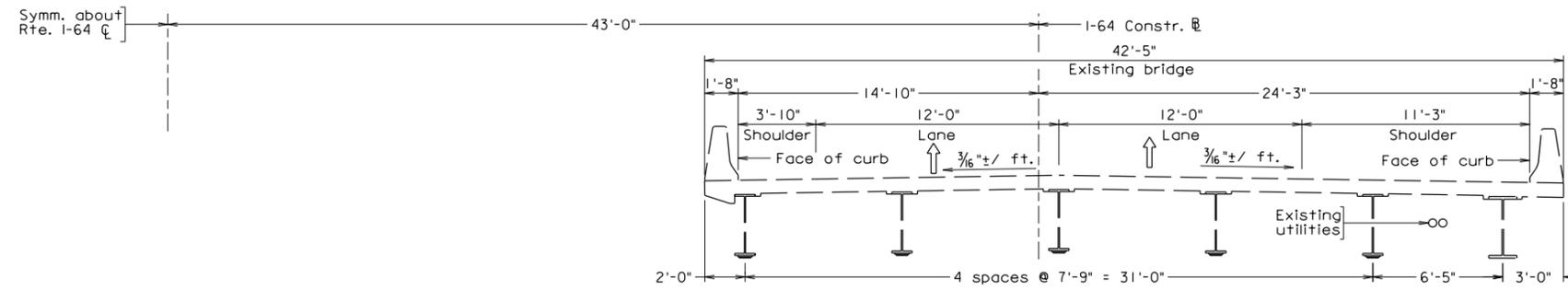
HDR ENGINEERING INC.
NORFOLK, VA.
STRUCTURAL ENGINEER

PLANS BY: Consultant
COORDINATED: John Sproles
SUPERVISED: Vijay Modi
DESIGNED: Jennifer Modugno
DRAWN: Lynnette Myers
CHECKED: ---

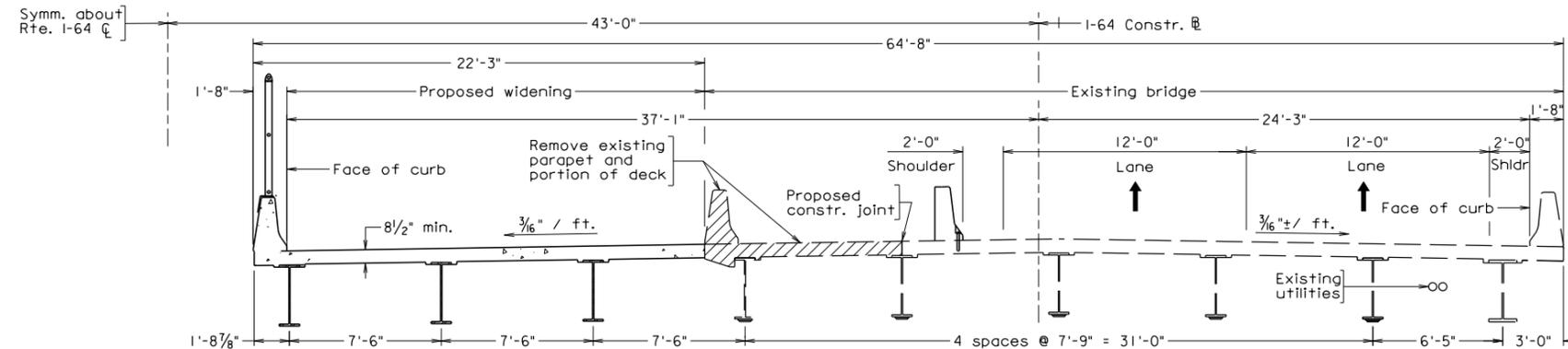
Scale: 1" = 25'

163-22B

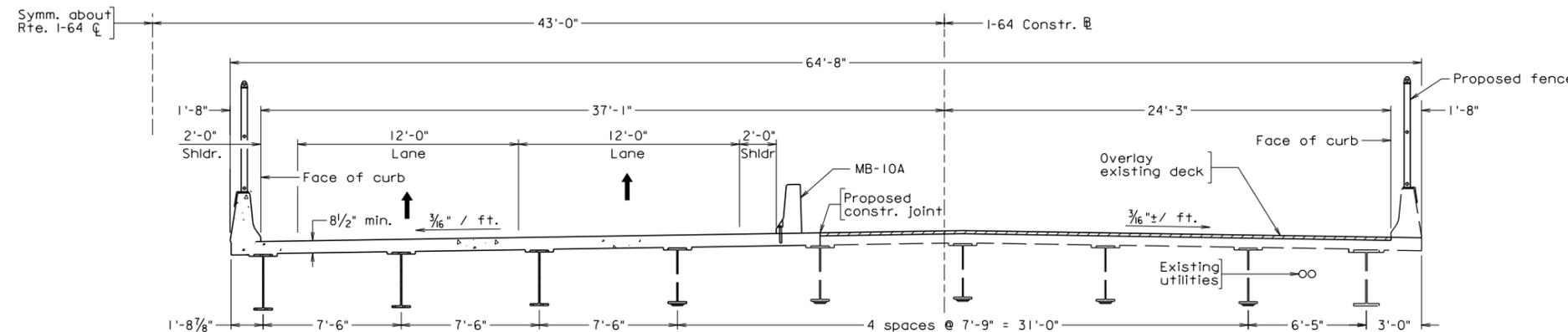
STATE	ROUTE	FEDERAL AID	PROJECT	ROUTE	STATE	PROJECT	SHEET NO.
VA.	—	—	—	64	0064-965-264, B630, B631	—	—



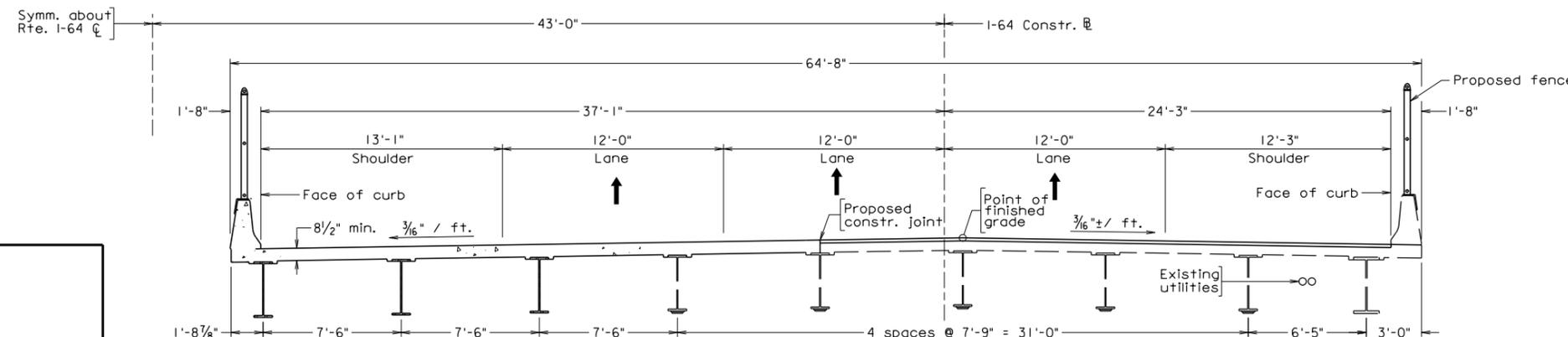
EXISTING BRIDGE - TRANSVERSE SECTION STAGE 1



DEMOLITION AND CONSTRUCTION - TRANSVERSE SECTION STAGE 2



OVERLAY - TRANSVERSE SECTION STAGE 3



FINAL - TRANSVERSE SECTION STAGE 4

EASTBOUND BRIDGE TRANSVERSE SECTION

(Westbound is symmetrical about Rte. I-64 CL)

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

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Notes:

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

A suggested sequence of construction for each bridge is provided below.

Stage 1: Confirm underground utility location. Install temporary traffic controls and shift traffic towards the outside of the existing bridge, maintaining two 12'-0" lanes. Remove parapet and portion of deck from median side of existing bridge.

Stage 2: Construct proposed bridge widening. Construction joint shall be located over an existing beam/girder line.

Stage 3: Shift traffic to the previously constructed widening, providing two 12'-0" lanes. Perform deck patching as required and place new concrete overlay on existing deck. Close the existing joints over the piers, and extend deck slabs over the backwalls.

Stage 4: Remove temporary barrier and shift traffic to final alignment.

Legend:

 Existing structure to be removed.

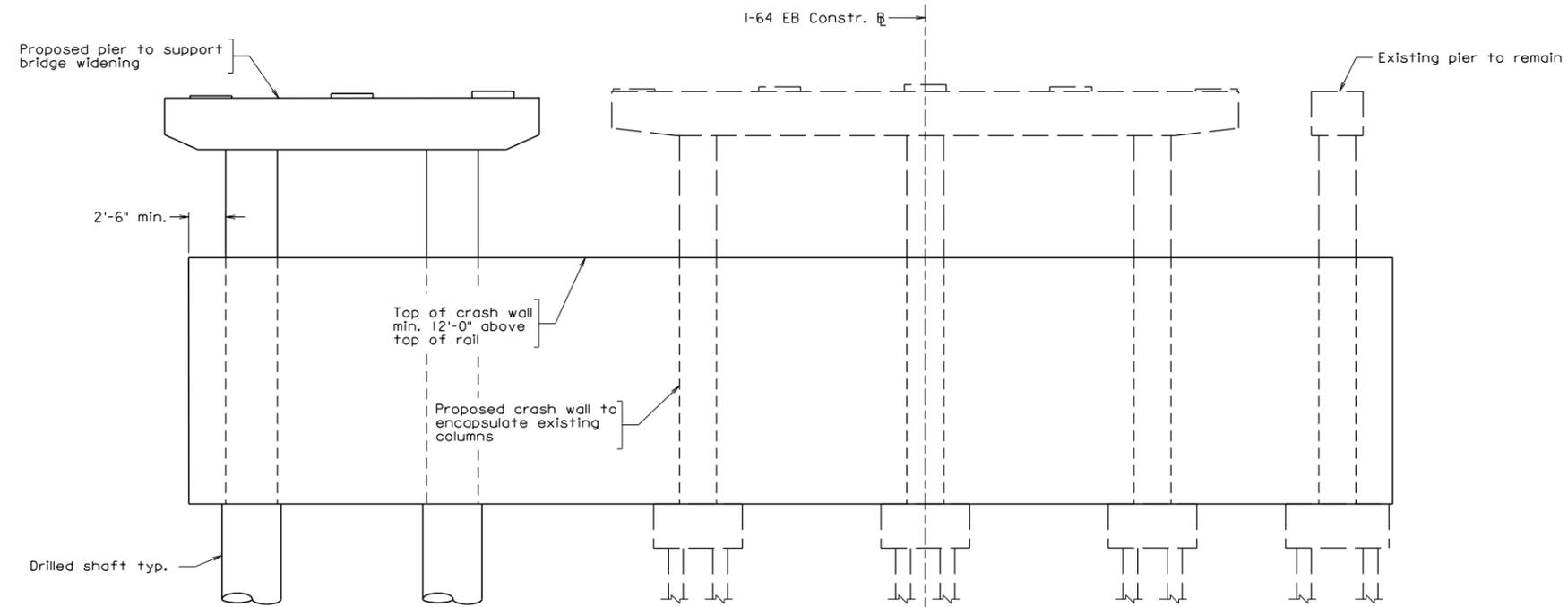
PRELIMINARY PLANS
THESE PLANS NOT TO BE USED
FOR CONSTRUCTION

COMMONWEALTH OF VIRGINIA DEPARTMENT OF TRANSPORTATION	
STRUCTURE AND BRIDGE DIVISION	
TRANSVERSE SECTION (I-64 OVER BURMA RD AND RR TO NAVAL WEAPONS STATION)	
No.	Description
Revisions	
Designed: J.M.	Date
Drawn: J.M.	Nov. 2015
Checked: J.M.	Nov. 2015
Plan No.	163-22B
Sheet No.	74

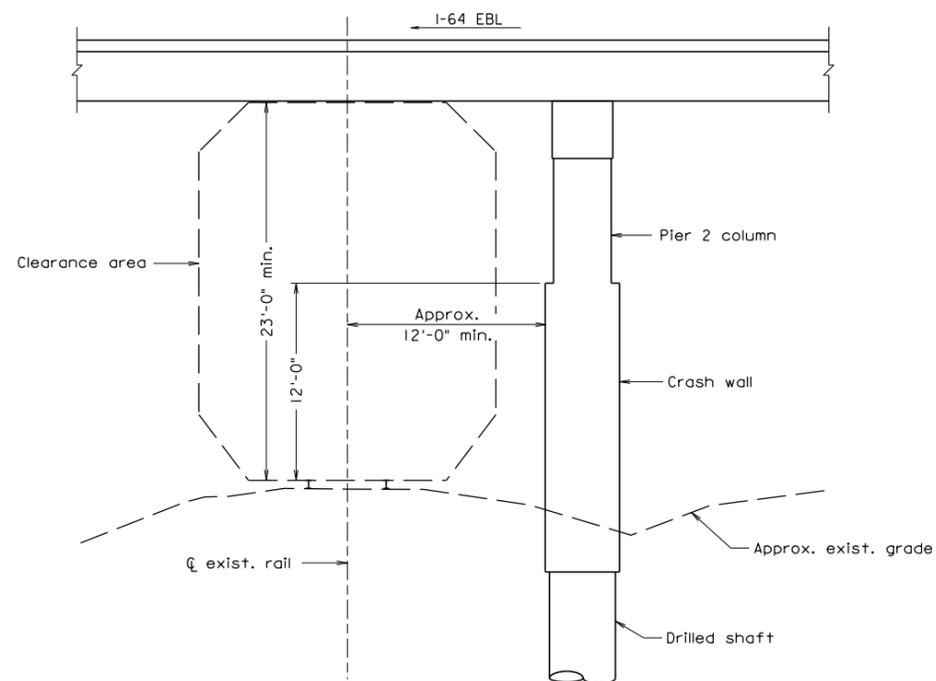
b10665_Burma Typ.dgn

HDR ENGINEERING INC.
NORFOLK, VA.
STRUCTURAL ENGINEER

STATE	FEDERAL AID	STATE	SHEET
ROUTE	PROJECT	ROUTE	PROJECT
VA.	NHA-064-3(479)	64	0064-965-264, B630, B631



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



EBL PIER 2
NORTH END SECTION

Not to scale

© 2015, Commonwealth of Virginia

PRELIMINARY PLANS
THESE PLANS NOT TO BE USED
FOR CONSTRUCTION

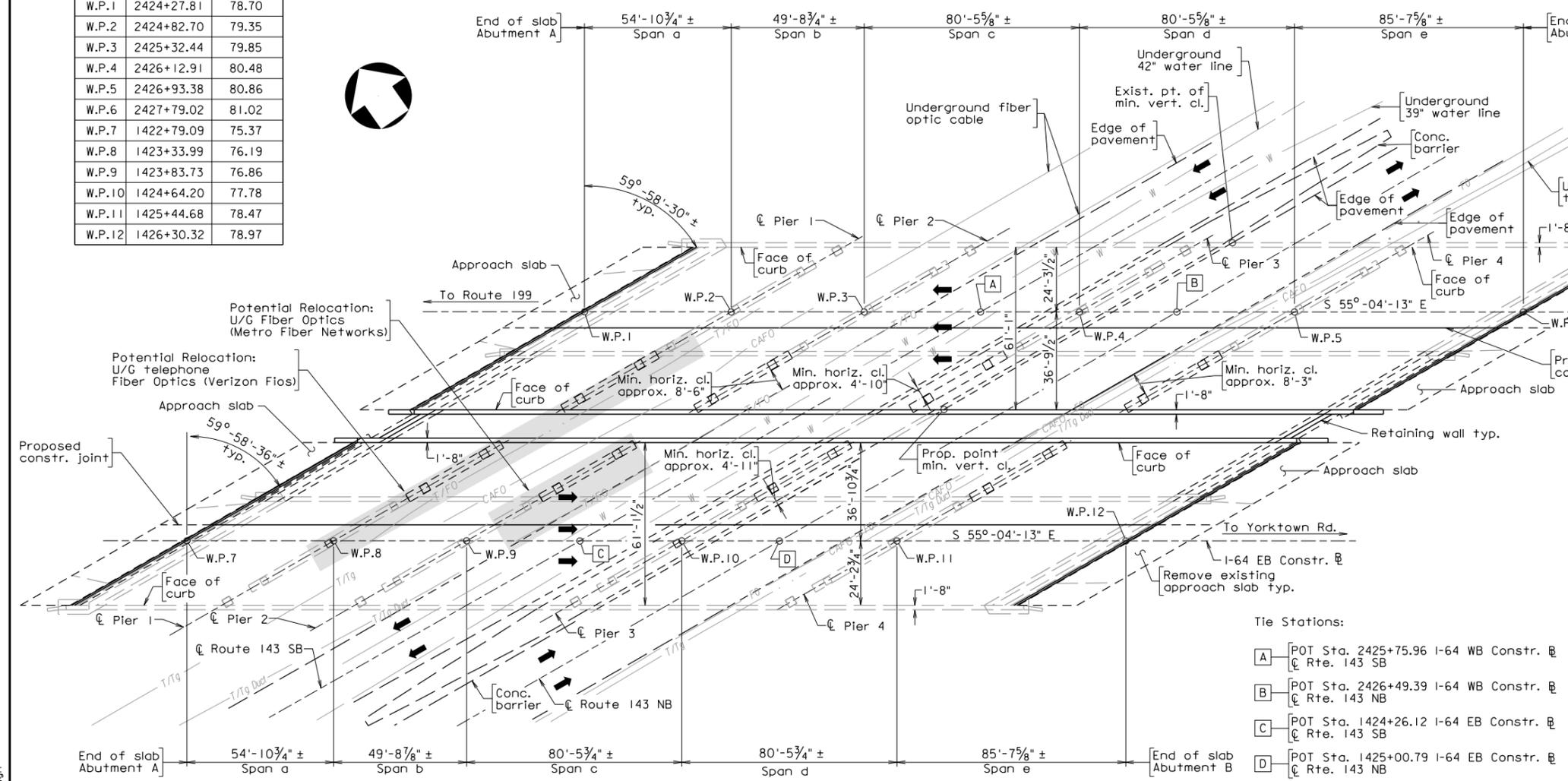
COMMONWEALTH OF VIRGINIA DEPARTMENT OF TRANSPORTATION			
STRUCTURE AND BRIDGE DIVISION			
PIER CONCEPTS (I-64 OVER BURMA RD AND RR TO NAVAL WEAPONS STATION)			
No.	Description	Date	Designed: J.M. Drawn: L.M. Checked:
Revisions		Nov. 2015	Plan No. 163-22B Sheet No.

b106665_Burma Pier_Details.dgn

HDR ENGINEERING INC.
NORFOLK, VA.
STRUCTURAL ENGINEER

STATE	FEDERAL AID	STATE	SHEET NO.
VA.	PROJECT	64	0064-965-264, B632, B633
NBIS Number: 00000000020698 00000000020700		UPC No. 106665	
Federal Oversight Code: FO		FHWA Construction and Scour Code: X231-SN	

Point	Station	Elevation
W.P.1	2424+27.81	78.70
W.P.2	2424+82.70	79.35
W.P.3	2425+32.44	79.85
W.P.4	2426+12.91	80.48
W.P.5	2426+93.38	80.86
W.P.6	2427+79.02	81.02
W.P.7	1422+79.09	75.37
W.P.8	1423+33.99	76.19
W.P.9	1423+83.73	76.86
W.P.10	1424+64.20	77.78
W.P.11	1425+44.68	78.47
W.P.12	1426+30.32	78.97



DESIGN EXCEPTION(S):
None

Width:
EBL: 61'-1 1/2" face-to-face of rails.
WBL: 61'-1" face-to-face of rails.

Span layout:
EBL: 54'-10 3/4" - 49'-8 7/8" - 80'-5 3/4" - 80'-5 3/4" - 85'-7 5/8"
WBL: 54'-10 3/4" - 49'-8 7/8" - 80'-5 3/4" - 80'-5 3/4" - 85'-7 5/8"

Capacity: HL-93 loading.

Specifications:
Construction: Virginia Department of Transportation Road and Bridge Specifications, 2007.
Design: AASHTO LRFD Bridge Design Specifications, 7th Edition, 2014; and VDOT Modifications.
Standards: Virginia Department of Transportation Road and Bridge Standards, 2008.

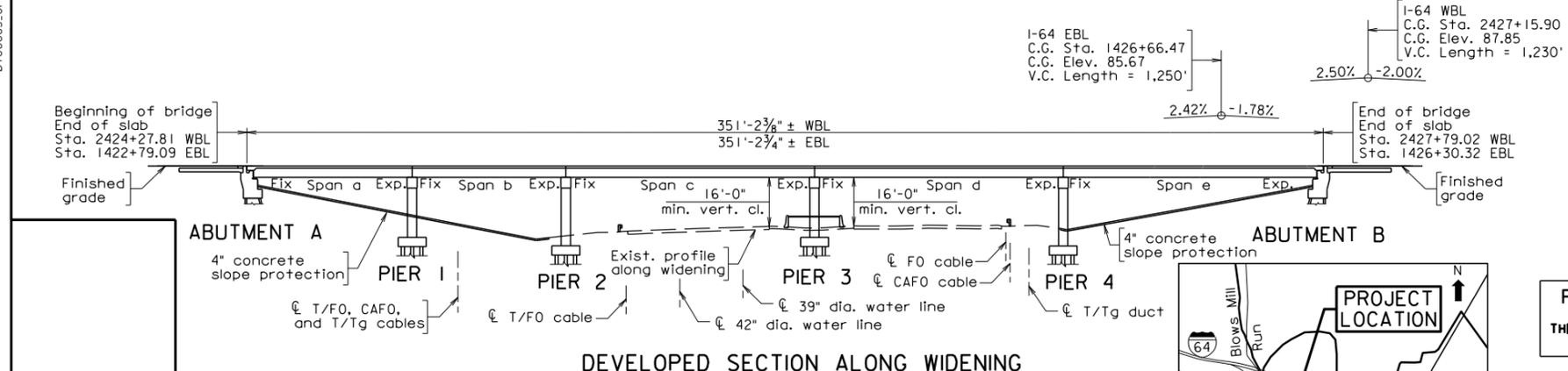
These plans are incomplete unless accompanied by the Supplemental Specifications and Special Provisions included in the contract documents.

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

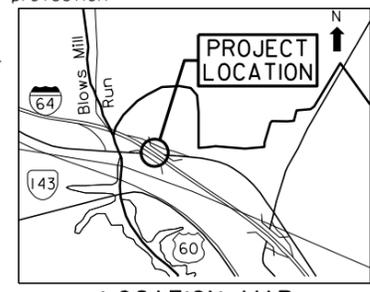
The existing structure is designated a Type B structure in accordance with Sec. 411.

- Tie Stations:**
- [A] POT Sta. 2425+75.96 I-64 WB Constr. EBL
C.Rte. 143 SB
 - [B] POT Sta. 2426+49.39 I-64 WB Constr. EBL
C.Rte. 143 NB
 - [C] POT Sta. 1424+26.12 I-64 EB Constr. EBL
C.Rte. 143 SB
 - [D] POT Sta. 1425+00.79 I-64 EB Constr. EBL
C.Rte. 143 NB

PLAN



DEVELOPED SECTION ALONG WIDENING



LOCATION MAP
Not to scale

PRELIMINARY PLANS
THESE PLANS NOT TO BE USED FOR CONSTRUCTION

No.	Description	Date
REVISIONS		
For Table of Revisions, see Sheet 2.		

VDOT
COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION

PROPOSED BRIDGE WIDENING ON
RTE. 64 OVER RTE. 143 / JEFFERSON AVE.
PROJ. 0064-965-264, B632, B633

Recommended for Approval: _____ Date _____
District Project Development Engineer

Approved: _____ Date _____
District Administrator

Date: November 12, 2015 © 2015, Commonwealth of Virginia Sheet

b106665_OPE_Jeff.dgn

HDR ENGINEERING INC.
NORFOLK, VA.
STRUCTURAL ENGINEER

PLANS BY: Consultant
COORDINATED: John Sproles
SUPERVISED: Vijay Modi
DESIGNED: Jennifer Modugno
DRAWN: Lynnette Myers
CHECKED: ---

Legend:
Denotes potential utility conflicts in this area.

Scale: 1" = 25'

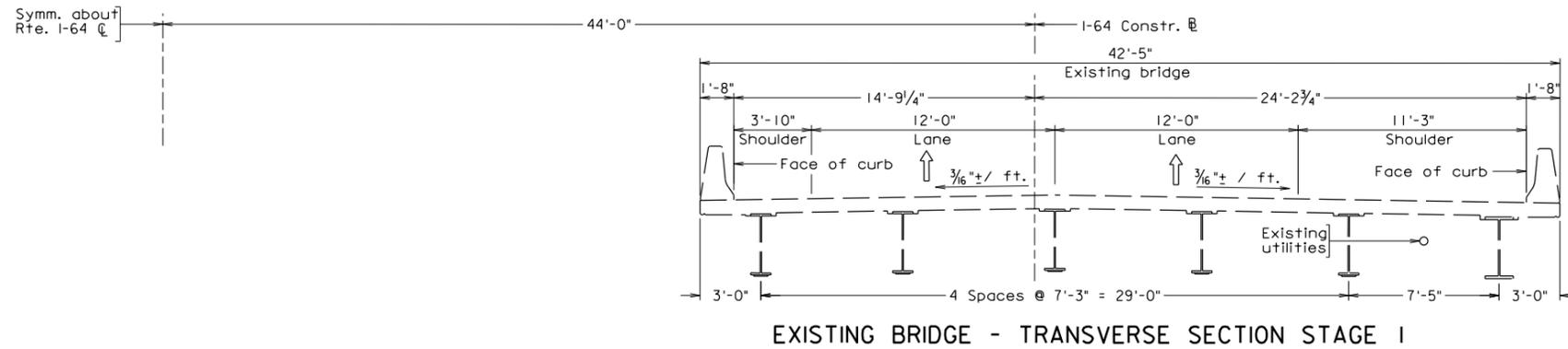
STATE	FEDERAL AID		STATE		SHEET
ROUTE	PROJECT		ROUTE	PROJECT	NO.
VA.			64	0064-965-264, B632, B633	

Notes:

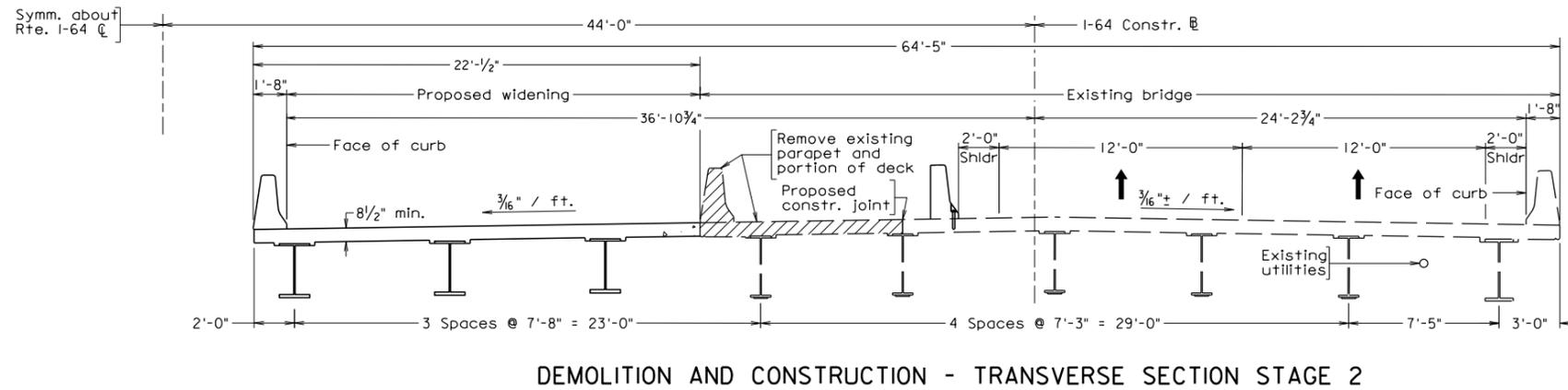
- All sections shown looking station-ahead (to the east).
A suggested sequence of construction for each bridge is provided below.
- Stage 1: Confirm underground utility location. Install temporary traffic controls and shift traffic towards the outside of the existing bridge, maintaining two 12'-0" lanes. Remove parapet and portion of deck from median side of existing bridge.
 - Stage 2: Construct proposed bridge widening. Construction joint shall be located over an existing beam/girder line.
 - Stage 3: Shift traffic to the previously constructed widening, providing two 12'-0" lanes. Perform deck patching as required and place new concrete overlay on existing deck. Close the existing joints over the piers, and extend deck slabs over the backwalls.
 - Stage 4: Remove temporary barrier and shift traffic to final alignment.

Legend:

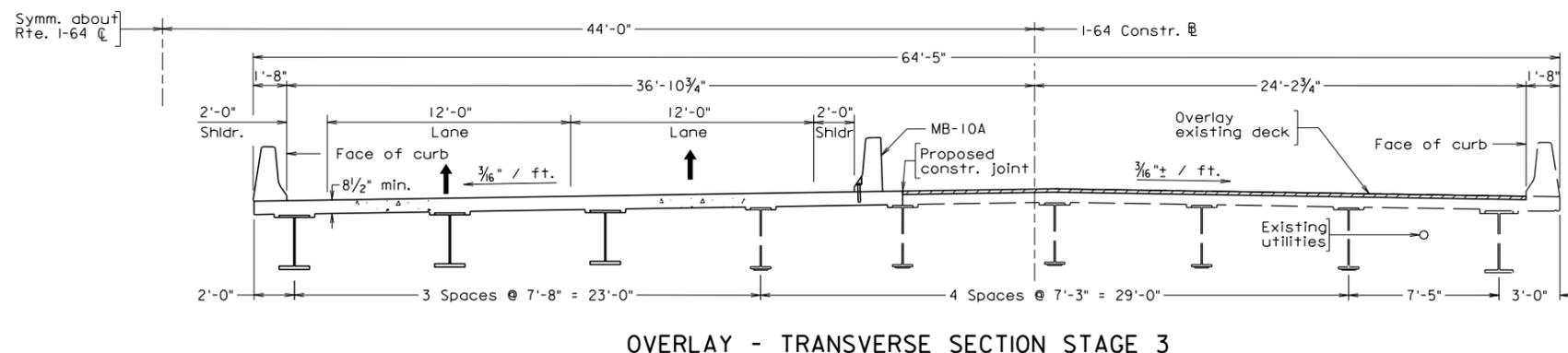
 Existing structure to be removed.



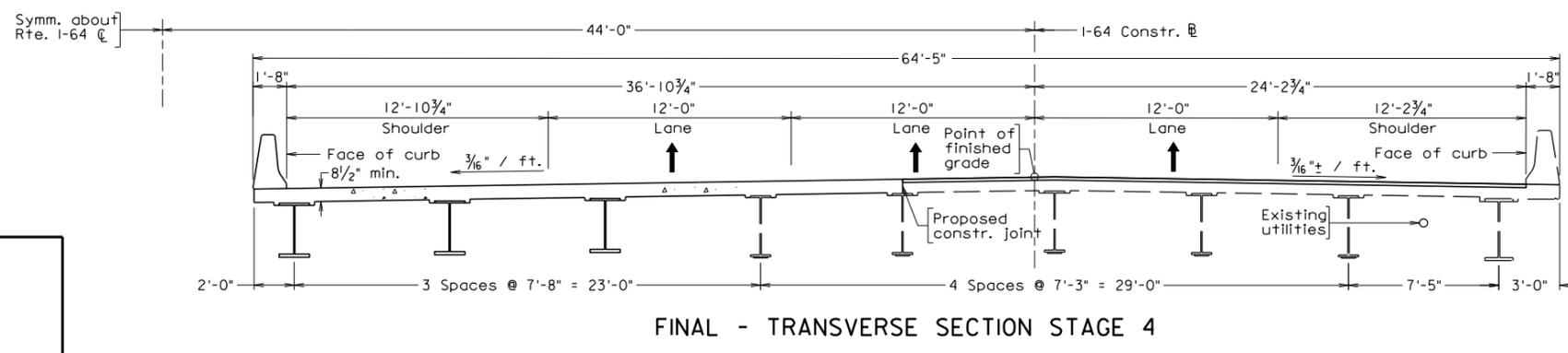
EXISTING BRIDGE - TRANSVERSE SECTION STAGE 1



DEMOLITION AND CONSTRUCTION - TRANSVERSE SECTION STAGE 2



OVERLAY - TRANSVERSE SECTION STAGE 3



FINAL - TRANSVERSE SECTION STAGE 4

EASTBOUND BRIDGE TRANSVERSE SECTION
(Westbound is symmetrical about Rte. 1-64 C)

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

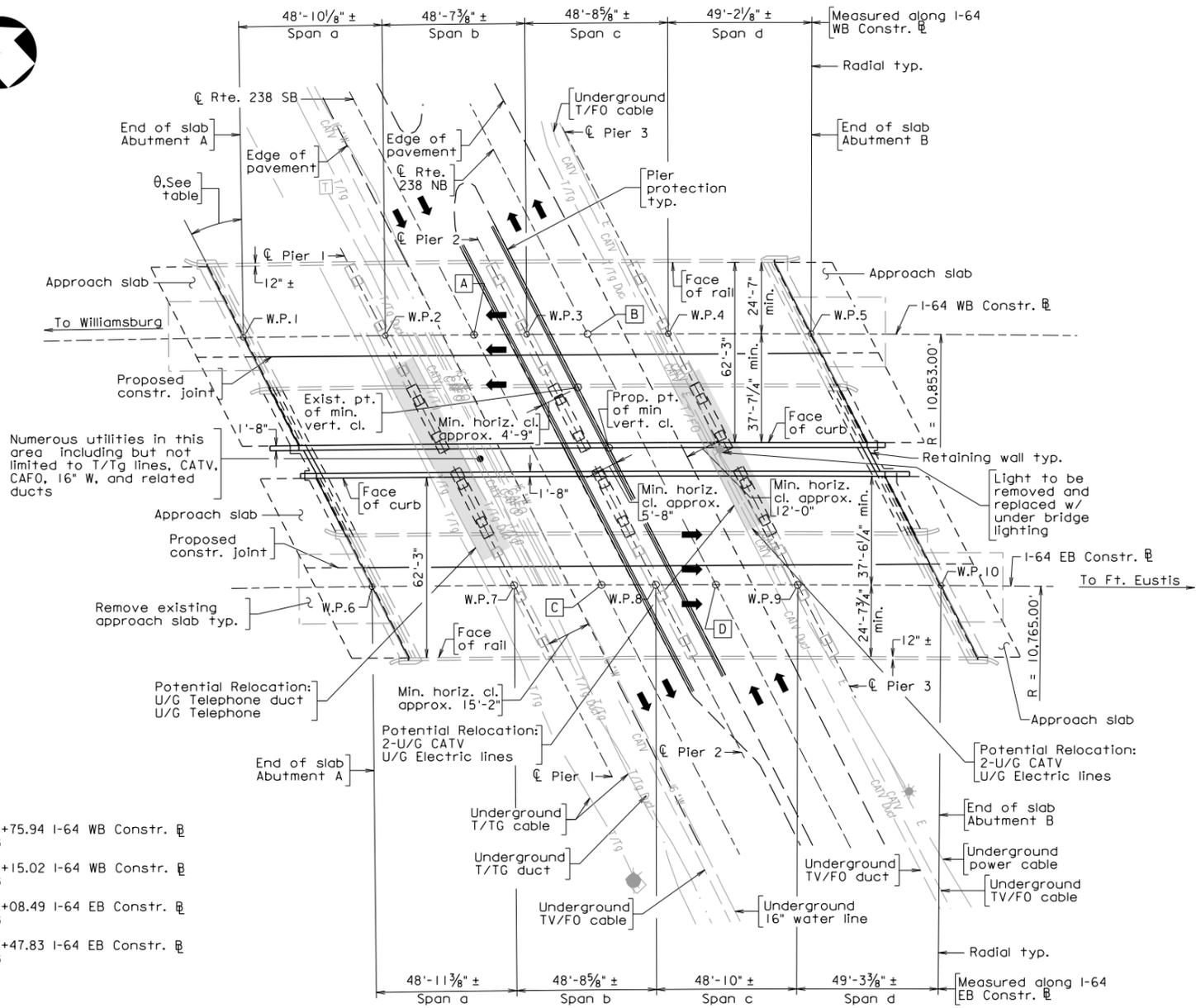
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PRELIMINARY PLANS
THESE PLANS NOT TO BE USED FOR CONSTRUCTION

COMMONWEALTH OF VIRGINIA DEPARTMENT OF TRANSPORTATION					
STRUCTURE AND BRIDGE DIVISION					
TRANSVERSE SECTION (I-64 OVER RTE. 143 JEFF AVE.)					
No.	Description	Date	Designed: JM.....	Date	Plan No.
			Drawn: JM.....	Nov. 2015	163-23B
			Checked: JM.....		
Revisions					

b10665_jeff Typ.dgn

HDR ENGINEERING INC.
NORFOLK, VA.
STRUCTURAL ENGINEER



- Tie Stations:**
- A** POC Sta. 2472+75.94 I-64 WB Constr. @
@ Rte. 238 SB
 - B** POC Sta. 2473+15.02 I-64 WB Constr. @
@ Rte. 238 NB
 - C** POC Sta. 1473+08.49 I-64 EB Constr. @
@ Rte. 238 SB
 - D** POC Sta. 1473+47.83 I-64 EB Constr. @
@ Rte. 238 NB

Legend:
 Denotes potential utility conflicts in this area.

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

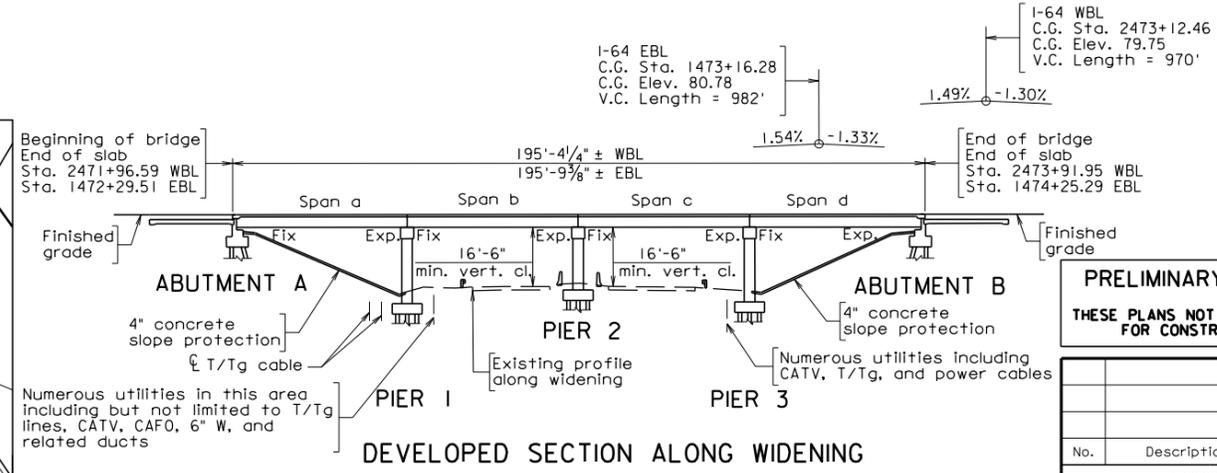
DESIGN EXCEPTION(S):
None

GENERAL NOTES:

Width: 62'-3" face-to-face of rails.
 Span layout:
 EBL: 48'-11 3/8" - 48'-8 5/8" - 48'-10" - 49'-3 3/8"
 WBL: 48'-10 7/8" - 48'-7 7/8" - 48'-8 3/8" - 49'-2 7/8"
 Capacity: HL-93 loading.
 Specifications:
 Construction: Virginia Department of Transportation Road and Bridge Specifications, 2007.
 Design: AASHTO LRFD Bridge Design Specifications, 7th Edition, 2014; and VDOT Modifications.
 Standards: Virginia Department of Transportation Road and Bridge Standards, 2008.
 These plans are incomplete unless accompanied by the Supplemental Specifications and Special Provisions included in the contract documents.
 Bridge Nos. of existing bridges are 2208 (EBL) and 2209 (WBL). Plan Nos. are 163-24.

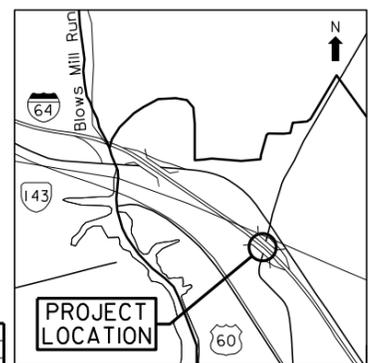
WORKING POINTS			
Point	Station	Elevation	θ
W.P.1	2471+96.59	77.88	26°-09'-53" ±
W.P.2	2472+45.44	78.57	26°-25'-22" ±
W.P.3	2472+94.05	79.26	26°-40'-46" ±
W.P.4	2473+42.77	79.94	26°-56'-12" ±
W.P.5	2473+91.95	80.62	26°-24'-02" ±
W.P.6	1472+29.51	77.06	26°-24'-02" ±
W.P.7	1472+78.46	77.20	26°-39'-40" ±
W.P.8	1473+27.17	77.27	26°-55'-14" ±
W.P.9	1473+76.00	77.27	27°-10'-49" ±
W.P.10	1474+25.29	77.20	27°-26'-33" ±

PI AN



DEVELOPED SECTION ALONG WIDENING

Scale: 1" = 25'



LOCATION MAP
Not to scale

HDR ENGINEERING INC. NORFOLK, VA. STRUCTURAL ENGINEER	
PLANS BY:	Consultant
COORDINATED:	John Sproles
SUPERVISED:	Vijay Modi
DESIGNED:	Jennifer Modugno
DRAWN:	Lynnette Myers
CHECKED:	---

VDOT
 COMMONWEALTH OF VIRGINIA
 DEPARTMENT OF TRANSPORTATION

**PROPOSED BRIDGE WIDENING ON
 RTE. 64 OVER RTE. 238 / YORKTOWN RD.
 PROJ. 0064-965-264, B634, B635**

PRELIMINARY PLANS
 THESE PLANS NOT TO BE USED FOR CONSTRUCTION

No.	Description	Date
REVISIONS		
For Table of Revisions, see Sheet 2.		

Recommended for Approval: _____ Date _____
 District Project Development Engineer

Approved: _____ Date _____
 District Administrator

Date: November 12, 2015 © 2015, Commonwealth of Virginia

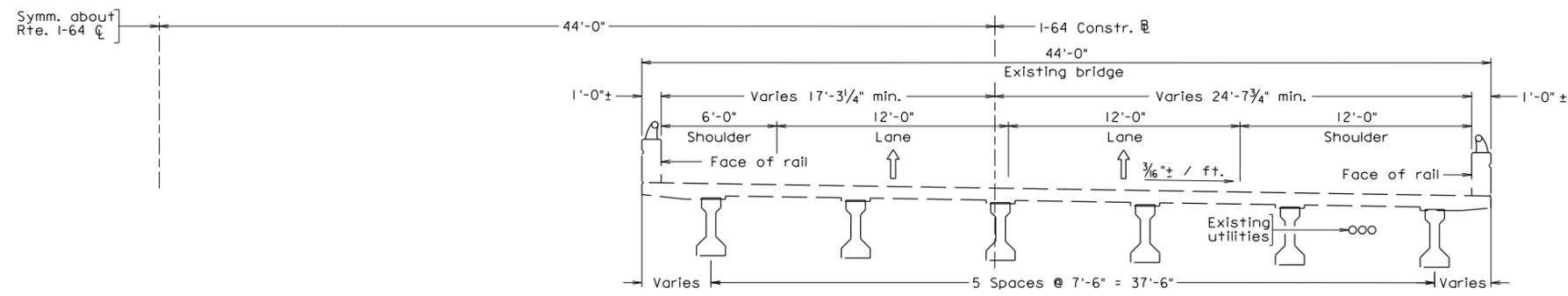
STATE	FEDERAL AID		STATE		SHEET
ROUTE	PROJECT		ROUTE	PROJECT	NO.
VA.			64	0064-965-264, B634, B635	

Notes:

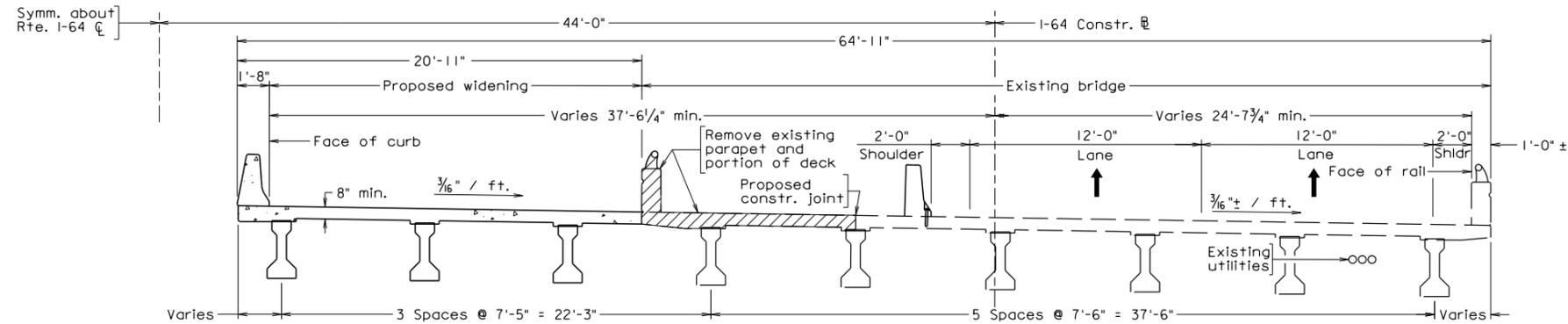
- All sections shown looking station-ahead (to the east).
- A suggested sequence of construction for each bridge is provided below.
- Stage 1: Confirm underground utility location. Install temporary traffic controls and shift traffic towards the outside of the existing bridge, maintaining two 12'-0" lanes. Remove parapet and portion of deck from median side of existing bridge.
 - Stage 2: Construct proposed bridge widening. Construction joint shall be located over an existing beam/girder line.
 - Stage 3: Shift traffic to the previously constructed widening, providing two 12'-0" lanes. Perform deck patching as required and place new concrete overlay on existing deck. Close the existing joints over the piers, and extend deck slabs over the backwalls.
 - Stage 4: Remove temporary barrier and shift traffic to final alignment.

Legend:

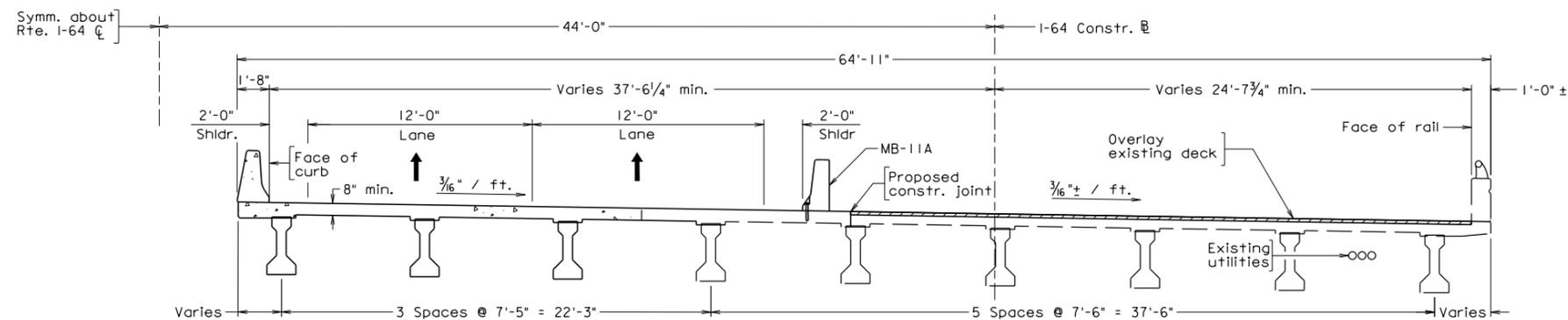
 Existing structure to be removed.



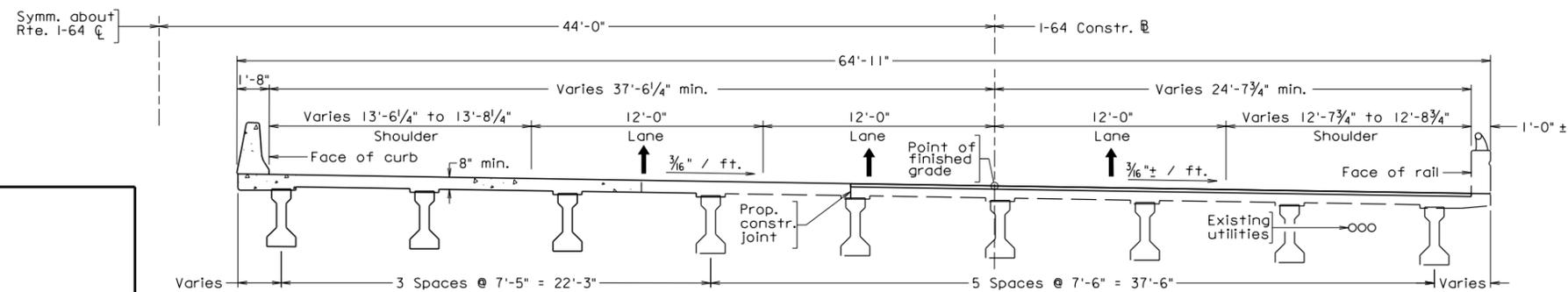
EXISTING BRIDGE - TRANSVERSE SECTION STAGE 1



DEMOLITION AND CONSTRUCTION - TRANSVERSE SECTION STAGE 2



OVERLAY - TRANSVERSE SECTION STAGE 3



FINAL - TRANSVERSE SECTION STAGE 4

EASTBOUND BRIDGE TRANSVERSE SECTION

(Westbound is symmetrical about Rte. I-64 CL)

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

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PRELIMINARY PLANS
THESE PLANS NOT TO BE USED FOR CONSTRUCTION

COMMONWEALTH OF VIRGINIA DEPARTMENT OF TRANSPORTATION	
STRUCTURE AND BRIDGE DIVISION	
TRANSVERSE SECTION (I-64 OVER RTE. 238 YORKTOWN RD.)	
No.	Description
Revisions	
Designed: JM	Date
Drawn: JM	Date
Checked: JM	Date
Nov. 2015	Plan No.
163-24A	Sheet No.

b106665_Yorktown Typ.dgn

HDR ENGINEERING INC.
NORFOLK, VA.
STRUCTURAL ENGINEER

STATE	FEDERAL AID		STATE		SHEET NO.
ROUTE	PROJECT		ROUTE	PROJECT	
VA.			64	0064-965-264, B627, B628	
NBIS Number: 00000000019828 00000000019830			UPC No. 106665		
Federal Oversight Code: FO			FHWA Construction and Scour Code: X581-SN		

DESIGN EXCEPTION(S):

Reduced outside shoulder width from 14'-0" to 12'-0". Approved by State Structure and Bridge Engineer on May 28, 2015.

GENERAL NOTES:

Width: 74'-0" face of curb to face of rail. Includes widening of 20'-8" on median side

Span layout:
EBL: 58'-2" ± - 76'-4" ± - 58'-2" ±
WBL: 54'-2" ± - 76'-4" ± - 54'-2" ±

Capacity: HL-93 loading.

Specifications:

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

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

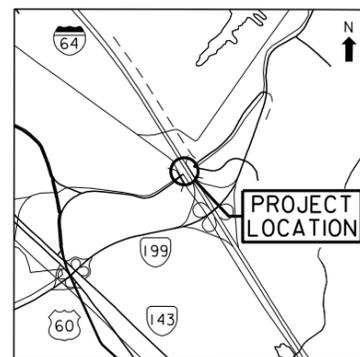
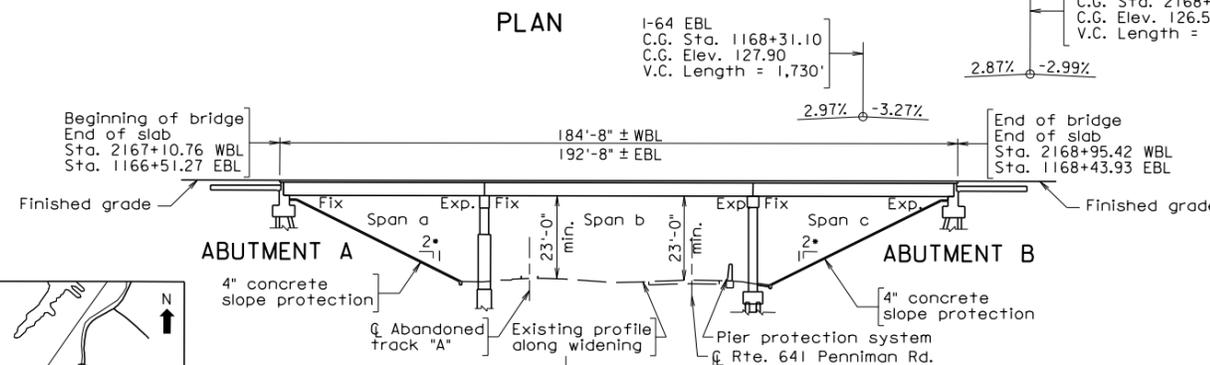
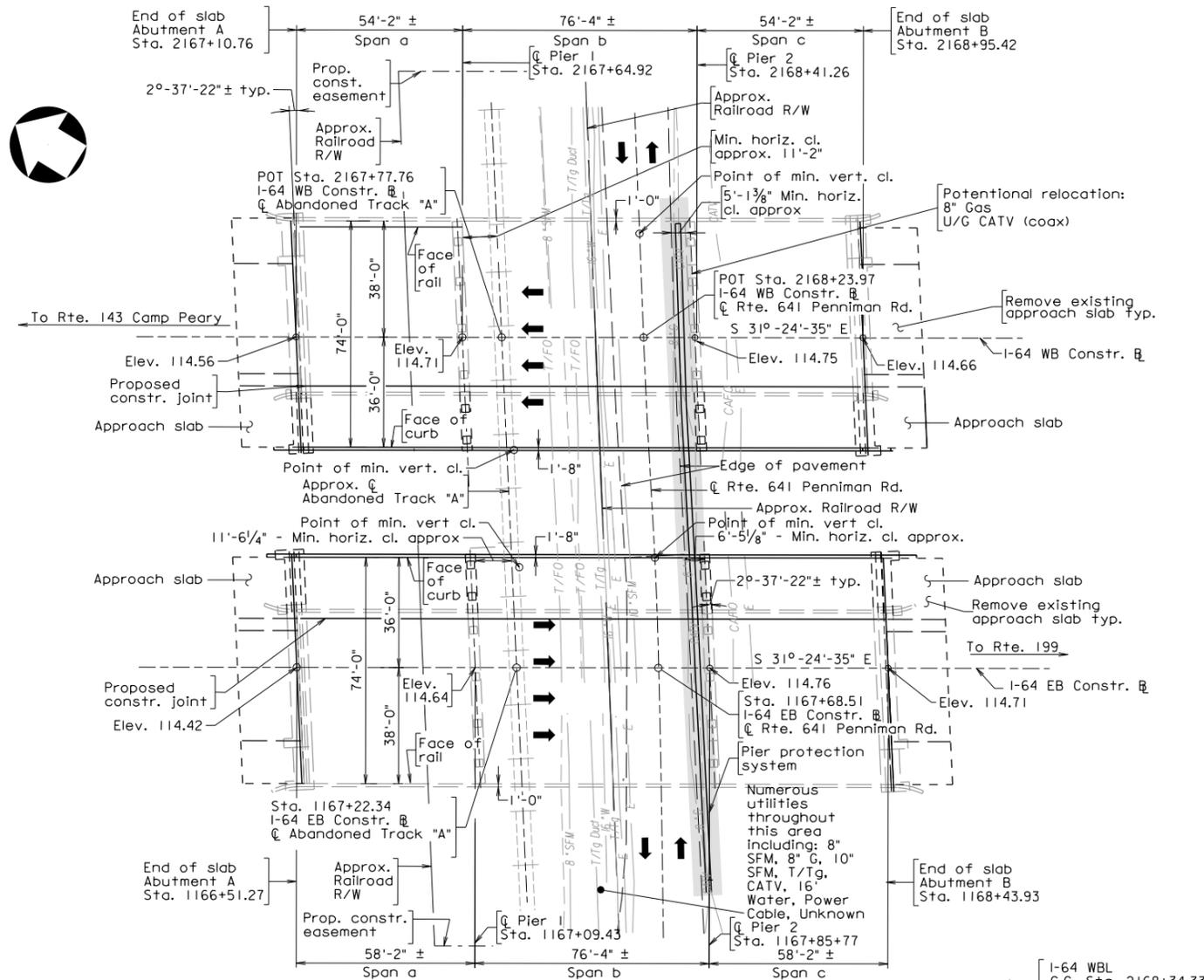
Standards: Virginia Department of Transportation Road and Bridge Standards, 2008.

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

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

Legend:

Denotes potential utility conflicts in this area.



PARSONS BRINCKERHOFF VIRGINIA BEACH, VA STRUCTURAL ENGINEER	
PLANS BY:	Parsons Brinckerhoff
COORDINATED:	
SUPERVISED:	Michelle Martin
DESIGNED:	Brett Keyes/Chris Dear
DRAWN:	Precilla Stinson
CHECKED:	Mark Powell

PRELIMINARY PLANS
THESE PLANS NOT TO BE USED FOR CONSTRUCTION

No.	Description	Date
REVISIONS		
For Table of Revisions, see Sheet 2.		

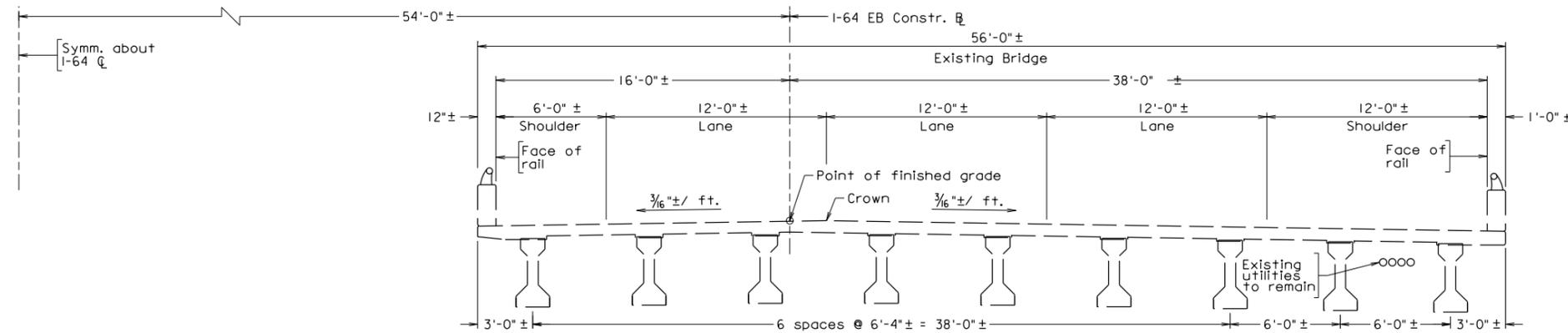
Recommended for Approval: _____
District Project Development Engineer Date

Approved: _____
District Administrator Date

Date: November 12, 2015 © 2015, Commonwealth of Virginia

163-20B

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



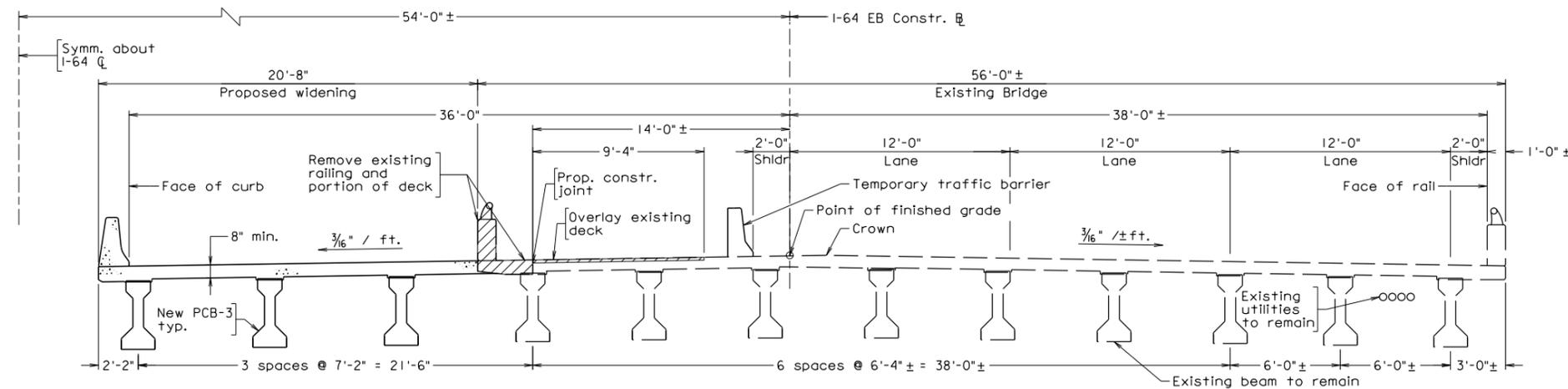
EXISTING BRIDGE - TRANSVERSE SECTION
(EBL shown, WBL opposite hand)

Notes:

- All sections shown looking station-ahead (to the east).
 A suggested Sequence of Construction for each bridge is provided below:
- Stage 1: Install temporary traffic controls and shift traffic towards the outside of the existing bridge, maintaining three 12'-0" lanes. Remove parapet and portion of deck from median side of existing bridge.
 - Stage 2: Construct proposed bridge widening. Construction joint shall be located over an existing beam/girder line.
 - Stage 3: Shift two lanes of mainline traffic to previously constructed bridge widening. Install temporary traffic controls to maintain single auxiliary lane on existing bridge. Perform deck repairs, close existing joints at piers, extend deck over abutment backwalls, and place deck overlay for portion of existing bridge.

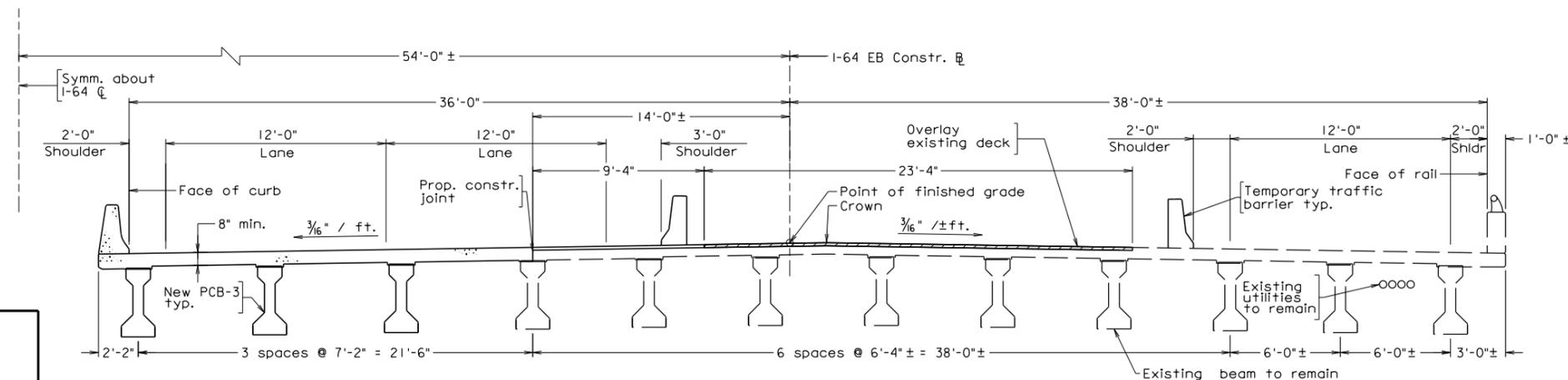
Legend:

Existing structure to be removed.



STAGE I DEMOLITION AND STAGE 2 CONSTRUCTION - TRANSVERSE SECTION
(EBL shown, WBL opposite hand)

Transverse sections showing sequence of construction are continued on the next sheet.



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

PRELIMINARY PLANS
THESE PLANS NOT TO BE USED FOR CONSTRUCTION

COMMONWEALTH OF VIRGINIA DEPARTMENT OF TRANSPORTATION					
STRUCTURE AND BRIDGE DIVISION					
TRANSVERSE SECTION AND MAINTENANCE OF TRAFFIC (SHEET 1 of 2)					
No.	Description	Date	Designed: CJD Drawn: PCG Checked:	Plan No. Nov. 2015 163-20B	Sheet No.
Revisions					

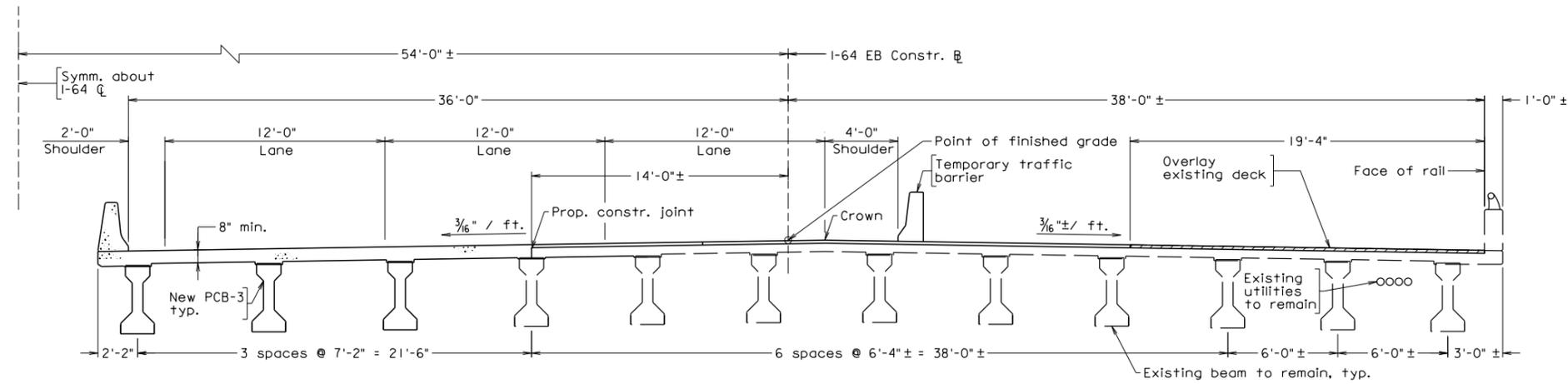
Scale: 1/4" = 1'-0"

© 2015, Commonwealth of Virginia

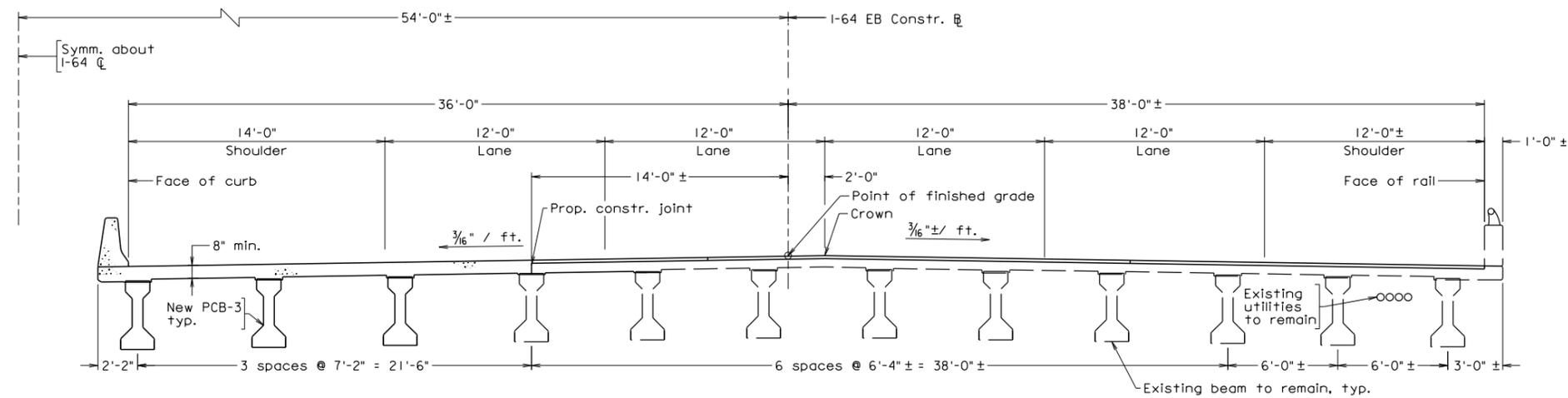
b16320b002.dgn

PARSONS BRINCKERHOFF
VIRGINIA BEACH, VA
STRUCTURAL ENGINEER

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



OVERLAY - TRANSVERSE SECTION STAGE 4



FINAL - TRANSVERSE SECTION STAGE 5
(EBL shown, WBL opposite hand)

Notes:

(continued from previous sheet)

Stage 4: Install temporary traffic controls and shift auxiliary lane to the left side of the bridge with mainline traffic. Perform deck repairs, close existing joints at piers, extend deck over abutment backwalls, and place deck overlay for the remaining portion of the existing bridge.

Stage 5: Remove temporary traffic controls and shift traffic to final alignment.

Legend:

 Existing structure to be removed.

b16320b003.dgn

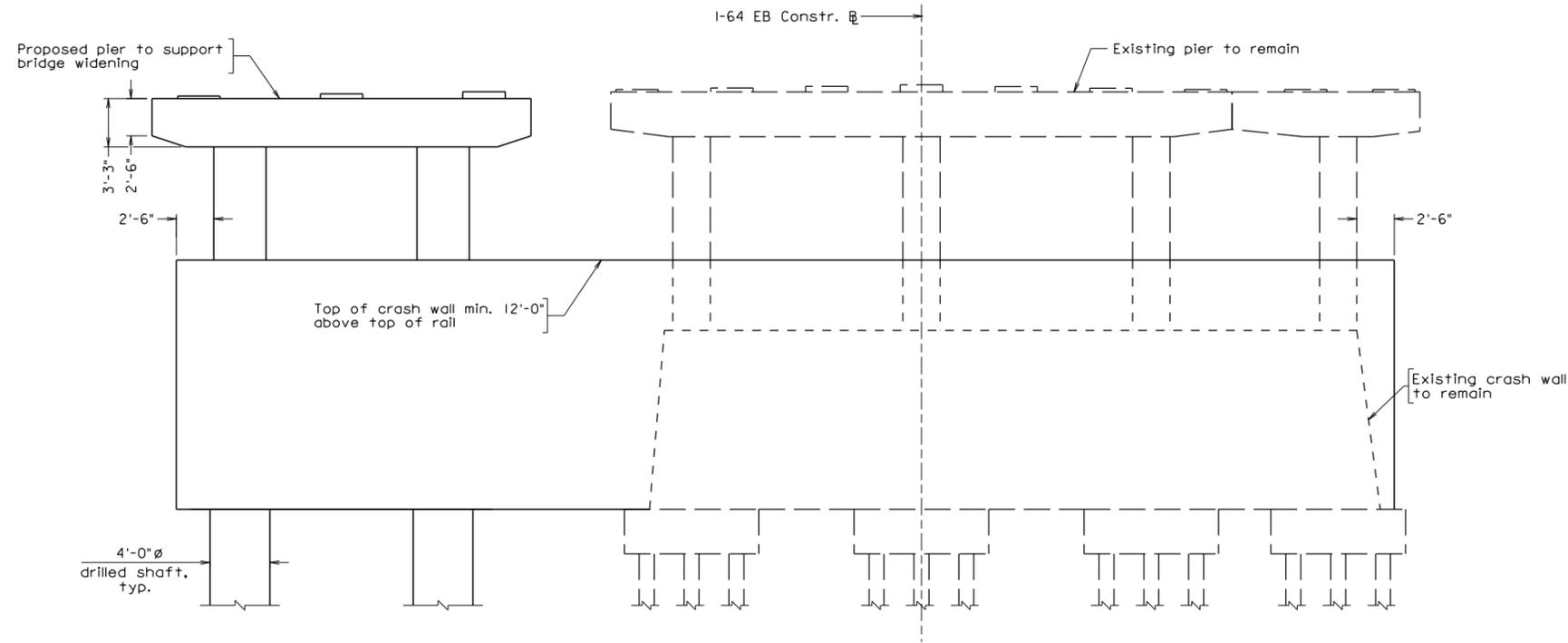
PRELIMINARY PLANS
THESE PLANS NOT TO BE USED FOR CONSTRUCTION

PARSONS BRINCKERHOFF
VIRGINIA BEACH, VA
STRUCTURAL ENGINEER

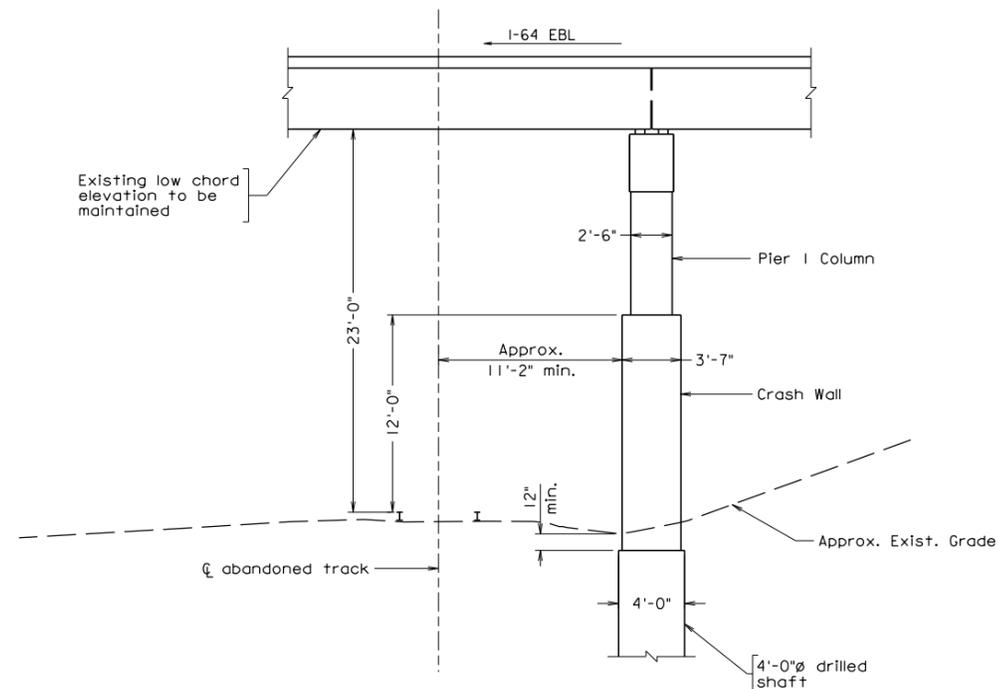
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COMMONWEALTH OF VIRGINIA DEPARTMENT OF TRANSPORTATION						
STRUCTURE AND BRIDGE DIVISION						
TRANSVERSE SECTION AND MAINTENANCE OF TRAFFIC (SHEET 2 of 2)						
No.	Description	Date	Designed: CJD	Date	Plan No.	Sheet No.
	Revisions		Drawn: PC	Nov. 2015	163-20B	
			Checked:			

STATE	FEDERAL AID	STATE	SHEET
ROUTE	PROJECT	ROUTE	PROJECT
VA.		64	0064-965-264, B627, B628



PIER I ELEVATION
EBL SHOWN (WBL OPPOSITE HAND)



EBL PIER I
NORTH END SECTION

Not to scale

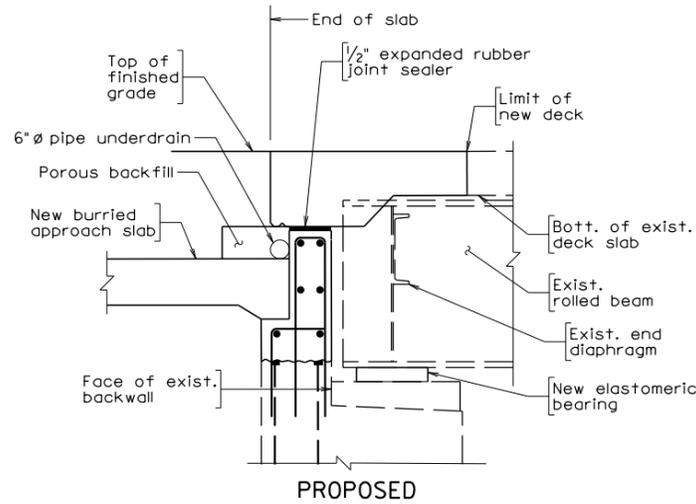
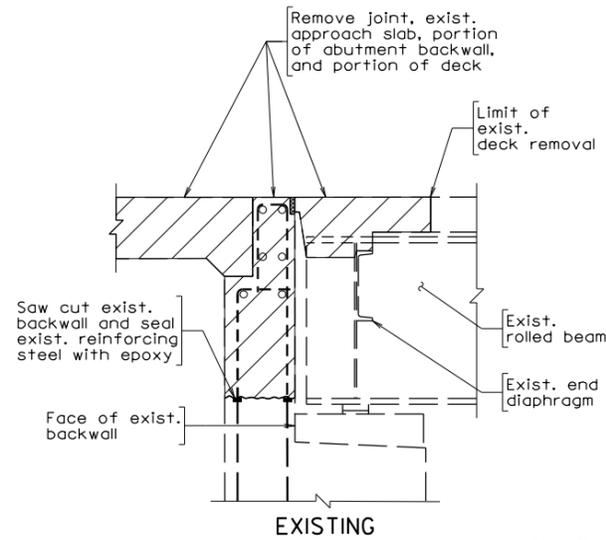
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PRELIMINARY PLANS
THESE PLANS NOT TO BE USED
FOR CONSTRUCTION

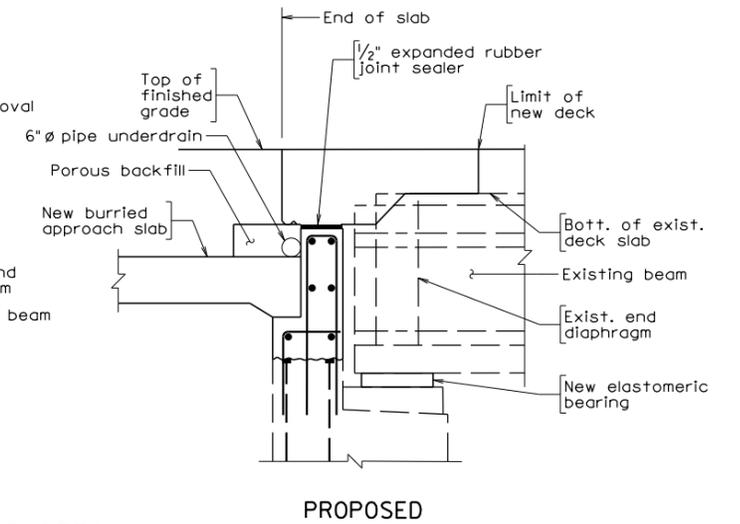
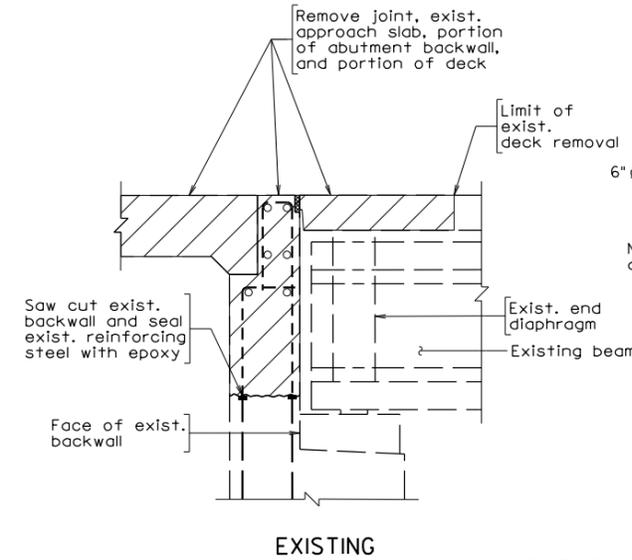
COMMONWEALTH OF VIRGINIA DEPARTMENT OF TRANSPORTATION						
STRUCTURE AND BRIDGE DIVISION						
SUBSTRUCTURE DETAILS						
No.	Description	Date	Designed: BAK	Date	Plan No.	Sheet No.
	Revisions		Drawn: PC	Nov. 2015	163-20B	
			Checked:			

PARSONS BRINCKERHOFF
VIRGINIA BEACH, VA
STRUCTURAL ENGINEER

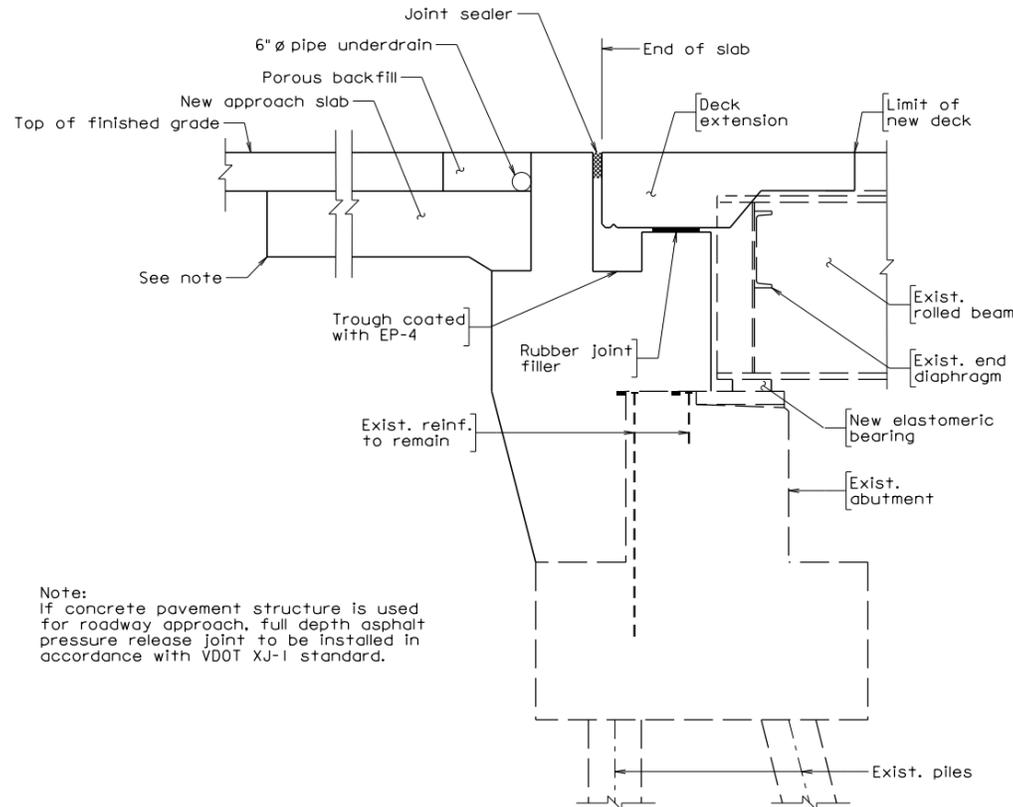
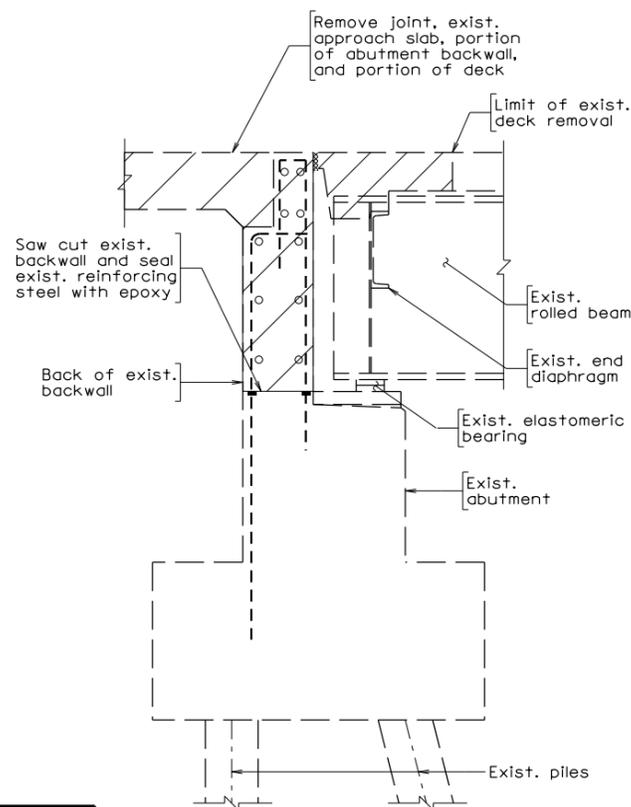
STATE	FEDERAL AID		STATE	SHEET
ROUTE	PROJECT		ROUTE	PROJECT
VA.			64	0064-965-264,
				NO.



SLAB END DETAIL FOR STEEL BEAM



SLAB END DETAIL FOR PRESTRESSED BEAM

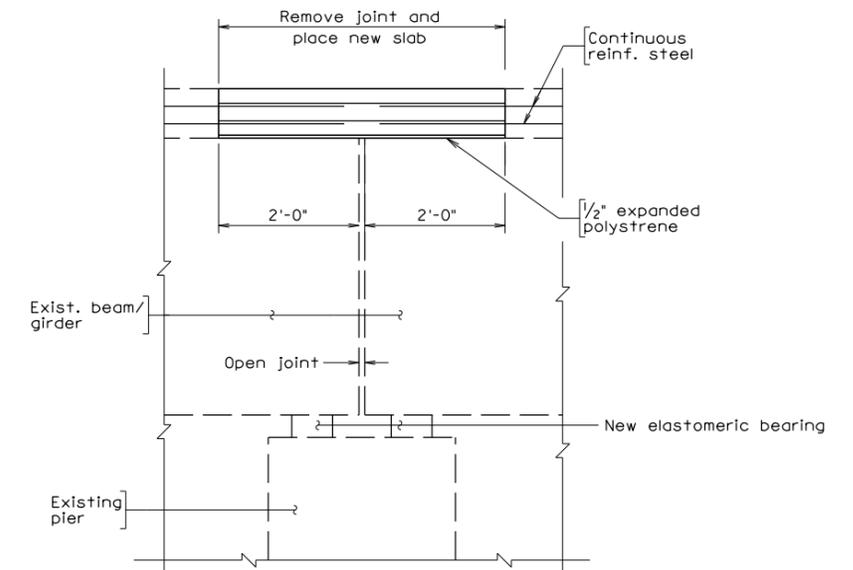


Note:
If concrete pavement structure is used for roadway approach, full depth asphalt pressure release joint to be installed in accordance with VDOT XJ-1 standard.

EXISTING ABUTMENT

PROPOSED ABUTMENT

ABUTMENT DETAIL FOR BRIDGE B629, B632 & B633



CONTINUOUS SLAB RETROFIT DETAIL

PRELIMINARY PLANS
THESE PLANS NOT TO BE USED FOR CONSTRUCTION

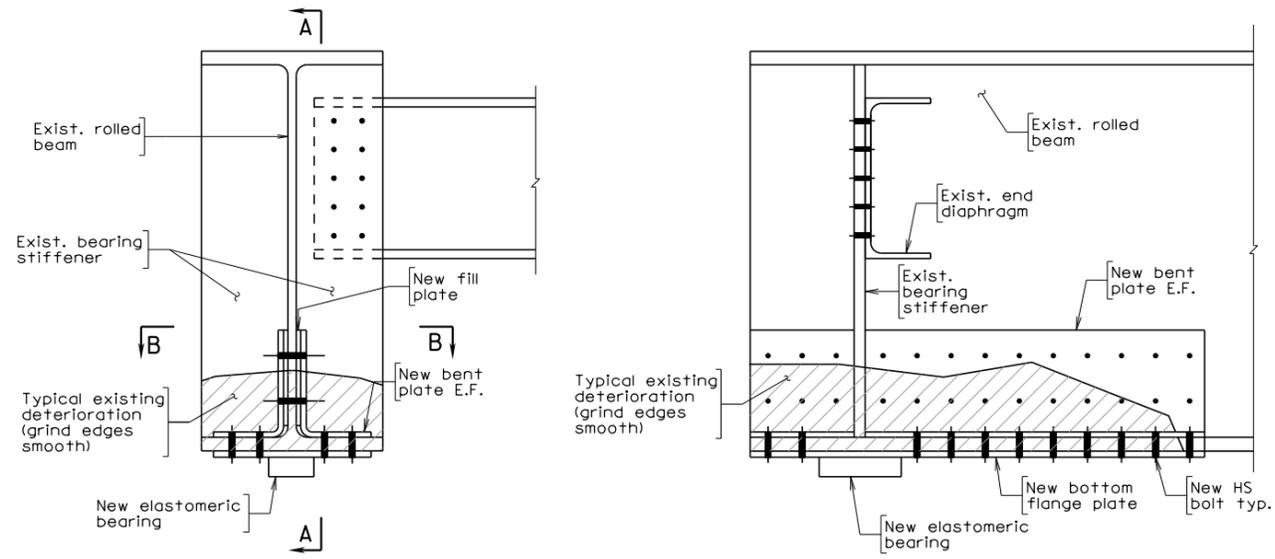
HDR ENGINEERING INC.
NORFOLK, VA.
STRUCTURAL ENGINEER

Not to scale

© 2015, Commonwealth of Virginia

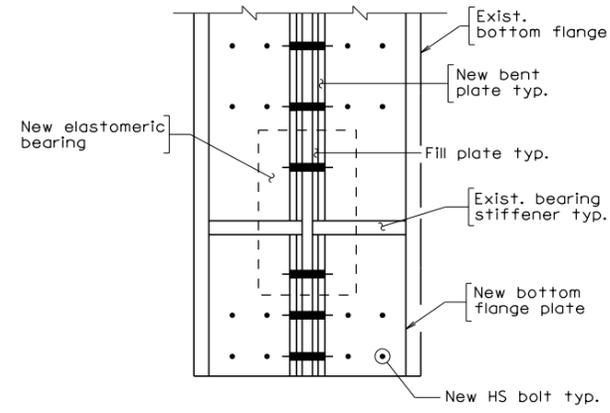
COMMONWEALTH OF VIRGINIA DEPARTMENT OF TRANSPORTATION STRUCTURE AND BRIDGE DIVISION				
ABUTMENT AND RETROFIT DETAILS				
No.	Description	Date	Designed: JM.....	Date
			Drawn: .....LM.....	Plan No.
			Checked: .....JM.....	Sheet No.
Revisions			Nov. 2015	

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

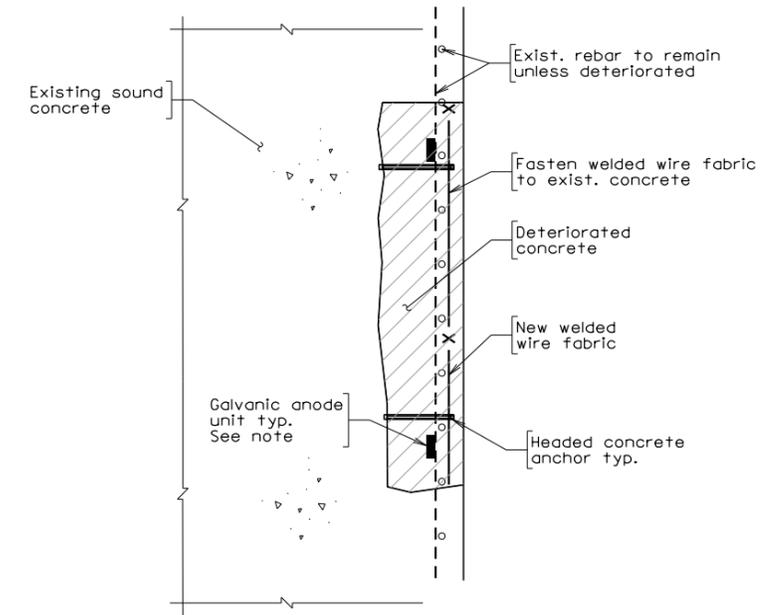


CONCEPTUAL DETAIL OF STEEL END BEAM REPAIR

SECTION A-A

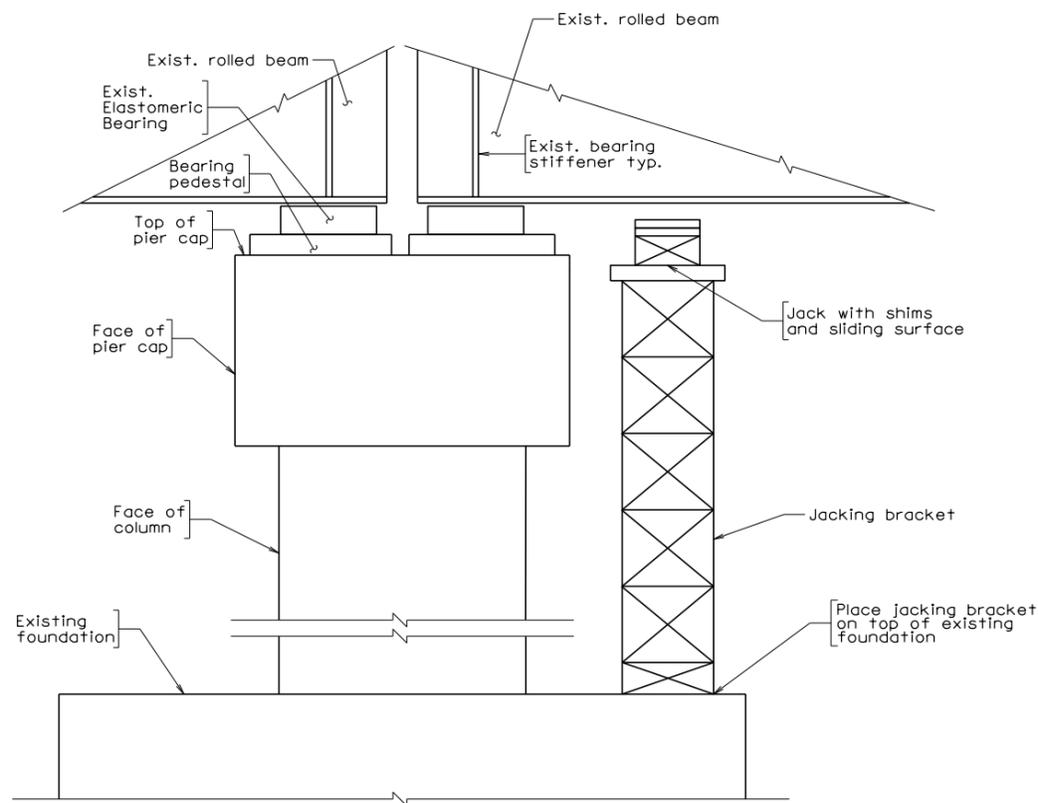


SECTION B-B

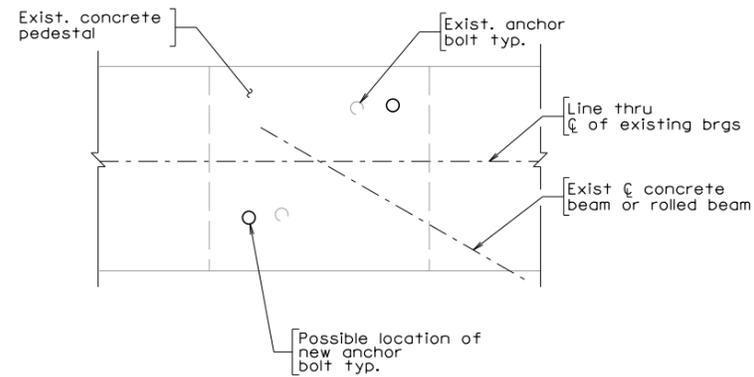


CONCEPTUAL DETAIL OF DELAMINATED SUBSTRUCTURE REPAIR

Note:
A galvanic anode unit shall comply with ASTM B418-09 or better.

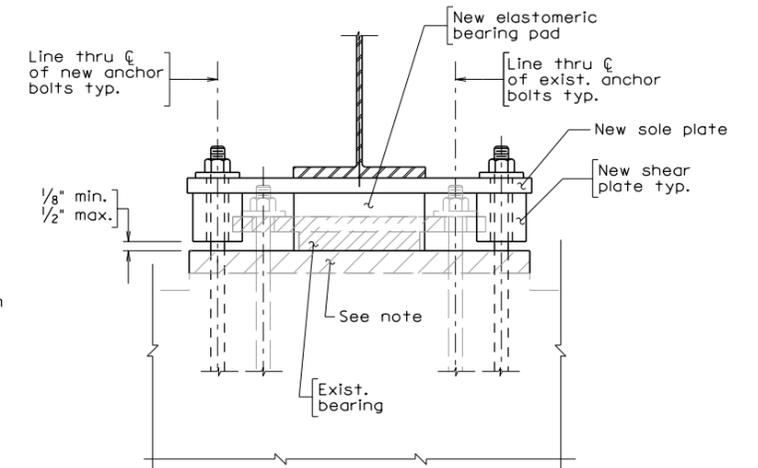


CONCEPTUAL JACKING SCHEME



CONCEPTUAL DETAIL OF ANCHOR BOLTS AND BEARING REPLACEMENT

Note:
Remove portion of exist. pedestal, only applicable for location of severe deterioration and repair pedestal to final design elevation



PRELIMINARY PLANS
THESE PLANS NOT TO BE USED FOR CONSTRUCTION

b106665_Conceptual_Repair_Details

HDR ENGINEERING INC.
NORFOLK, VA.
STRUCTURAL ENGINEER

Nor to scale

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COMMONWEALTH OF VIRGINIA DEPARTMENT OF TRANSPORTATION STRUCTURE AND BRIDGE DIVISION				
CONCEPTUAL REPAIR DETAILS				
No.	Description	Date	Designed: J.M.	Date
			Drawn: L.M.	Nov. 2015
			Checked:	
Revisions			Plan No.	Sheet No.

SECTION 4.7.1
PROPOSAL SCHEDULE

Activity ID	Activity Name	Original Duration	Start	Finish	2016												2017												2018												2019												2020											
					S	O	N	D	J	F	M	A	M	J	Jul	A	S	O	N	D	J	F	M	A	M	J	Jul	A	S	O	N	D	J	F	M	A	M	J	Jul	A	S	O	N	D	J	F	M	A	M	J														
I-64 Capacity Improvements - Seg II Proposal Schedule Ver 2.3 - 4 Ph with					751	16-Nov-15	26-Jul-19																																																									
Admin					751	16-Nov-15	26-Jul-19																																																									
A000-1000	Technical Proposal Submission Date	0	16-Nov-15*		◆ Technical Proposal Submission Date																																																											
A000-1010	Price Proposal Submission Date	0	15-Dec-15*		◆ Price Proposal Submission Date																																																											
A000-1020	Open Price Proposal	0	17-Dec-15*		◆ Open Price Proposal																																																											
A000-1030	Notice of Intent to Award	0	21-Dec-15*		◆ Notice of Intent to Award																																																											
A000-1050	Design-Build Contract Execution	0	27-Dec-15*		◆ Design-Build Contract Execution																																																											
A000-1040	CTB Approval / Notice of Award	0	20-Jan-16*		◆ CTB Approval / Notice of Award																																																											
A000-1060	NTP	0	17-Feb-16*		◆ NTP																																																											
A000-1090	Start of Construction Milestone	0	01-Jun-16		◆ Start of Construction Milestone																																																											
A000-1110	Scope Validation Complete	0		15-Jun-16	◆ Scope Validation Complete																																																											
A000-1100	PJW - Project Punchlist	45	09-May-19	26-Jul-19	■ PJW - Project Punchlist																																																											
A000-1070	Early Completion	0		26-Jul-19	◆ Early Completion																																																											
A000-1080	Final Completion	0		26-Jul-19*	◆ Final Completion																																																											
Design					286	21-Dec-15	18-May-17																																																									
Early Design					199	21-Dec-15	09-Dec-16																																																									
D000-1240	Start of Design Milestone (at Risk)	0	21-Dec-15		◆ Start of Design Milestone (at Risk)																																																											
D000-1260	Project Design Start-Up	10	21-Dec-15	05-Jan-16	■ Project Design Start-Up																																																											
D000-1270	Scope Validation Period	120	17-Feb-16	15-Jun-16	■ Scope Validation Period																																																											
D000-1250	Completion of Design Milestone	0		09-Dec-16	◆ Completion of Design Milestone																																																											
Noise Study					88	06-Jan-16	08-Jun-16																																																									
D000-1000	Soundwall Analysis Report	50	06-Jan-16	15-Mar-16	■ Soundwall Analysis Report																																																											
D000-1010	Soundwall Analysis Report, VDOT Review 100% 1st Submittal	21	16-Mar-16	05-Apr-16	■ Soundwall Analysis Report, VDOT Review 100% 1st Submittal																																																											
D000-1020	Revise Soundwall Analysis Report, 1st Submittal	20	06-Apr-16	03-May-16	■ Revise Soundwall Analysis Report, 1st Submittal																																																											
D000-1030	Soundwall Analysis Report, VDOT Review 100% 2nd Submittal	21	04-May-16	24-May-16	■ Soundwall Analysis Report, VDOT Review 100% 2nd Submittal																																																											
D000-1040	Revise Soundwall Analysis Report, 2nd Submittal	5	25-May-16	01-Jun-16	■ Revise Soundwall Analysis Report, 2nd Submittal																																																											
D000-1050	Soundwall Analysis Report, VDOT Approved for Construction	7	02-Jun-16	08-Jun-16	■ Soundwall Analysis Report, VDOT Approved for Construction																																																											
PICP					83	06-Jan-16	31-May-16																																																									
D000-2590	Develop Public Information and Communications Plan (PICP)	90	06-Jan-16	10-May-16	■ Develop Public Information and Communications Plan (PICP)																																																											
D000-2600	VDOT Review & Approve PICP	21	11-May-16	31-May-16	■ VDOT Review & Approve PICP																																																											
Design QC Plan					52	06-Jan-16	05-Apr-16																																																									
D000-1060	Design Quality Management Plan	30	06-Jan-16	16-Feb-16	■ Design Quality Management Plan																																																											
D000-1070	Design Quality Management Plan, VDOT Review (Interim)	21	17-Feb-16	08-Mar-16	■ Design Quality Management Plan, VDOT Review (Interim)																																																											
D000-1090	Design Quality Management Plan, Comment Resolution & Revise	15	09-Mar-16	29-Mar-16	■ Design Quality Management Plan, Comment Resolution & Revise																																																											
D000-1110	Design Quality Management Plan, VDOT Approved as Final	7	30-Mar-16	05-Apr-16	■ Design Quality Management Plan, VDOT Approved as Final																																																											
ROW Acquisition Plan					52	06-Jan-16	05-Apr-16																																																									
D000-1120	Right-of-Way Acquisition Plan	30	06-Jan-16	16-Feb-16	■ Right-of-Way Acquisition Plan																																																											
D000-1130	Right-of-Way Acquisition Plan, VDOT Review (Interim)	21	17-Feb-16	08-Mar-16	■ Right-of-Way Acquisition Plan, VDOT Review (Interim)																																																											
D000-1150	Right-of-Way Acquisition Plan, Comment Resolution & Revise	15	09-Mar-16	29-Mar-16	■ Right-of-Way Acquisition Plan, Comment Resolution & Revise																																																											
D000-1170	Right-of-Way Acquisition Plan, VDOT Approved as Final	7	30-Mar-16	05-Apr-16	■ Right-of-Way Acquisition Plan, VDOT Approved as Final																																																											
Utility Relocation Plan					107	06-Jan-16	14-Jul-16																																																									
D000-1180	Utility Relocation Plan	30	06-Jan-16	16-Feb-16	■ Utility Relocation Plan																																																											
D001-1000	Subsurface Utility Exploration	135	06-Jan-16	14-Jul-16	■ Subsurface Utility Exploration																																																											
D000-1190	Utility Relocation Plan, VDOT Review (Interim)	21	17-Feb-16	08-Mar-16	■ Utility Relocation Plan, VDOT Review (Interim)																																																											
D000-1210	Utility Relocation Plan, Comment Resolution & Revise	15	09-Mar-16	29-Mar-16	■ Utility Relocation Plan, Comment Resolution & Revise																																																											
D000-1230	Utility Relocation Plan, VDOT Approved as Final	7	30-Mar-16	05-Apr-16	■ Utility Relocation Plan, VDOT Approved as Final																																																											
Geotechnical & Survey					83	06-Jan-16	31-May-16																																																									
D001-1110	Geotechnical Field Services	60	06-Jan-16	29-Mar-16	■ Geotechnical Field Services																																																											
D001-1120	Survey	90	06-Jan-16	10-May-16	■ Survey																																																											
D001-1030	Geotechnical Analysis and Preliminary Recommendations	80	20-Jan-16	10-May-16	■ Geotechnical Analysis and Preliminary Recommendations																																																											
D001-1020	Geotechnical Laboratory Services	65	10-Feb-16	10-May-16	■ Geotechnical Laboratory Services																																																											
Geotech Data Report					51	03-Feb-16	03-May-16																																																									

■ Remaining Level of Effort
 ■ Remaining Work
 ◆ Milestone
■ Actual Work
 ■ Critical Remaining Work

