

Submitted to:

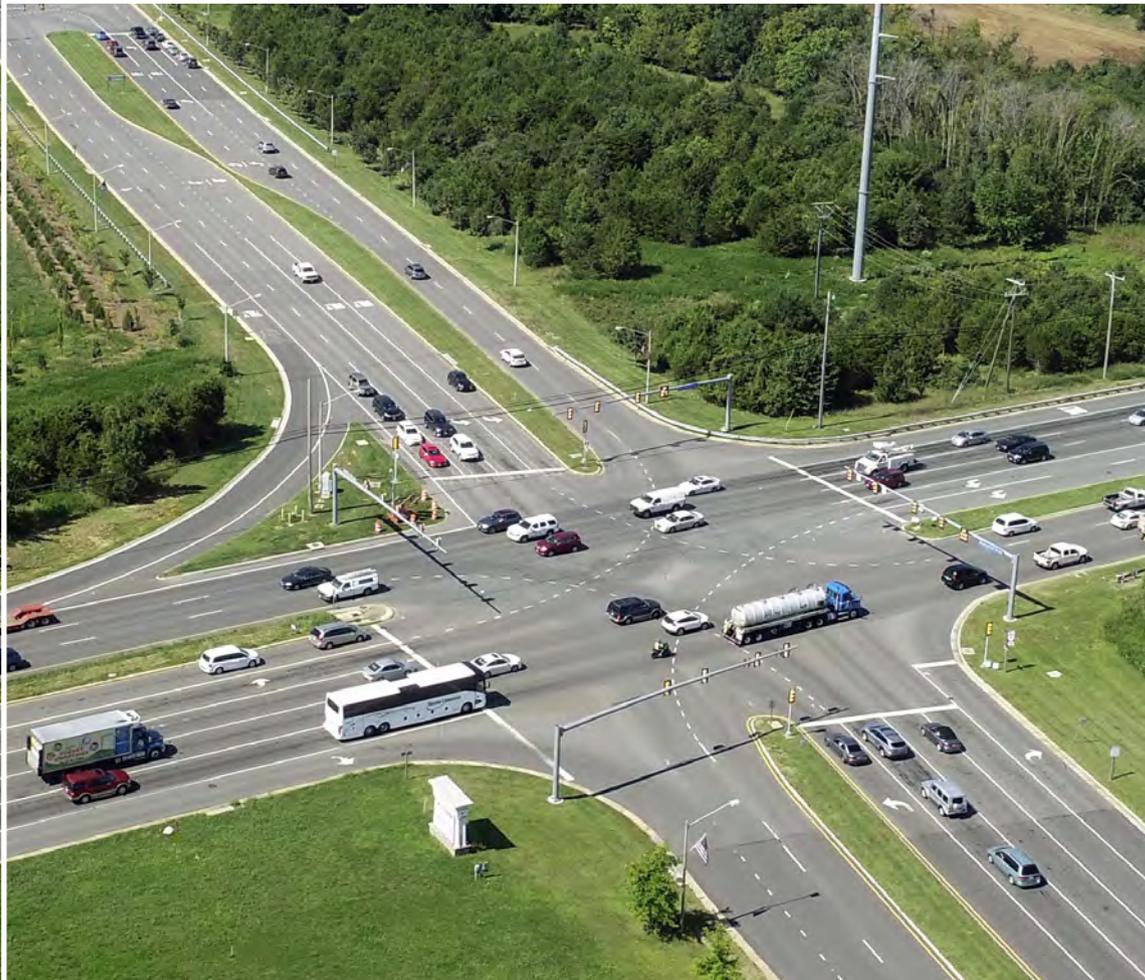


Electronic Copy

Route 7 and Battlefield Parkway Interchange

Town of Leesburg, Virginia

Project No. 0007-253-109 | Contract ID# C00106573DB101



Offeror:



in association with



Technical Proposal Volume I

General Construction | Heavy Civil | Geotechnical

4.1

Letter of Submittal





General Construction | Heavy Civil | Geotechnical

November 27, 2018

Stephen D. Kindy, PE
Alternative Project Delivery Division
Virginia Department of Transportation
1401 East Broad Street
Richmond, VA 23219

**Re: Route 7 and Battlefield Parkway Interchange
Design-Build Project**
State Project No.: 0007-253-109, P101, R201, C501, B601
Federal Project No.: STP-5A01(704)
Contract ID Number: C00106573DB101

Dear Mr. Kindy: Wagman Heavy Civil, Inc. (Wagman), in association with Parsons Transportation Group Inc. (Parsons), is pleased to submit its technical proposal for the Route 7 and Battlefield Parkway Interchange Design-Build (D/B) Project, in Leesburg, Virginia. In accordance with the letter of submittal requirements for Section 4.1, our team offers the following additional information for review:

4.2.1 Offeror’s Full Legal Name and Address. Wagman Heavy Civil, Inc., 3290 N. Susquehanna Trail, York, PA 17406, is the legal entity that will execute the contract with the Virginia Department of Transportation (VDOT).

4.2.2 Declaration of Intent. If selected, Wagman intends to enter into a contract with VDOT for this project in accordance with the terms of the RFP.

4.2.3 120-Day Declaration. Pursuant to Part 1, Section 8.2, Wagman declares the offer presented in the technical and price proposals will remain in full force and effect for 120 days following the technical-proposal submission date.

4.2.4 Point of Contact

Anthony W. Bednarik, Vice President
3290 North Susquehanna Trail
York, PA 17406-9754
T. 717.764.8521
F. 717.767.5457
E. awbednarik@wagman.com

4.2.5 Principal Officer

Greg Andricos, President/COO
3290 North Susquehanna Trail
York, PA 17406-9754
T. 717.767.8292
F. 717.767.5546
E. gmandricos@wagman.com

4.2.6 Final Completion Date. Wagman’s proposed final completion date is November 23, 2021. Wagman is committed to completing the project one week ahead of schedule and before the Thanksgiving holiday.

4.2.7 Unique Milestone Dates. Wagman is proposing a unique milestone: Battlefield Detour will be 309 calendar days.

4.2.8 Proposal Payment Agreement. An executed Proposal Payment Agreement (Attachment 9.3.1) is included in the Appendix.

4.2.9 Certification Regarding Debarment Forms. Attachments 11.8.6(a) and 11.8.6(b) are included in the Appendix.

4.2.10 Commitment to Achieving Disadvantaged Business Enterprise (DBE) Participation Goal. Wagman is committed to achieving the 13 percent DBE participation goal for the entire value of the contract.

Wagman, Parsons, and the proposed individual staff members have a solid, long-term work history of teaming and partnering on transportation projects, most notably, the Maryland State Highway Administration’s Intercounty Connector Contract B Design-Build project, which included a single-point urban interchange (SPUI). Thank you for the opportunity to submit our technical proposal.

Sincerely,


Anthony W. Bednarik, DBIA

Vice President, Major Pursuits/Design-Build

4.2

Offeror's Qualifications



4.2 | Offeror’s Qualifications

Pursuant to Part 1, Section 11.4 of the RFP documents, Wagman submitted to the Virginia Department of Transportation (VDOT) for approval on August 3, 2018, changes to individuals identified in our SOQ. Our team’s key personnel and organization remain consistent with our SOQ. However, due to voluntary termination of employment, overseas transfer, and current workload, we submitted the following changes for review and approval:

- **Lead Structural Engineer** | Amir Arab, PE, PhD (voluntary termination of employment), changing to Kia Nejad, PE
- **Landscape Architect** | Craig Richardson, RLA (voluntary transfer to overseas office), changing to Jeffrey Lormand, RLA
- **Environmental and Permitting** | Stuart Tyler, PE (unavailable due to workload), changing to Steve Walter

We also proposed a value-added position to our team with Parsons’ Krishna Potturi, PE, serving as the Deputy Design Manager.

Of further significance and value to VDOT, several of our project team members identified on the SOQ Organization Chart (Figure 4.2-1) were part of an integrated design-build (D/B) team that delivered VDOT’s **Route 7 Interchange D/B Project over the Dulles Toll Road**, in Tyson’s Corner, and/or the **Intercounty Connector Contract B D/B** project, in Montgomery County, Maryland, which included a single-point urban interchange (SPUI) at MD 650 and New Hampshire Avenue. These project team members who served in the same or similar role include the following:

- **Principal Officer** | Greg Andricos
- **Construction Manager** | David Leber
- **D/B Coordinator** | Jerry Whitlock
- **Assistant D/B Coordinator (SPUI)** | Brian Gabsewics

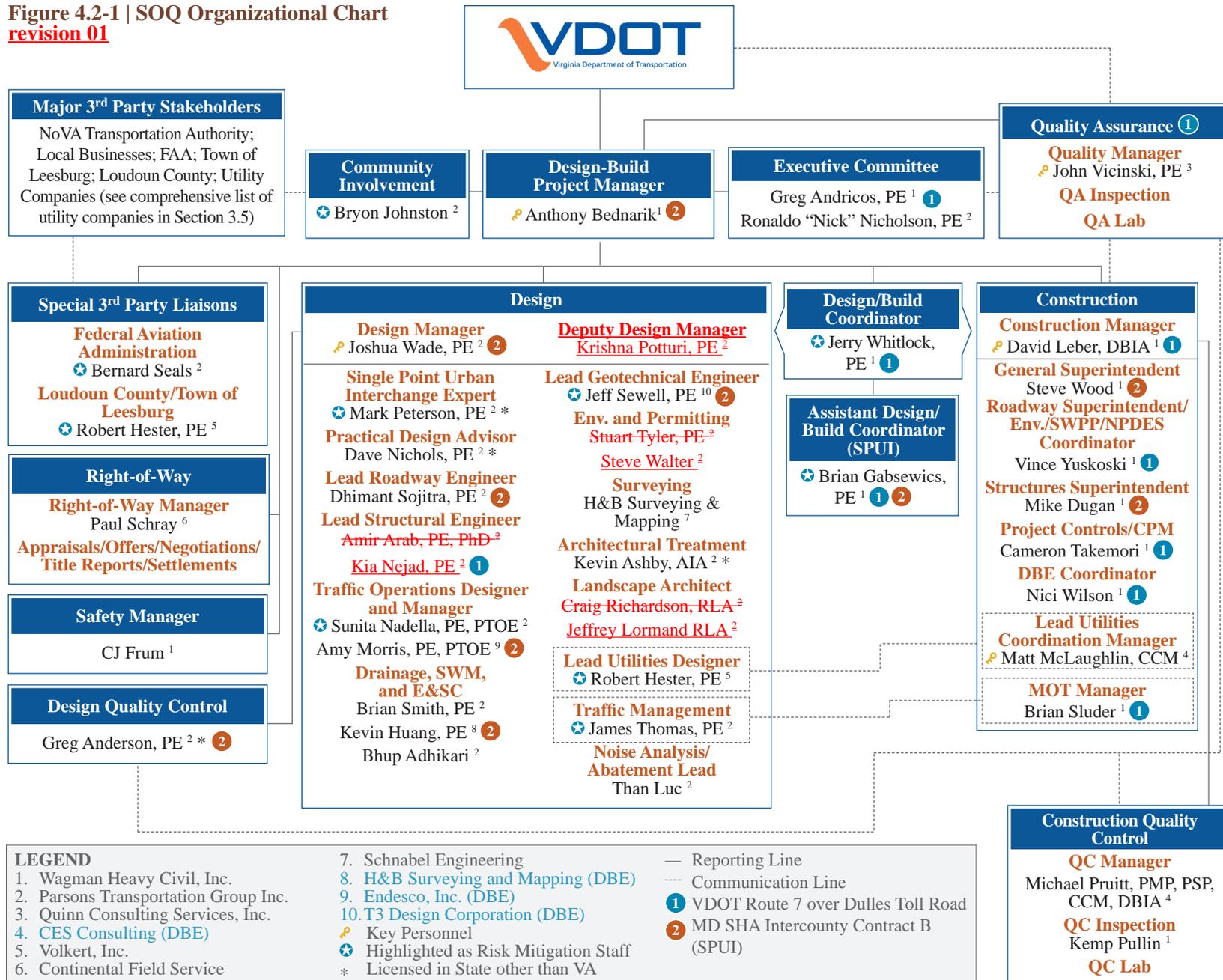
- **General Superintendent** | Steve Wood
- **Project Controls/CPM** | Cameron Takemori
- **DBE Coordinator** | Nici Wilson
- **MOT Manager** | Brian Sluder
- **ESCM** | Vince Yuskoski
- **Structural Engineer** | Kia Nejad
- **Independent Quality Assurance** | Quinn Consulting
- **D/B Project Manager** | Anthony Bednarik
- **Design Manager** | Joshua Wade
- **Design Quality Control** | Greg Anderson
- **Geotechnical Engineer** | Jeff Sewell
- **Roadway Engineer** | Dhimant Sojitra
- **Traffic Operations Designer** | Amy Morris
- **Drainage Engineer** | Kevin Huang
- **Assistant D/B Coordinator (SPUI)** | Brian Gabsewics
- **General Superintendent** | Steve Wood
- **Structures Superintendent** | Mike Dugan

Through these relevant experiences our firms have come to know each other’s corporate values and culture, but most importantly, our firms know how to work together and provide VDOT confidence and added value in the following areas:

ADDED VALUE	 Stakeholder Coordination	 Cost
	 Quality	 Schedule
	 Safety and Environmental Health	

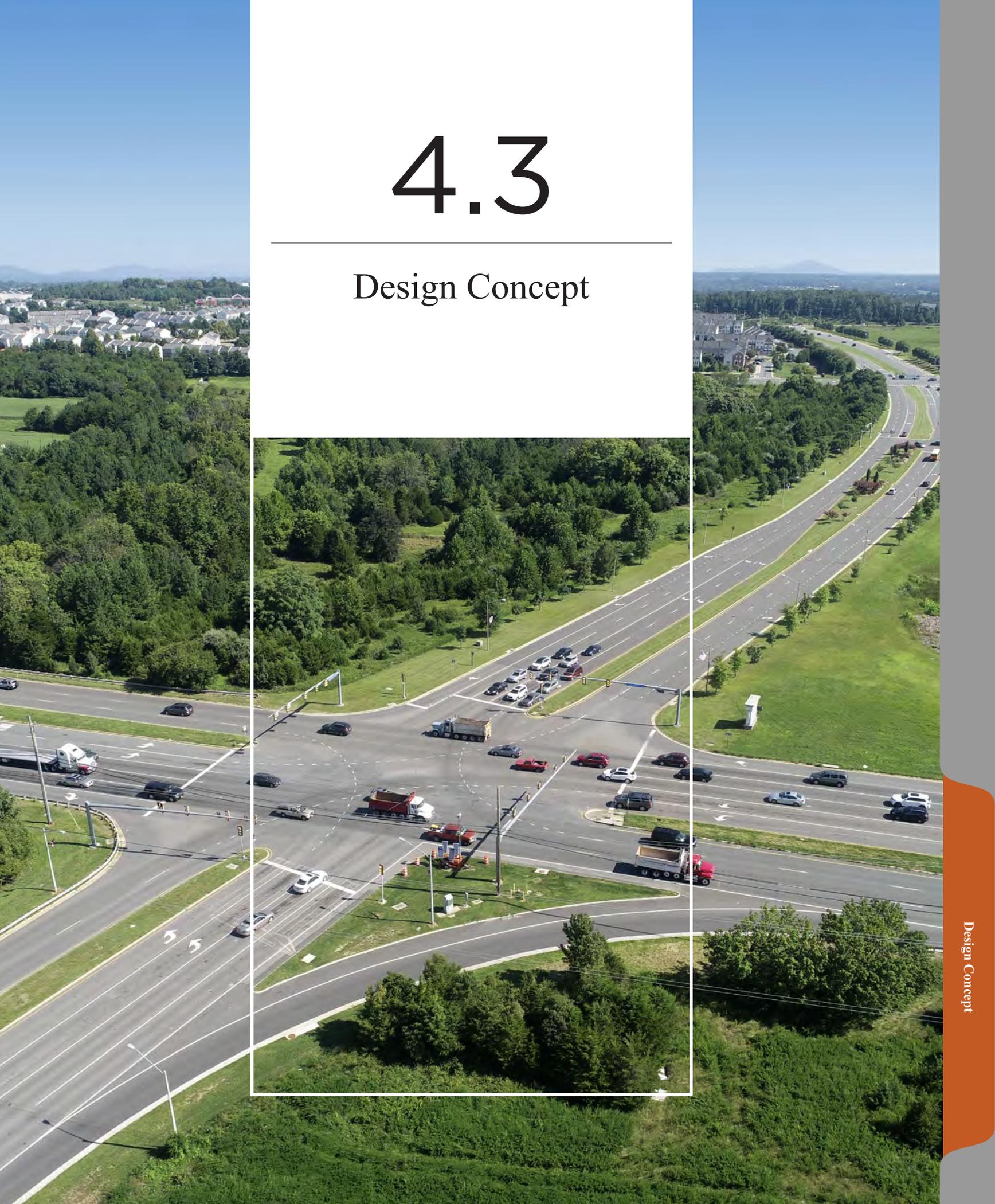
Provided on the following page is our revised SOQ Organization Chart with red-line markup of VDOT-accepted changes. Written approval was provided by VDOT on October 10, 2018. A copy of the letter is included in the Appendix to Volume 1 of the technical proposal.

Figure 4.2-1 | SOQ Organizational Chart
revision 01



4.3

Design Concept



4.3 | Design Concept

The Wagman Design-Build Team — *Who we are*

Our team is excited to have collaborated with the Virginia Department of Transportation (VDOT) through multiple 1-on-1 meetings to enhance the design for the proposed Route 7 and Battlefield Parkway Interchange project (the Project). We have proposed several enhancements such as the enhanced single-point urban interchange (SPUI) geometry, reduced bridge deck, and minimized impacts to right-of-way (ROW), utilities, and the traveling public. In the past decade, Wagman Heavy Civil, Inc. (Wagman), and Parsons Transportation Group Inc. (Parsons) have collaborated to successfully deliver more than \$1 billion of regional key infrastructure projects through design-build (D/B) delivery. The experience our firms and key staff members have gained in working together on similar projects creates efficiencies that will prove beneficial to VDOT, the Town of Leesburg, and project stakeholders.

Our team is led by key staff members Anthony Bednarik (Design-Build Project Manager [DBPM]) and Josh Wade (Design Manager [DM]), who have direct relevant experience working together and providing award-winning best-value D/B solutions including the SPUI on New Hampshire Avenue on the **Intercounty Connector Contract B D/B (ICC B)** project in the very politically active and engaged community of Silver Spring, Maryland.

In addition, the timing of this procurement offers a great opportunity for Wagman to build on the relationships fostered among our design, quality, and construction professionals with VDOT Northern Virginia (NOVA) staff in the expedited delivery of the \$42 million **Route 7 Interchange D/B Project over the Dulles Toll Road (Route 7 Interchange over DTR)**, in Tyson’s Corner. Supporting Anthony and Josh on the Project are 10 individual team members from that highly visible and successful project, eight of whom are serving in the exact same role.

Along with a great working relationship with VDOT NOVA’s design staff (L&D, Traffic, Structures, H&H) and construction staff, our Construction Manager (Dave Leber) worked on a weekly basis with the NOVA District Senior Public Affairs Officer (Ellen Kasimillas) to provide the public outreach for the highly visible **Route 7 Interchange over DTR** and was able to partner with VDOT and Fairfax County Supervisor Foust’s office to enhance our base design to satisfy numerous stakeholders including: the County, Metropolitan Washington Airports Authority (MWAA), Washington Metropolitan Area Transit Authority (WMATA), bicyclist coalitions, and commercial and residential property owners (including a highly sophisticated and politically connected home owner’s association). Also, our Erosion Sediment Control Manager (Vince Yuskoski) worked directly with the NOVA District National Pollutant Discharge Elimination System (NPDES) Coordinator (Marian Carroll) to develop and implement numerous best practices related to erosion and sediment control, specifically mapping and logging of all disturbed areas and making notations for interim activities on the C107 for action within 7 days.

Quinn Consulting will again serve in the independent quality assurance (QA) role as it did on the **Route 7 Interchange over DTR**, so there will be no learning curve related to the implementation of VDOT’s D/B Performance Evaluation Program. Throughout this proposal our team will demonstrate why our proven capabilities and proactive approach to turnkey D/B management will provide overall added value to VDOT’s confidence in the following areas:

ADDED VALUE	 Stakeholder Coordination	 Cost
	 Quality	 Schedule
	 Safety and Environmental Health	

Design Concept Overview

The Project presents an opportunity for our team to bring creative ideas that enhance safety while reducing costs to the Commonwealth of Virginia. Our team evaluated the RFP concept and alternatives developed by VDOT’s preliminary engineering team and discussed an Alternative Technical Concept and several design enhancements with the VDOT team through 1-on-1 meetings. The ATC shown on page 70 of this proposal, offers several benefits to VDOT, Town of Leesburg and other stakeholders. However the procurement schedule did not allow enough time to gain prior approval from the Town Council. With VDOT’s concurrence, our team is prepared to present this concept as a Value Engineering Proposal.

Nevertheless, based on the feedback received from VDOT through 1-on-1 meetings, we have developed several design enhancements that are summarized in Figure 4.3-2 on the following page. Our proposed design enhancements provide several value-added benefits to the Project, VDOT, and multiple stakeholders by reducing the project cost and future maintenance costs, and by reducing the temporary and permanent impacts to the stakeholders and adjacent landowners. Specific detail is included in Sections 4.3.1 (Conceptual Roadway Plans), 4.3.2 (Conceptual Structural Plans) and Volume II. Our technical proposal and concept are fully compliant with the RFP and also do the following:

- Meet or exceed the Project’s intended scope of work and all requirements listed in the design criteria table and the RFP
- Ensure that the limits of construction, including stormwater management facilities, are within the existing/proposed ROW limits shown in the RFP’s conceptual plans with the exception of permanent and temporary easements
- Do not include design elements that require design exceptions and/or design waivers other than the ones identified or included in the RFP
- Preserve the existing median space on Route 7 and provide additional width for future Route 7

widening to the outside as shown in the RFP, Part 2, Attachment 2.2c

4.3.1 Conceptual Roadway Plans

The design and construction work for the Project will be performed in accordance with the applicable VDOT, AASHTO, and Town of Leesburg standards, specifications, and reference documents listed in Section 2.1 of Part 2 of the RFP, and in accordance with our Conceptual Roadway Plans presented in Volume II of this technical proposal (which meet the RFP, VDOT, and AASHTO requirements).

Roadway Design Enhancements

Our roadway design enhancements are developed to achieve the Project’s purpose, which is to alleviate congestion on Route 7, improve traffic operations, and improve safety and pedestrian/vehicle flow.

Design Enhancement #1



Optimized Ramp A Alignment

- 1 Reduced the height of the retaining wall along Ramp A from 20 feet to 15 feet.

Our conceptual design realigns the right turn from Battlefield Parkway northbound to Ramp A (Figure 4.3-1). The revised right turn radius is 216 feet (minimum required by design criteria is 160 feet). By realigning this right-turn geometry, we are able to reduce the height of the retaining wall from 20 feet to 15 feet along Ramp A.

Figure 4.3-1 | Optimized Ramp A Alignment

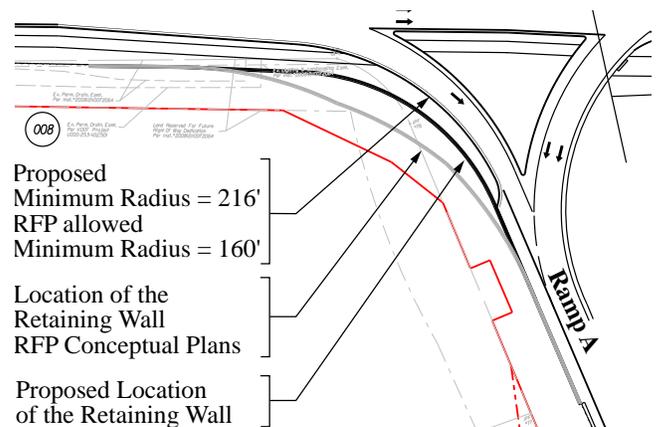
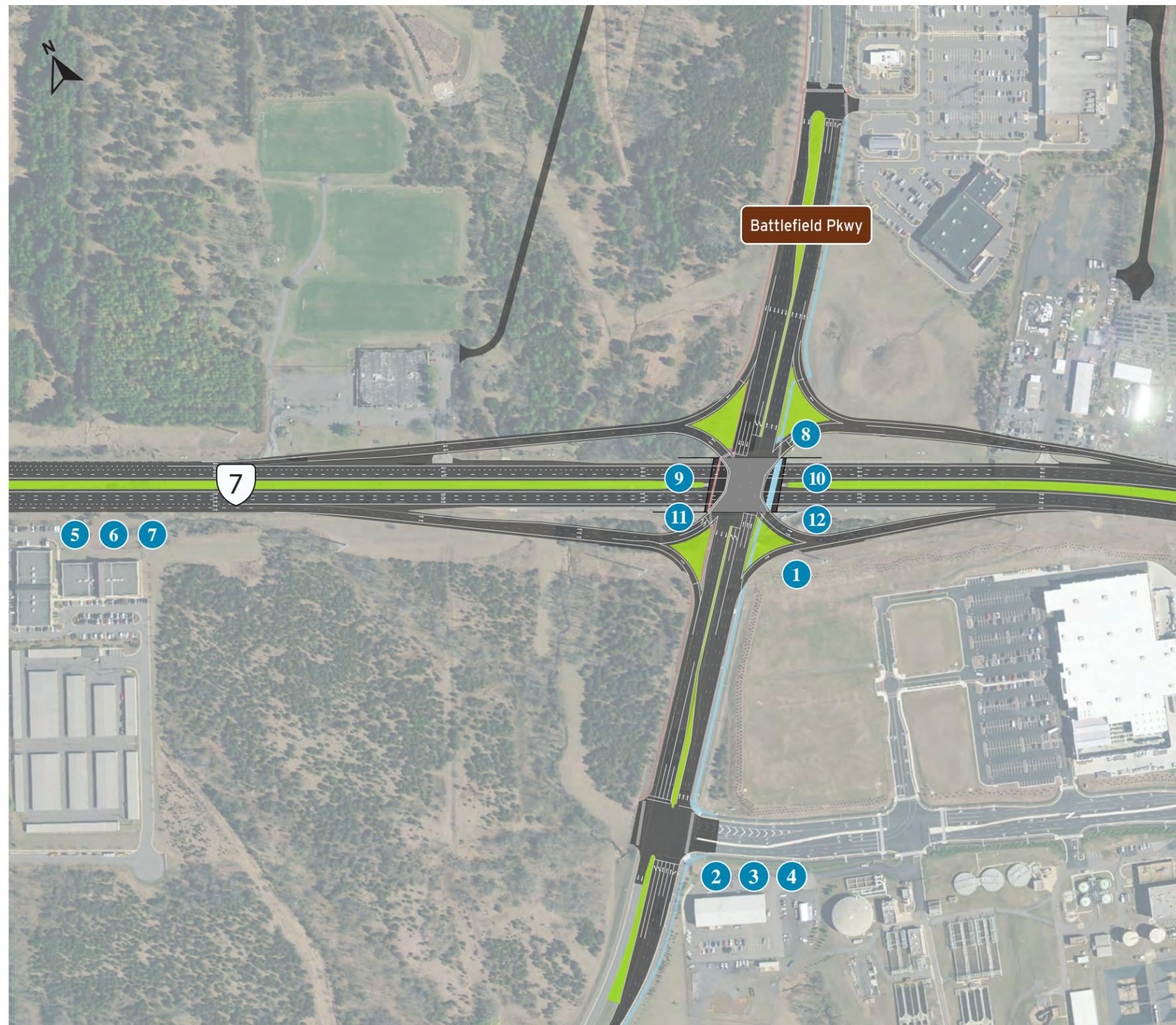


Figure 4.3-2 | Summary of Wagman/Parsons Design-Build Team Design Enhancements



ID	ENHANCEMENT	BENEFIT	ADDED VALUE		
1	Optimized Ramp A Alignment	Reduced height of the proposed retaining wall from 20 feet to 15 feet for 200 feet along Ramp A	✓	✓	✓
2	Realigned Battlefield Parkway Northbound at Russell Branch Parkway	Eliminated impact to existing retaining wall on the SE quadrant	✓	✓	✓
3		Eliminated all temporary and permanent impacts on Loudoun Water property (Parcel 007) including impacts to parking and operations	✓	✓	✓
4		Eliminated massive excavation and use of layered geogrid reinforcement shown on RFP plans	✓	✓	✓
5		Reduced ROW take on Parcel 004 by 2,426 SF	✓	✓	
6	Replaced curb and gutter/guardrail with a concrete barrier from Sta. 1026+50 to Sta. 1035	Eliminated ROW take of 6,700 SF on Parcel 005	✓	✓	✓
7		Eliminated conflict with overhead power poles and associated communication lines	✓	✓	✓
8	Pedestrian and bicycle enhancements at the SPUI	Provided enhanced and safer pedestrian and bicycle crossings at right-turn ramps	✓		
9	Reduced bridge deck area	Reduced bridge deck area from 40,320 SF to 37,410 SF		✓	✓
10	Conventional bridge (eliminated wings)	Eliminated complex structure and framing needed for the RFP bridge		✓	✓
11	Eliminated longitudinal joints	Eliminated longitudinal joints, thereby not requiring a design waiver		✓	
12	Fully integral abutment	Eliminated bearings by using a fully integral abutment with deck extensio		✓	

ADDED VALUE

Stakeholder Coordination	Cost	Schedule
Mitigated project risk and reduced impact*	Reduced project cost and future maintenance	Reduced construction schedule and/or schedule risk

* Reduced impact includes reduction in temporary impact during construction or reduction in permanent impact to the adjacent landowners or other stakeholders because of the final project footprint or operations from MOT

Based on our meeting with Peterson Companies and their engineer, Bohler Engineering, we understand that there is a strong desire from the landowner to retain as much of their land as possible for the planned development. Revising the geometry allowed us to not only reduce the height of the wall but also to minimize the permanent impact on Lowe’s property thereby allowing maximum flexibility for the development of this property. Our enhanced design does the following:

- **Reduces** initial construction cost
- **Reduces** long term maintenance cost
- **Offers** schedule savings for this activity
- **Reduces** impact to adjacent property

widen Battlefield Parkway toward the median to accommodate the proposed typical section of three through, two left, and one right-turn lanes (Figure 4.3-3). This realignment does not preclude future construction of a fourth lane in the median along Battlefield Parkway southbound for future implementation of the six-lane ultimate roadway typical for Battlefield Parkway. Our enhanced design does the following:

- **Reduces** initial construction cost
- **Reduces** long term maintenance cost
- **Eliminates** impact to adjacent land owner, Loudoun Water
- **Offers** schedule savings for this activity
- **Mitigates** risk associated with existing retaining wall

Design Enhancements 2–4

Realigned Northbound Battlefield Parkway at Russell Branch Parkway

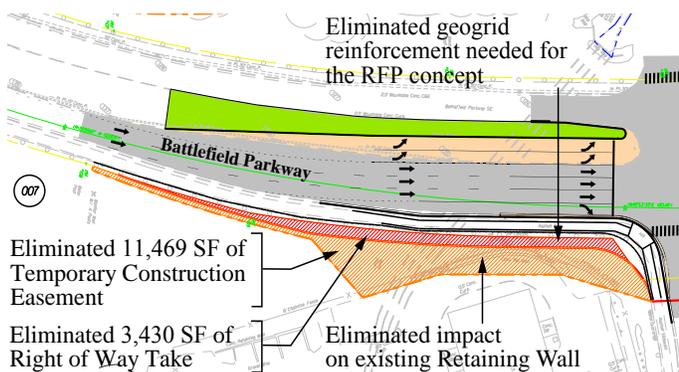
- 2 Eliminated any impact to the existing retaining wall and construction of segmental block retaining wall
- 3 Eliminated 3,430 SF of ROW take, 11,469 SF of temporary construction easement (TCE), and temporary impacts to the parking area and operations on Loudoun Water property (Parcel 007)
- 4 Limited all the widening in this area to the median and eliminated the need for performing a massive excavation operation and use of geogrid reinforcement material

Design Enhancements 5–7

Replaced curb and gutter/guardrail with a concrete barrier (Sta. 1026+50 to Sta. 1035)

- 5 Reduced 2,426 SF of ROW take on Parcel 004
- 6 Eliminated 6,700 SF of ROW take on Parcel 005
- 7 Eliminated conflict with overhead power poles and associated communication lines

Figure 4.3-3 | Realigned Northbound Battlefield Parkway at Russell Branch Parkway



Our team is proposing use of a concrete barrier, VDOT standard MB-7F, on the outside along Route 7 eastbound lanes from Sta. 1026+50 to Sta. 1035. With this enhancement, we are able to reduce the cut fill limits and right of way impact on parcels 004 and 005. We also are able to avoid impact to six existing overhead poles carrying Dominion, Verizon, Comcast, CenturyLink and Cavalier lines. Our enhanced design does the following:

- **Reduces** initial construction cost
- **Provides** ROW savings on parcels 004 and 005
- **Offers** schedule savings for this activity
- **Reduces** impacts to adjacent landowners
- **Minimizes** impacts to utilities

Our conceptual design realigns Battlefield Parkway northbound at Russell Branch Parkway and will

Design Enhancement 8

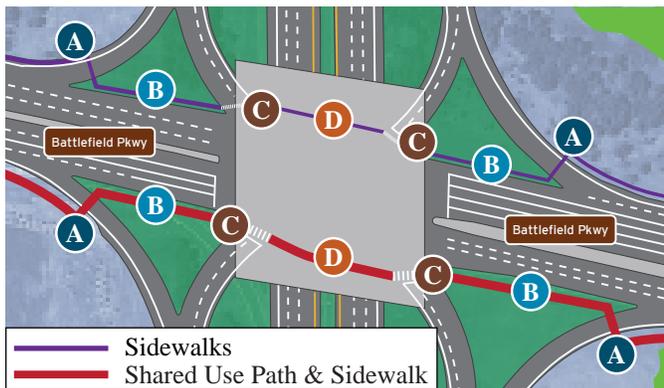


SPUI Pedestrian and bicycle enhancements

- 8 Provided enhanced and safer pedestrian and bicycle crossings at right turn ramps

The 5-foot sidewalk and the 10-foot shared-use path proposed on Battlefield Parkway are an integral part of our overall interchange design (Figure 4.3-4). We evaluated the sight distances/visibility and interaction between vehicles and pedestrians in particular at the unsignalized crossings on the right-turn ramps. Our design enhancement realigned the crossings to be perpendicular to all four right-turn ramps. The size and signal phasing of the SPUI also make it more difficult for pedestrians to cross a SPUI. Our design will ensure that pedestrian-signal heads and timings are incorporated in the design and that the location of pedestrian poles and pushbuttons are Americans With Disability Act (ADA) compliant. **Our enhanced design offers safer crossings for pedestrians and bicyclists**

Figure 4.3-4 | Pedestrian and Bicycle Enhancements at the SPUI



- A** Pedestrian crosses RTL at a point with good visibility; Drivers yield to pedestrians; Our enhanced design provides additional pedestrian signage
- B** Pedestrian proceeds on island with adequate refuge area provided for safety
- C** Signal controlled pedestrian and cyclist crossing
- D** Sidewalk and shared use path on bridge separated by safety bollards in accordance with the RFP

A. General Roadway Geometry

Our design concept constructs an SPUI underpass where Route 7 remains at grade in its existing configuration while Battlefield Parkway will be elevated over Route 7. The roadways are categorized and designed as noted in Figure 4.3-5.

Figure 4.3-5 | General Geometry

Roadway	Category	Geometric Standard	Design Speed (mph)
Route 7	Urban Other Principal Arterial	VDOT GS-5	60
Interchange Ramps	Ramps	VDOT GS-R	35
SPUI turns	—	RFP Attachment 2.2.b Part 2	—
Battlefield Parkway	Urban Minor Arterial	VDOT GS-6	45

Keystone Drive and West Driveway will be constructed to provide access to properties that currently have access on Route 7. A commercial entrance from Keystone Drive to the Potomac Station Shopping Center will be designed and constructed to replace the existing right-in/right-out immediately to the west of the proposed Keystone Drive. Because this entrance provides access to loading docks for deliveries to the businesses in the Potomac Station Crossing, the entrance is designed to accommodate WB-67s. West Driveway will be constructed to provide access to Model Home Furniture and Consignment Solutions, in the northwest quadrant of the intersection. The Project also removes the existing signal at Route 7 and Cardinal Park Drive and provides right-in/right-out access at Cardinal Park Drive.

B. Horizontal Alignments

We optimized the horizontal geometry of the left-turn ramps and the right-turn spurs taking into consideration pedestrian and bicycle crossings, placement of signals, stopping sight distance, and sight distance around the corners of the ramps. The revised horizontal alignment data is shown in Volume II of this technical proposal.

Although a WB-67 truck is used as the design vehicle for the proposed roadway improvements, all four dual-left-turn movements at the SPU are designed for an SU-40 design vehicle (inside-turning vehicle) in conjunction with a WB-67 (outside-turning vehicle) in accordance with the RFP. A minimum 4 feet of separation is provided between the turning paths and 10 feet of separation is provided between opposing vehicles in accordance with the AASHTO Greenbook. Fifteen-foot receiving lanes are provided for all dual-left-turn lanes in accordance with the VDOT Road Design Manual. **As a value-added enhancement, we will provide additional advisory signs to inform trucks to stay in the outside lane when making left turns.**

C. Vertical Alignments – Maximum Grade for all Segments and Connectors

The vertical alignments for the various interchange roadways meet the minimum design criteria. Proposed profiles are depicted in the conceptual plans shown in Volume II. On Route 7, the vertical profile is developed to match existing grades closely to minimize the amount of variable depth overlay, and to transition to the existing grades at the project limits. Our proposed vertical alignment for Battlefield Parkway is designed to provide a minimum of 16 feet, 6 inches of vertical clearance over the ultimate Route 7 typical section. This allows

for future widening of Route 7 in the eastbound and westbound directions.

D. Typical Sections

The typical sections include all the features required by the RFP; the proposed minimum pavement sections are in accordance with the RFP requirements. Battlefield Parkway (Figure 4.3-6) will be reconstructed to accommodate three through lanes, dual-left-turn lanes in each direction, a 5-foot sidewalk on the west side, and a 10-foot shared-use path (SUP) on the east side. The overall width of Battlefield Parkway from hinge point to hinge point is 161 feet. The construction of the sidewalk and the SUP will create continuous bicycle and pedestrian facilities that comply with the Town of Leesburg’s Bicycle/Pedestrian Facilities Policy Map and provide connectivity to the Washington and Old Dominion (W&OD) trail, which crosses Battlefield Parkway less than half a mile from Russell Branch Parkway.

Route 7 (Figure 4.3-7) will be widened on both sides to provide auxiliary lanes and full-width shoulders. All lanes on Route 7 are a minimum of 12 feet wide with 8-foot paved shoulders. For the interchange ramps (Ramps A, B, C, and D), a minimum lane width of 16 feet is provided for single-lane ramps and 24 feet for dual-lane ramps with 4-foot-inside and 8-foot-outside paved shoulders, consistent with the RFP.

Figure 4.3-6 | Battlefield Parkway Typical Section

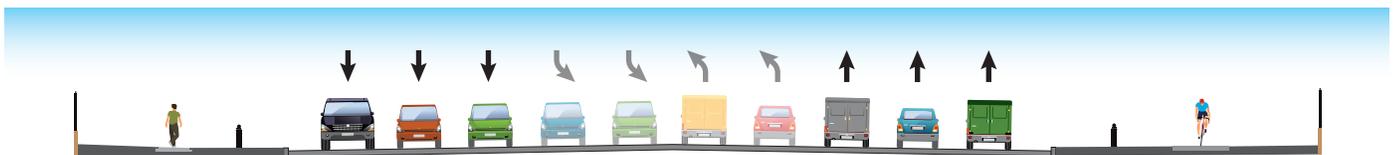
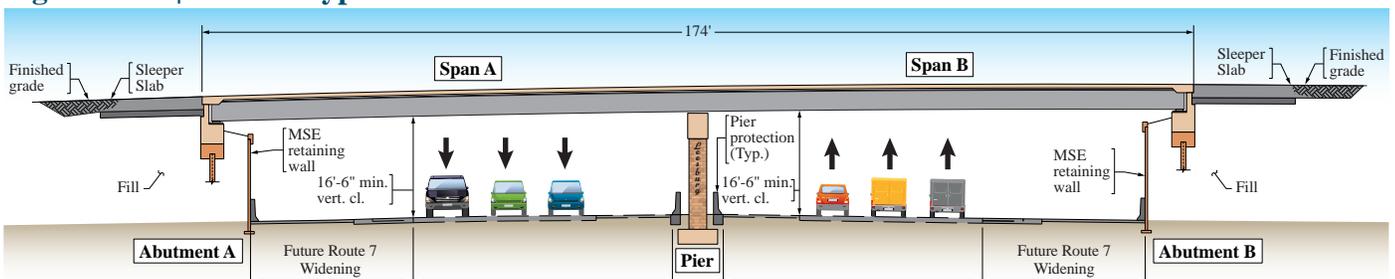


Figure 4.3-7 | Route 7 Typical Section



E. Conceptual Hydraulic and Stormwater Management

Our proposed conceptual drainage and stormwater management (SWM) design is shown on the conceptual plans provided in Volume II. Key elements of consideration are long-term maintenance, ease of installation, and proper conveyance of on-site and off-site runoff. The final drainage and SWM design for this project will be developed in accordance with the VDOT Drainage Manual, IIM 195.9, Town of Leesburg Design & Construction Standards Manual (DCSM), and DEQ VSMP Part IIB regulations. The entire project is within a single HUC boundary (VAHU6 - PL16 – Goose Creek-Cattail Branch). All project runoff will eventually drain to Tuscarora Creek, south of the project, which drains to the Potomac River. All stream and channel crossings in the project area are unnamed tributaries of Tuscarora Creek.

Drainage Design

Our proposed design maintains the same general flow patterns and relies primarily on the curb and gutter, with inlets and a storm sewer to convey runoff. Graded ditches are used along some of the interchange ramps and in the median of Route 7. Stream relocation will be required in the northwest quadrant to align the stream with the extended box culvert.

Stormwater Management

The water quality and quantity requirements are met through a combination of new BMPs, modified existing ponds, and purchased nutrient credits.

Our enhanced design provides a total pollutant removal of 20.26 pounds per year for the Project which is 5% more than the RFP requirement.

Measures used include the following:

- Bioretention and water quality swales
- Retrofit of an existing retention basin
- Purchase of nutrient credits to fully satisfy the required pollutant removal

Our final design will provide unobstructed vehicular access to all stormwater facilities. As-built drawings and certifications will be provided in accordance with the RFP.

F. Proposed Right-of-Way Limits

For the construction of the project, limited-access delineation and ROW acquisitions will be required along with easements for drainage, SWM, utility relocation, and temporary construction areas. There are 17 parcels identified in the RFP conceptual plans. Our design enhancements provide value-added benefit to VDOT by reducing the ROW take required for the project. Our enhanced design results in reduction of ROW, shown in Figure 4.3-8.

Figure 4.3-8 | Reduced ROW Take Summary

No.	Landowner	RFP Design Impact	Enhanced Design Impact
004	Leesburg Professional Center Condominium	Fee taking and TCE	Significantly reduced fee taking by 2,426 SF
005	Leesburg Office, LLC	Fee taking and TCE	Completely eliminated 6,700 SF of fee taking
007	Town of Leesburg	Fee taking and TCE	Completely eliminated 3,340 SF of fee taking and 11,469 SF of TCE

The parcels around the interchanges are not fully developed, however, new developments are planned or approved. The planned Leegate development is in the southwest quadrant of the interchange and Peterson Companies is actively pursuing development of the northwest quadrant and Lowe’s parcel in the southeast quadrant. The existing Potomac Station Shopping Center sits in the northeast quadrant.

All the proposed improvements including the SWM facilities are within the existing/proposed ROW limits shown in the RFP plans. Graphical representations of the proposed ROW required for our proposed design as they compare to the RFP ROW requirements are included in Volume II of this proposal.

Existing and Proposed Limited-Access Lines

The Project will close the gap in the existing limited access along the north and south sides of Route 7 between the Crosstrail Boulevard/ River Creek

Parkway and Route 15 Bypass interchanges except for a break in limited access at Cardinal Park Drive on the south side of Route 7 and at the Clarion Inn hotel entrance just west of the Crosstrail Boulevard/River Creek Parkway interchange on the north side of Route 7. Along Route 7, the proposed limited-access lines will connect to the existing limited-access lines from the Route 15 Bypass interchange and continue east along Route 7 to Battlefield Parkway.

ADDED VALUE  *Our team understands the process for getting these adjustments approved through L&D, ROW, and the Commonwealth Transportation Board as successfully demonstrated on VDOT's Route 7 Interchange over DTR and I-66 inside the Beltway projects.*

Time required for preparing the limited-access establishment request has been included on our proposed project schedule. We will request and receive the CTB approval for the limited-access establishment before requesting and receiving design approval of our proposed design plans.

G. Proposed Utility Impacts

There are several overhead distribution systems, telephone lines, cable television (CATV) lines, underground duct banks, fiber-optic systems, and natural gas mains running in the project area. The utilities present include Dominion, Verizon, Comcast, Century Link/Level 3, Zayo, Cavalier Telephone, Washington Gas, and Dominion Energy Transmission lines along with water and sanitary sewer mains owned and operated by the Town of Leesburg.

Our team held a project-specific utility coordination meeting on September 7, 2018, at the Clarion Hotel on Route 7, with many of these utilities present in the project area (similar to a UFI meeting). We evaluated opportunities to design around the facilities and take precautions that will be required to protect them in-place or to identify the facilities that must be relocated. As discussed earlier, Design Enhancement 7 eliminates conflicts with six overhead poles between Sta. 1026+50 and

Sta. 1035+00 by replacing the curb and gutter and guardrail with a concrete barrier.

This RFP phase coordination effort has provided our team with a thorough understanding of the existing utility systems and the potential impacts. The Project has no direct conflict with the transmission lines, but the existing easement for the transmission lines will affect the design of other utility relocations.

Locations will be verified by test pitting before plans are developed to relocate these facilities. Further investigations, including test holes, will be performed to reduce the risk to the construction operation of utility surprises, which could have monetary and schedule impacts. Although the Project does present a number of utility challenges, our team does not anticipate encountering anything that it has not successfully resolved on other complex projects in the region. Our approach is based on proactively identifying and mitigating utility conflicts from pre-investigation through design development and scheduling construction operations not to conflict with utility relocations. See Section 4.4.2 (Utilities) for further detail. See also our Utility Conflict Matrix (Figure 4.4-5) and Roadway Conceptual Plans in Volume II for specific utility impacts and our proposed solutions.

H. Noise Barrier Locations

The preliminary noise study performed by VDOT determined that no mitigation measures are required for the Project. As required by the RFP, a final noise analysis will be performed by our team to confirm the findings of the preliminary analysis. As shown in our project schedule in Volume II of this technical proposal, we will perform the final noise analysis early in the design schedule. If a noise wall is warranted, we will be prepared to construct the wall in the summer of 2020.

I. Other Key Project Features

Signal Design

Our Lead Traffic Engineer, Sunita Nadella, PE, PTOE, will coordinate with VDOT and the Town of

Leesburg Traffic Operations throughout the signal design process. The SPUI signals will be located to provide an unobstructed and clear guidance to vehicles and pedestrians. Our prior experience in SPUI design and coordinated effort among all disciplines will identify signal pole locations early on and will develop sight line sketches to make sure confusing signal placements are avoided. **As an added-value enhancement, supplemental signal heads will be designed to provide better visibility for approaching traffic.**



Confusing signal head placement which can cause left turn movement traffic to stop at thru movement signal

3D Modeling – Open Roads

The Wagman/Parsons Design-Build Team developed a detailed 3D model of our design, allowing us to effectively review design alternatives, optimize geometry, and coordinate between disciplines to produce an enhanced design. We have resolved complex grading issues, utility conflicts, and eliminated potential constructability concerns. The 3D model will also greatly optimize communications between the engineer and contractor in the field. Our team is also developing a workflow for using this model to improve construction, geospatial construction surveying, and automated machine guidance. **With this 3D model our team will be able to resolve constructability issues during design and develop 3D views and visuals for public meetings.**

Stakeholder Coordination | Town of Leesburg

Getting approval from the Town of Leesburg on various design elements in a timely fashion is key for the Project’s success. In addition to following Town

of Leesburg design standards, active coordination is needed for signal design, aesthetic and architectural treatment, wet utilities, lighting design, and SWM design. Our final design will be in accordance with the Town of Leesburg DCSM.

ADDED VALUE



We have dedicated Robert Hester, PE, as Loudoun County/Town of Leesburg Liaison. Bobby has extensive experience coordinating design reviews of roadway, traffic congestion, utilities, flood plain, environmental, and cultural resources plans with Loudoun County agencies.

4.3.2 Conceptual Structural Plans

A. Bridge Structure(s)

Our enhanced bridge design carrying Battlefield Parkway over Route 7 is designed in accordance with AASHTO Load and Resistance Factor Design (LRFD) Bridge Design Specifications, 7th Edition, 2014, including 2015 and 2016 interim modifications; VDOT Modifications (IIM-S&B-80); and VDOT Structure and Bridge Manual, revised on October 31, 2018. We considered multiple bridge arrangements to develop a design that provides a safe, aesthetically pleasing, and economical bridge. SPUI bridges in general have a very large footprint that requires a butterfly-shaped deck due to the concurrent left turns and additional separation space needed between the turn lanes. Our bridge design enhancements described in this section and shown in Figure 4.3-9 result in a cost-effective structure that not only reduces the initial construction cost but also reduces long-term maintenance costs.

Bridge Layout

Design Enhancement 9

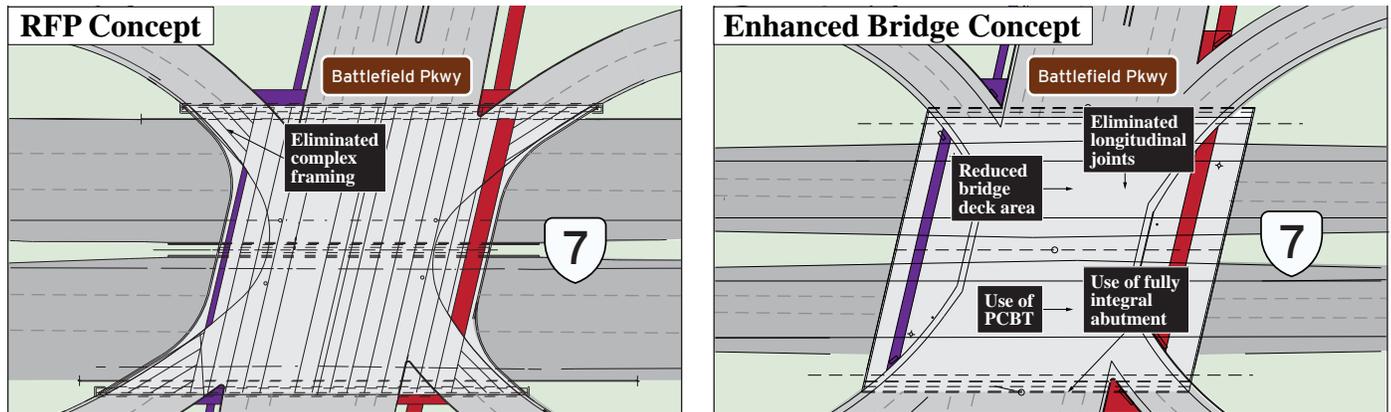


Reduced bridge deck area

- 9 Reduced bridge deck area from 40,320 SF to 37,410 SF, a 7 percent reduction

Our enhanced bridge consists of two 87-foot spans and a 215-foot-wide structure that is supported by fully integral abutments and three multicolumn piers. Our bridge geometry is designed to account

Figure 4.3-9 | Structural Enhancements



for the future widening of Route 7 as shown in Attachment 2.2c of the RFP. Our proposed design reduces each span length by 13 feet, 2 inches for a total span reduction length of 26 feet, 4 inches.

Superstructure

Our enhanced bridge design includes a two-span prestressed concrete superstructure with PCBT-53 bulb-Ts (Figure 4.3-10). This design reduces long-term maintenance compared to steel girders.

Design Enhancement 10

Conventional bridge (eliminated wings)

- 10 Provided a conventional bridge and eliminated complex framing and curved elements at all four ramps

The optimization of the horizontal geometry also allowed us to propose a more traditional bridge, which does not require the extensions (wings) and complex structural framing at all four corners of the RFP bridge. The use of a conventional bridge eliminates the need for elaborate shop drawings and fabrication and results in significant schedule savings during construction. Our enhanced bridge layout provides the following benefits:

- **Reduces** long term maintenance
- **Offers** schedule savings for bridge construction
- **Reduces** long term detour duration to 309 days
- **Reduces** initial construction cost

Design Enhancement 11

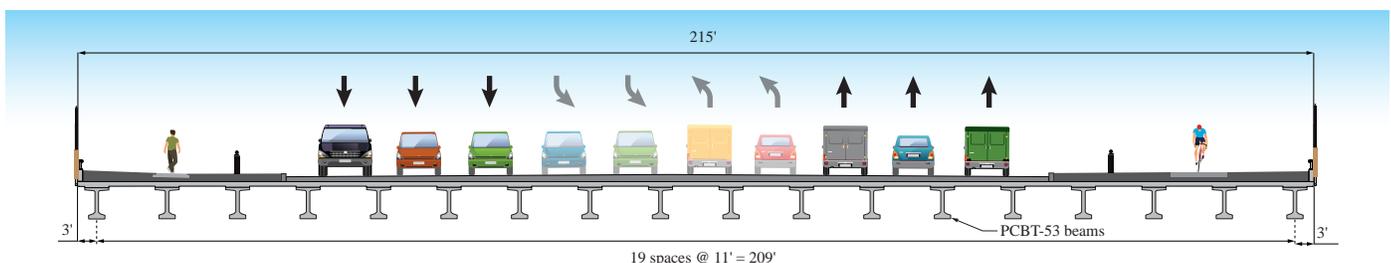
Elimination of longitudinal joints

- 11 Eliminated longitudinal joints by closing the construction joints with closure pours

The superstructure consists of three deck construction segments with an overall width of 215 feet. Four construction joints are placed above beams b7, b8, b13, and b14. There will be two deck closure pours consistent with VDOT's detail shown on S&B Manual file No. 09.02-6.

With the elimination of longitudinal joints, exterior beams and bearings have been evaluated for additional transverse forces such as temperature and shrinkage. **The elimination of longitudinal joints will not only reduce initial construction and long-term maintenance costs but also improve the safety of motorists.** The bridge is also designed to

Figure 4.3-10 | Battlefield Parkway Typical Transverse Section



support the lighting and signal conduits and cables in the deck slab and sidewalk.

Substructure

Design Enhancement 12



Fully integral abutment

- 12 Provided fully integral abutments with a deck extension that eliminates bearings

Our enhanced bridge is supported by fully integral abutments and a single pier consisting of multicolumn piers in the median. Fully integral abutments are used to meet the requirements for lateral movement on the 174-foot-long proposed structure. These fully integral abutments will be supported by steel H-piles. The use of fully integral abutment reduces the long term maintenance costs. Mechanically stabilized earth (MSE) walls will be provided in front of each abutment location and will be extended from the north side of the SPUI interchange to the south side. A single multicolumn pier will be provided in the median. Our team evaluated a solid wall pier and a multicolumn pier and chose the multicolumn pier to avoid the tunnel vision that will be created by a solid wall pier. Each pier column will be supported on an individual spread footing founded on the hard residual soil. Substructure elements within the clear zone will be protected with a pier protection barrier in accordance with VDOT and AASHTO requirements. Under-bridge LED lighting will be provided in accordance with the RFP.

Aesthetic and Architectural Treatments

Aesthetic and architectural treatment will be designed in accordance with Attachment 2.3.10 of the RFP. The aesthetic treatments will be applied to buffer areas, crosswalks, SUP, sidewalk, roadway and deck lighting, and fencing and bollards. All architectural and aesthetic treatments will be coordinated with the Town of Leesburg Board of Architectural Review.

B. Retaining Wall(s)

As shown in Figure 4.3-7, our enhanced design concept does not impact the existing retaining wall in the southeast quadrant of Battlefield Parkway and Russell Branch Parkway. There are two retaining-wall structures proposed along Ramp A and Ramp D, which will be MSE walls as outlined in Volume II. All MSE walls will be designed for local and global stability and use appropriate strap lengths and backfill material. Settlement magnitudes and time rates will be evaluated during design and measured during construction as part of the quality control process.

C. Major Drainage Structure(s)

Two existing culverts across Route 7 are impacted. The 5-foot by 4-foot box culvert at Sta. 2033+50 will be extended into the median. The 6-foot by 6-foot box culvert at Sta. 2046+50 will be extended under the proposed Ramps C and D. In addition to these existing culverts, two new culvert crossings are proposed across Route 7 (Sta. 2035 and Sta. 2047) in accordance with the RFP.

The following repairs will be done to the box culvert under Route 7 (Structure 1012):

- Repair of spalling, cracks, and honeycombing (90 SF)
- Removal of silt and vegetation from in front of inlet (15 cubic yards)

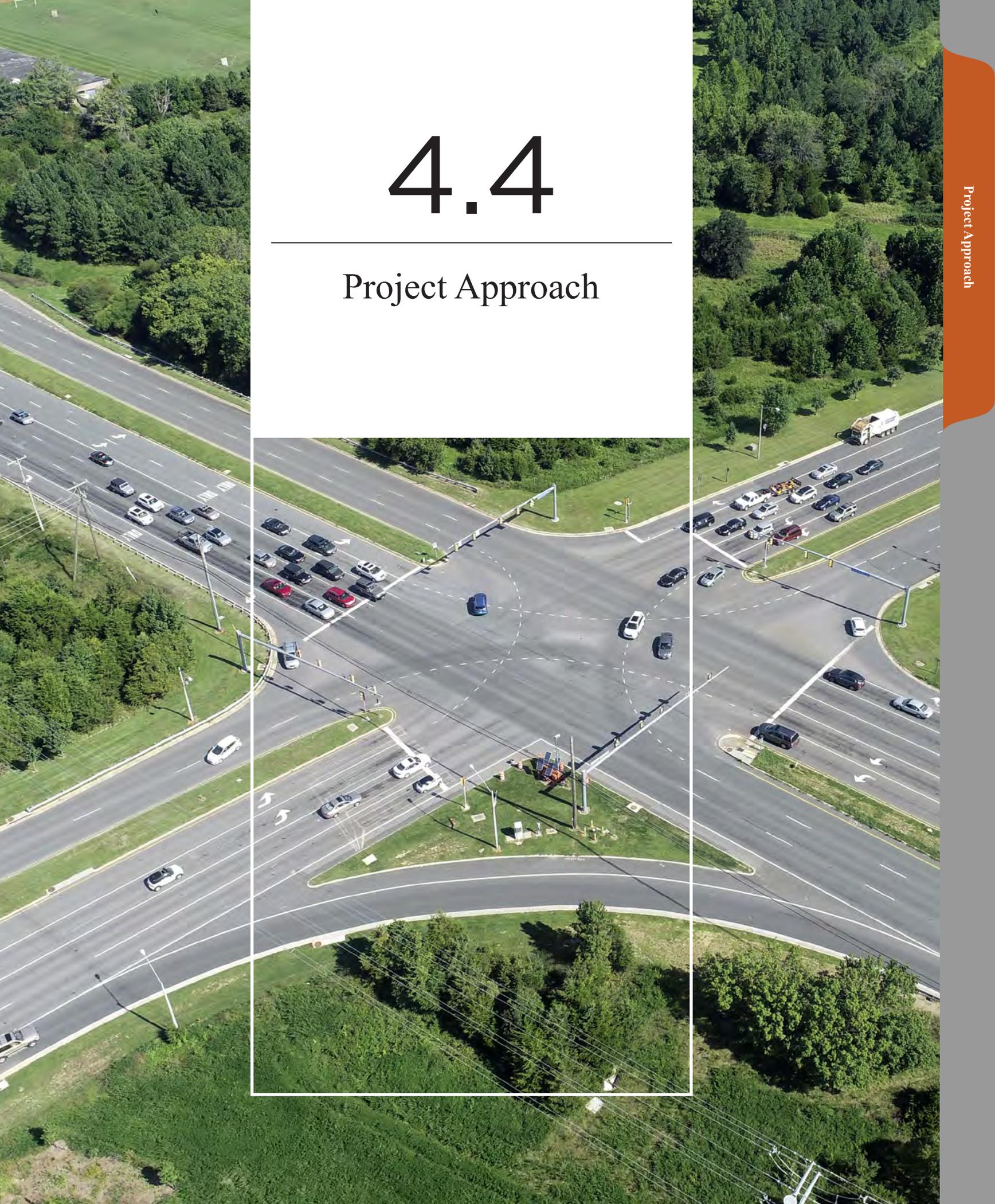
On Battlefield Parkway, there is a triple box culvert at Sta. 5015 and dual 48-inch box culvert at Sta. 5032+50. The Project does not impact the triple box culvert, and the dual 48-inch box culvert will be replaced as shown on the RFP plans.

D. Engineering Plans

The design and construction work for the Project will be performed in accordance with the applicable VDOT, AASHTO, and Town of Leesburg standards, specifications, and reference documents listed in Section 2.1 of Part 2 of the RFP, and in accordance with our Conceptual Structural Plans presented in Volume II of this technical proposal (which meet the RFP, VDOT, and AASHTO requirements).

4.4

Project Approach



4.4 Project Approach

The foundation of our approach to managing the Route 7 and Battlefield Parkway Interchange project (Project) is for the design and construction teams to be partners whose interests and goals are fully aligned. The integrated nature of our team facilitated our task force approach to developing our Conceptual Plans, which focused on finding the right balance between innovative, compliant design and efficient, quality construction. Our team has benefited from best practices in environmental management, utilities coordination and relocation, geotechnical, and quality assurance/quality control (QA/QC) garnered from our Military Highway Continuous Flow Intersection Design-Build (D/B) (Military Highway CFI), Route 7 Interchange D/B over the Dulles Toll Road (Route 7 Interchange over DTR), and Intercounty Connector Contract B D/B (ICC B) projects. The pages that follow demonstrate that our team offers the Virginia Department of Transportation (VDOT) confidence and added value in the following areas:

ADDED VALUE	 Stakeholder Coordination	 Cost
	 Quality	 Schedule
	 Safety and Environmental Health	

4.4.1 Environmental Management

VDOT has obtained National Environmental Policy Act (NEPA) approval for the project in the form of a categorical exclusion (CE). Key to our environmental approach is ensuring that the designs and commitments that warranted the issuance of the CE are maintained and that the NEPA decision is not elevated to the point of requiring supplemental NEPA actions (e.g., an environmental assessment [EA] and/or environmental impact statement [EIS])—which could have substantial impacts to the overall project schedule. These environmental

assurances during project design will be instrumental in the timely issuance of environmental permits. And the same environmental rigors during construction will avoid any environmental agency intervention.

A. Approach to Environmental Management

Our process for environmental management of the project is illustrated in figure 4.4-1.

Figure 4.4-1 | Environmental Management Process



Environmental Team Members and Environmental Management Plan

We have assigned Steve Walter, as Lead for Environmental Compliance and Permitting. He will oversee environmental management and compliance for the Project. As part of his responsibilities, he will prepare and update the Environmental Management Plan (EMP) to ensure that it adheres to the conditions and commitments put forth in the NEPA document and environmental permits. Throughout the Project’s duration, he will work closely with the Design and Construction Managers, Task Leads, VDOT environmental staff, and key agencies such as the U.S. Army Corps of Engineers (USACE), U.S. Fish and Wildlife Service (USFWS), Virginia

Department of Environmental Quality (DEQ), and Virginia Department of Historic Resources (DHR – State Historic Preservation Office [SHPO]).

Environmental Management Plan

Our team will develop an EMP that outlines environmental goals; ensures satisfaction of permit requirements; addresses schedule requirements for permitting and environmental compliance; and institutes robust procedures for compliance, monitoring, reporting, and continuous improvement of our processes. The EMP focuses on avoiding and reducing environmental impacts during design and construction by establishing proven procedures to address environmental issues, provide acceptable mitigations, and reduce risk.

The EMP will be integrated into the Environmental Health and Safety Plan (EHSP) for the Project, as an integral component of design and construction processes and schedules. The EMP clearly identifies roles and responsibilities, a monitoring plan and process (including an environmental commitment checklist and an environmental management database), a reporting plan and process (explicitly addressing responsibilities of QA/QC), methods for maintaining NEPA approval in the event of minor design modifications or changed conditions, and procedures for unanticipated discoveries (archaeological finds, hazardous materials, etc.).

Senior members of our environmental team have successfully managed some of VDOT’s largest and most complex transportation projects in northern Virginia—moving them from NEPA approval through final design and construction.

Environmental Approach During Design to Avoid and Minimize Impacts

Immediately upon the Notice of Intent to Award, our environmental team will initiate internal, weekly task-force meetings, to which VDOT will be invited. Our team will also set up individual meetings with each permitting agency to review the Project’s scope and schedule. Combined meetings with all permitting agencies will also be conducted to confirm jurisdiction and permit requirements, gain buy-in among all parties, and foster interagency coordination. These coordination meetings will also allow us the opportunity to present value-added designs for agency consideration as well as to fully vet any modifications to ensure there is no escalation of the NEPA commitments and/or permit requirements.

Based on our review of the Project’s documents and our previous experience in northern Virginia, our environmental team has identified environmental concerns for the Project and approaches to mitigate these concerns, as shown in Figure 4.4-2.

Figure 4.4-2 | Project Environmental Issues and Mitigation Strategies

Environmental Concern	Mitigation Strategies
Maintaining CE Decision	<ul style="list-style-type: none"> • Coordinate closely with design team to prevent increased LOD and/or revisions due to changed environmental conditions. • Provide post-NEPA refinement memos for any LOD modifications (to avoid formal NEPA reevaluations).
Wetlands and Streams	<ul style="list-style-type: none"> • Minimize wetland and stream impacts by maximizing use of existing ROW. • Design embankments and refine grading limits to reduce impacts. • Provide for control of surface-water runoff during construction with emphasis on advantageous interim use of permanent retention ponds. • Specify techniques to minimize temporary encroachments. • Coordinate permits early on with USACE and DEQ.
Cultural Resources	<ul style="list-style-type: none"> • Coordinate early on with SHPO to maintain “No Effect” determination.
Threatened and Endangered Species	<ul style="list-style-type: none"> • Conduct updated IPaC search and confirm no new species or habitats in project area. • Develop mitigations if required (i.e., Time of Year Restriction (TOYR), avoidance or minimization).

Environmental Concern	Mitigation Strategies
Least Environmentally Damaging Practicable Alternative (LEDPA)	<ul style="list-style-type: none"> • Coordinate early on with USACE. • Minimize and mitigate impacts to wetlands by constructing within existing ROW and by using design and construction best practices such as maximizing span lengths. • Demonstrate reduction of environmental impacts allowing USACE determination of LEDPA.
Air Quality	<ul style="list-style-type: none"> • Incorporate VDOT Road and Bridge Specifications on emission controls, open burning, and fugitive dust.
Noise Analysis and Monitoring	<ul style="list-style-type: none"> • Complete noise analysis in compliance with the Virginia State Noise Abatement Policy and the Highway Traffic Noise Impact Analysis Guidance Manual.
Contaminated Materials Resulting from Potential Subsurface Petroleum Hydrocarbons Identified in the RFP Phase 1 ESA	<ul style="list-style-type: none"> • Prepare and execute Subsurface Investigation Plan. • Perform Phase 2 ESA if appropriate.

Environmental Approach During Construction to Avoid and Minimize Impacts

Our team’s EMP details restrictions and controls to avoid and minimize impacts to environmentally sensitive areas during construction. Compliance during construction starts with awareness, so our team will emphasize formal environmental training for key individuals in addition to the required certifications. This training session will be video recorded and all personnel new to the project (including subcontractors) will view this video in conjunction with their formal orientation.

Our Lead for Environmental Compliance and Permitting, Steve Walter, will participate in preparatory meetings in advance of construction activities, ensuring that environmental considerations are routinely addressed during work planning and execution.

Our team has developed and refined best practices related to stormwater management/erosion and sediment control/pollution prevention (SWM/ESC/P2) in our delivery of VDOT D/B projects and they will be implemented on the Project. Our team’s best practices include the following:

- Based on his outstanding performance on the Route 7 Interchange over DTR project and his existing relationship with VDOT Northern Virginia’s (NOVA’s) MS4 Coordinator (Marion Carroll), Vince Yuskoski has been designated by Wagman as ESC Manager. In addition,

Wagman will designate alternates, all of whom will possess both Responsible Land Disturber (RLD) and ESCC certifications. To properly document stabilization, Vince’s team will make notations on the C107s of any interim action that occurs within 7 days on open items.

- Additional project team members (SWM/ESC Design Lead, D/B Coordinator, Safety Manager, Sr. QA Inspector, and Sr. QC Inspector) will assist the ESCM by rotating their participation in the construction runoff control inspections (CRCIs).
- We will develop a project-specific Environmental Health and Safety Plan (EHSP), which will address environmental compliance. All employees and subcontractors will attend a mandatory orientation before working on the project site. Employees will be issued a hard-hat sticker to show completion of the training.
- CRCIs will occur twice a week at a minimum and after every measurable storm event.
- Parsons will develop design-level environmental mapping. Design staff will jointly participate in C107 inspections on a regular basis (at least once a month). This mapping will be a key resource during C107 inspections to ensure that all disturbance occurs within the designation limits and sequence.
- Wagman owns its own stabilization equipment (Hydro-seeder and mulch truck) and maintains sufficient inventory of temporary materials

so that daily stabilization is not dependent on others.

- Temporary concrete washout facilities will be constructed and regularly maintained throughout the site as designated by the EHSP.
- Temporary fuel will be stored outside of environmentally sensitive areas and all fuel storage tanks will use dual-containment systems in accordance with the EHSP.
- The stormwater pollution prevention plan (SWPPP) will be updated and maintained with all proper official documentation.
- Environmentally sensitive areas such as wetlands or protected habitat will be delineated before starting work, and these areas will be reviewed with crews as part of pre-activity planning.
- Spill prevention measures, such as double-wall fuel containers, metal gas cans, and designated fueling and concrete washout areas (and stock cleanup materials), will be used.
- Environmental issues will be addressed with crews in pre-activity planning to promote awareness and compliance.

the project area will be identified based on our proposed design. Field work and technical services will be conducted as necessary and will include wetland delineations, stream assessments, water quality studies, and threatened- and endangered-species reviews that will be used for permitting and environmental compliance monitoring.

Cultural Resources

The Virginia DHR has concurred with VDOT’s cultural resource data review that the archeological and architectural resources identified within the project area are not eligible for listing on the National Register of Historic Places (NRHP) and are not individually eligible for the NRHP and that the project will have no effect on historic properties (letter dated 2/22/18). Because our proposed design is entirely within the area of potential effect (APE) of the cultural resource survey, we anticipate that DHR’s No Effect determination will remain valid. However, in the event of an unanticipated discovery (i.e., an unrecorded archaeological find), our team maintains a team of professional archaeologists (who meet Secretary of Interior standards) in a local office who can be on-site to assess the situation and prevent extended delays to construction.

Water Quality Permits and Compensatory Mitigation

Due to its location, the Project will have unavoidable impacts to several intermittent and perennial stream systems that flow into Tuscarora Creek. Wetlands, primarily palustrine emergent (PEM), are associated with these streams. Unavoidable impacts to Waters of the United States, including streams and wetlands, will require water quality permits in support of Sections 401 and 404 of the Clean Water Act (CWA). VDOT previously secured a USACE preliminary jurisdictional determination (PJD) for the project area. However, the RFP states that this PJD is for informational purposes only; therefore, our team will verify the accuracy of VDOT’s wetland delineations and request a revised PJD from USACE. Our team will determine compensation for any stream proposed for impact by applying the Unified Stream



Wagman empowers all employees with formal “Stop-Work Authority” to stop any action that has the potential to result in a safety, environmental, or quality noncompliance.

B. Environmental Conditions

Conditions Within the Project Footprint

Upon the Notice of Intent to Award, locations of potentially affected environmental resources within

Methodology (USM) and investigate various wetland mitigation scenarios (recognizing the availability of wetlands banks in the region). Following the field survey, our team will hold a pre-application meeting with USACE, DEQ, and, the Virginia Marine Resources Commission (VMRC) to discuss the Project's scope and identify any agency concerns early in the process. The purpose of this meeting is to partner with the regulators and to identify any additional studies, design considerations, or constraints that could cause delays or additional cost, and to identify appropriate mitigations for unavoidable impacts to both wetlands and streams.

In accordance with DEQ's Stormwater Management Program (VSMP), our team will design ESC and SWM Plans to meet all VSMP permit requirements. Following the Notice of Intent to Award, we will consult with DEQ to discuss our streamlined permitting approach for each advanced work package and submit a permit application to VDOT to secure a VSMP permit within 30 days of submittal.

Threatened and Endangered Species

The Project is located within the Tuscarora Creek watershed, which according to the recent IPaC search, includes habitat for the following two protected species of freshwater mussels within 2 miles of the Project: the brook floater mussel (state endangered), and green floater mussel (state threatened). Due to the distance of the nearest reported sites in Goose Creek and the Potomac River, we do not anticipate any potential impact to the mussel habitats.

VDOT's GIS Integrator also identified the northern long-eared bat (federal threatened), tri-color bat (state endangered), and little brown bat (state endangered) within the search area; however, based on the RFP documents, no known roost trees and no hibernacula for this species are near the proposed project. VDOT did submit a Section 7 environmental site assessment (ESA) determination of "May Affect/Not Likely to Adversely Affect" to the USFWS. Our team will resume consultation with the USFWS as the design of the Project progresses

to finalize the determination. If consultation and/or updated surveys reveal recorded sightings, then designs/methods to avoid and minimize impacts will be implemented to the extent possible.

Hazardous Materials

Based on the Phase 1 ESA contained in the RFP, there are six potential sources of subsurface contamination that may have occurred in and/or migrated into the project area. A subsurface sampling plan will be prepared and executed as one of the first steps following the Notice of Intent to Award. Evaluation and assessment will be carried out in accordance with industry standards and in compliance with all DEQ sampling and reporting requirements. Our team will comply with the requirements noted in the special provision for the Phase 2 ESA for D/B projects and special provision for management of petroleum-contaminated soils. As noted previously, a Spill Prevention, Control, and Countermeasure (SPCC) Plan will be prepared before construction.

Our project schedule takes into account the completion and approval of Phase 2 ESAs for acquiring right-of-way (ROW) from the six properties identified in the Phase 1 ESA.

Air Quality

The Project is in an 8-hour ozone nonattainment area and a volatile organic compound (VOC) and nitrogen oxide (NO_x) emission control area. Our team will take all reasonable precautions to limit the emissions of VOCs and NO_x during construction of the Project. In addition, all DEQ air pollution regulations (e.g., open-burning restrictions, cutback asphalt restrictions, and fugitive dust precautions) will be adhered to during construction.

Noise

Based on the preliminary noise analysis performed by VDOT, a noise barrier was feasible but not reasonable under VDOT's State Noise Abatement Policy. Our team will complete a final noise analysis to confirm the findings of the preliminary noise analysis. If the final analysis identifies impacts to

noise-sensitive receptors and if noise abatement is found reasonable and feasible, our team will prepare a Noise Abatement Design Report in accordance with the Highway Traffic Noise Analysis and Abatement Guidance Manual.

Environmental Monitoring and Compliance

Our team will self-monitor and inspect all construction operations to ensure compliance with all applicable federal and state laws and regulations and commitments and stipulations from the NEPA documents, VDOT EQ forms, and project permits.

Post-NEPA Refinements

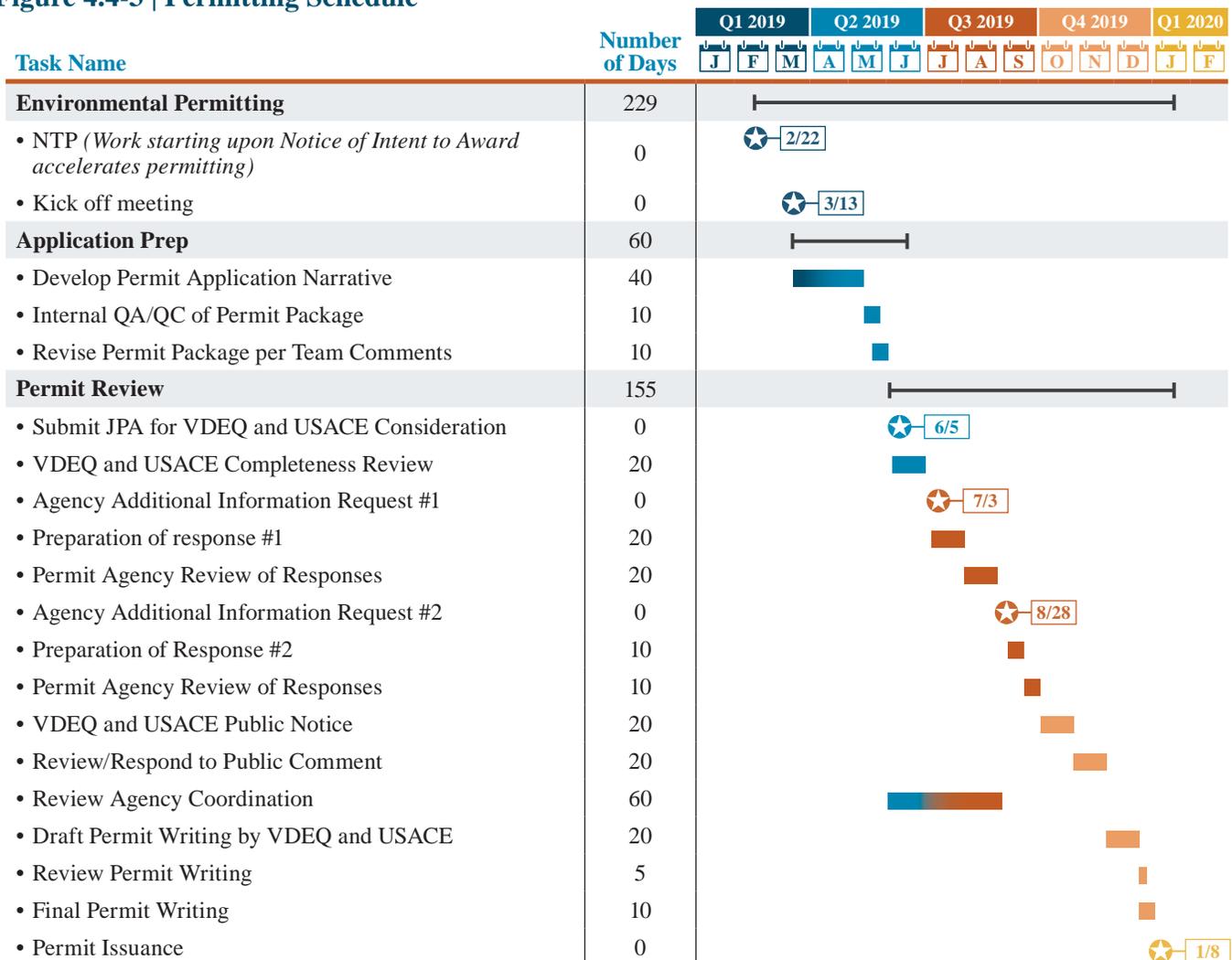
If construction requirements extend beyond the temporary or permanent LODs considered in the CE, a post-NEPA refinement memo will be

prepared to document the minor extent of additional encroachment and to demonstrate that no significant changes to the findings of the CE occur. The memo serves as a rapid means to notify VDOT and the Federal Highway Administration (FHWA) of the change and to obtain FHWA approval (if further NEPA documentation is not required). This approach represents a significant time savings compared to conducting formal re-evaluations.

C. Integrating Environmental Management and Permitting Into the Schedule

Our team has developed a timeline for acquiring environmental/water quality permits (Figure 4.4-3). The permit acquisition timeline will be integrated with the baseline schedule through related predecessor and successor activities, including key

Figure 4.4-3 | Permitting Schedule



meetings, incremental submittals, agency review efforts, and appropriate hold points for design and construction.

Our team has performed an in-depth review of the various permitting processes needed for the Project, developing realistic permit application timelines, allocating adequate agency review time, and incorporating each step of agency review protocols (including public-notice periods). We will assign a permit tracker to work with the project scheduler to track anticipated and actual dates for package submissions, comments, and resubmissions. We rely on our experience from other local projects to assign appropriate baseline durations to these permitting activities, allowing time to address agency comments or concerns.

Our team is prepared to manage the extensive coordination necessary to stay on top of the permit processes and to minimize the possibility of delays due to permit issuance.

Our team has taken a disciplined stance with project scheduling to ensure permit issuance dates are realistic, so we can meet construction start dates. We have also identified areas where only SWPPP permits are required. All these factors give us the confidence that our permitting schedule is realistic and reasonable and will not result in construction delays.

4.4.2 Utilities

A. Approach to Utility Coordination

The approach that our team uses for utility coordination, management, and relocation is focused on clear, frequent, open, and honest communication between the utility companies and our team. We believe this simple approach is the key to mitigate the risk associated with utility conflicts and relocations. Although our approach is simple, we understand that utility coordination, management, and relocation can threaten the project schedule and/or budget. To understand the risk and to start mitigation, our team has begun coordination with the

utility companies that have infrastructure within the project limits.

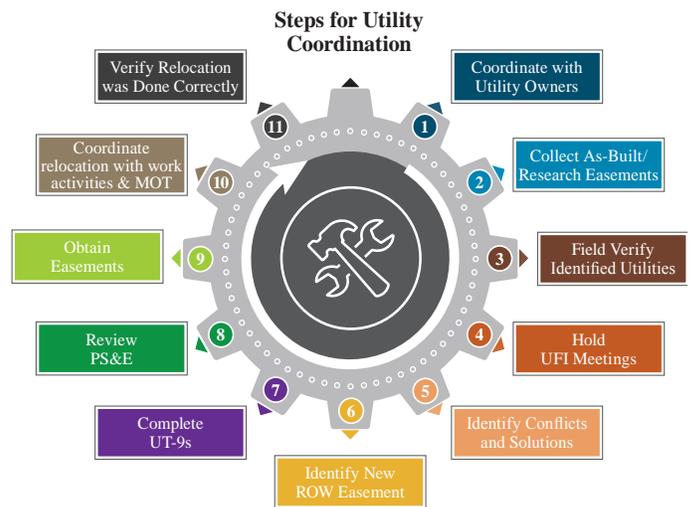
ADDED VALUE

On September 7, 2018, at the Clarion Hotel on Route 7, we held a project-specific utility coordination meeting (similar to a UFI meeting) with many of the utilities present in the project area. Those in attendance included Dominion Energy Power, Summit IG, Town of Leesburg, Verizon, Comcast, Century Link/Level 3, and Washington Gas. Our Utility Coordinator, Matt McLaughlin, and Parsons' designers have had telephone discussions, email exchanges, and 1-on-1 meetings with the utility companies.

This preproposal coordination effort has provided our team a thorough understanding of the existing utility systems and possible impacts by the proposed design concept.

Upon award of the contract, our team will follow a process we have developed through our experience on D/B projects. This process (Figure 4.4-4) to verify and finalize our utility relocation plan is “best practice” for our team. We will build on our preproposal coordination with the utility companies and ensure that we have collected all available utility record information for the project area, including easements.

Figure 4.4-4 | Utility Coordination Process



Utility designation (mapping) will be performed at a Quality Level B to determine the approximate

horizontal utility locations of any previously unlocated utilities not included in the RFP subsurface utility engineering (SUE) files. Potential conflicts will be further evaluated by performing utility location services (test holes – Quality Level A services) to determine the exact horizontal and vertical locations of the utilities.

When the test pits are performed, the field marking by the Miss Utility One Call System will be evaluated and verified. We will identify if the utilities shown on the plans are correct and potentially identify any undesigned utilities. This data will be incorporated into our 3D design model which will ultimately serve as our geospatial survey model that will be used to provide the construction layout. This proven strategy has uncovered many undesigned utility systems on previous projects.

As the design progresses, we will continue to evaluate opportunities for design solutions to avoid or protect existing facilities. When unavoidable utility relocations are identified, the D/B team (including design and construction utility coordinators) will hold a UFI meeting with the utility owners. At the UFI meeting we will develop a consensus on utility adjustments and relocations, prior rights, and relocation schedule. Required utility relocations will be designed and constructed to minimize relocation, maximize workaround and protection, and determine the best schedule option.

After the meeting, our team will prepare UT-9s, coordinate with the VDOT Utility Manager, incorporate necessary easements into the ROW plans, and prepare master agreements for the utility relocations. All utility companies will be reminded of the Buy America requirements.

After the relocations are determined, our ROW team will acquire the necessary easements while P&Es are being prepared by the utility companies. We will review the P&Es for conformance with our design plans and submit to VDOT for approval. It is important to have bimonthly coordination with the utility companies and their designers to ensure that the relocations stay on schedule. After the utility design is complete and the utility relocation

contractors are procured by the utility owner, we will continue to coordinate and manage the utility relocations. Field personnel will coordinate daily and schedule meetings weekly to manage the relocation work and to inform the entire project team of utility relocation progress. All coordination will be documented in RUMS.

Preconstruction kickoff meetings with each utility company will be conducted before relocation work to review ongoing construction activities, safety measures, environmental requirements, construction sequencing, and maintenance-of-traffic (MOT) phasing. Our team surveyors and inspectors will proactively monitor that the utilities are being relocated to the correct horizontal and vertical locations. We will identify any inconsistencies or mistakes early and reduce the risk to the schedule.

Based on our research and preproposal utility coordination, our team has identified potential utility conflicts with our proposed design. A utility conflict matrix was created for the Project and is provided in Figure 4.4-5. The matrix identifies each potential conflict by type, owner, location, and whether an adjustment or relocation is required. Every utility conflict listed also has an identification number and baseline station to assist in locating it on the Roadway Conceptual Plans in Volume II.

Our team has evaluated each potential impact and identified those that require adjustments or relocations and propose a risk to the contract. These adjustments and relocations have been included in our schedule, technical proposal, and price proposal.

B. Utilities in Conflict and Our Solutions

The utilities that are affected by the Project include Dominion Energy Distribution, Dominion Energy Transmission, Verizon Virginia, Comcast, Washington Gas Distribution, Summit IG, Century Link/Level 3, Zayo, and Cavalier Telephone. These utilities include overhead distribution systems, underground duct banks, natural gas mains, and fiber-optic systems. Figure 4.4-5 identifies a matrix with the utilities that we believe will be in conflict, along with their location and solution.

4.4-5 | Utility Conflict Matrix

Location	Utility Company	Type/ Size	Conflict Description and Proposed Solution
Rte. 7 EB - Sta. 1037 to Sta.1050 Rt of BL	Dominion Energy Distribution	3 Phase Overhead Electrical System	The distribution pole system is in conflict with the ramp and mainline roadway construction; Relocate the overhead system to new poles
	Verizon Virginia	Overhead Telephone Distribution System	The Verizon copper and fiber optic cables are attached to the Dominion Energy poles that are in conflict; Rebuild the new telephone system onto the new Dominion Energy poles
	Comcast	Overhead CATV System	The Comcast coax and fiber cables are attached to the Dominion Energy poles that are in conflict; Rebuild the new CATV system onto the new Dominion Energy poles
	Century Link	Overhead Fiber Optic System	The Century Link fiber optic system is attached to the Dominion Energy poles that are in conflict; Rebuild the new fiber optic system to the new Dominion Energy poles
	Cavalier Telephone	Overhead Fiber Optic System	The Cavalier Telephone System is attached to the Dominion Energy poles that are in conflict; First to relocate after Dominion Energy is completed
Ramp D - Sta. 403+35 CL	Dominion Energy	Distribution Pole and Anchor	The Dominion Energy Distribution pole is in conflict with the Phase I Roadway Construction; Install a temporary pole to resolve the conflict so the roadway work can be built before the entire system is relocated at station 403+35. Install as push brase and removed the anchor at station 802+25
	Verizon Virginia	Distribution Pole Attachment	The Verizon cables attached to the Dominion Energy pole that is in conflict; Transfer to the new in-line pole
	Comcast	Distribution Pole Attachment	The Comcast Fiber Optic and Coax Cables attached to the Dominion Energy pole that is in conflict; Transfer to the new in-line pole
	Century Link	Distribution Pole Attachment	The Century Link Fiber Optic cable is attached to the Dominion Pole that is in conflict; Transfer to the new in-line pole
Rte. 7 EB - Sta. 1049 to Sta. 1077 Rt of BL	Verizon Virginia	Eastern Duct Bank	There are old Verizon cables attached to the distribution poles for the facility that is being placed in the underground duct bank and is in conflict with the roadway construction; Install copper and fiber optic cables in the existing duct bank and wreck out the old facilities. Remove 1 conduit from the Verizon system at 15 locations and install handholes at each one to create a duct bank system for Comcast
	Comcast	Eastern Duct Bank	The Comcast cables are still attached to the old distribution poles that is being placed in the underground duct bank system and is in conflict with the roadway construction; Install fiber and coax cables in the existing duct bank and wreck out the old facilities
Ramp A - Sta.109 CL	Verizon Virginia	Distribution Pole	An old distribution pole associated with the eastern duct bank transfer is in conflict with the Ramp A construction; Install a temporary in-line pole, transfer the cables and wreck out the old pole
	Comcast	Distribution Pole Attachment	Comcast has cables attached to the old distribution pole that is in conflict with the Ramp A construction; Transfer to the new temporary pole
Rte. 7 EB - Sta. 1064+75 and 1080	Verizon Virginia	Roadway Crossings	Verizon needs conduits under Rt 7 to complete the duct bank facility; Install 2 - 4" conduits under Rt 7
	Comcast	Roadway Crossings	Comcast needs conduits under Rt 7 to complete the duct bank facility; Install 2 - 4" conduits under Rt 7
Spur A Ramp A 109 CL	Verizon Virginia	Distribution Pole	An old distribution pole associated with the eastern duct bank transfer is in conflict with the Spur A Construction; Install a temporary in-line pole and wreck out the old pole
	Comcast	Distribution Pole Attachment	Comcast has cables attached to the old distribution pole that is in conflict with the Spur A construction; Transfer to the new temporary pole
Rte. 7 WB- 2043 to 2059 CL	Washington Gas Distribution	Gas Distribution Main (6")	The natural gas distribution main is in conflict with the bridge piers; Relocate 6" distribution main
Rte. 7 WB - 2032 to 2037 CL		Gas Distribution Main (6")	The natural gas distribution main is in conflict with the drainage system and the guardrail. Perform test pits to determine the actual limits of the relocation work; Relocation approximately 500' of 6" distribution main
Ramp B 202+75 to 207 Rt of BL	Verizon Virginia	Underground Service Cables (25 Pair)	Underground Verizon service to the adjacent buildings is in conflict with the roadway grade cut; Relocate approximately 425' of 25 pair copper
Rte 7 WB- 2073 to 2080 L of BL	Summit IG	Underground Fiber Optic Cables	The Summit IG Fiber optic cables are in conflict with the drainage system and roadway improvements. Perform test pits to verify the limits of the relocation efforts; Relocate approximately 700' of the fiber optic system by adjusting it in-place
Rte. 7 WB- 2048 to 2054 L of BL		Underground Fiber Optic Cables	The Summit IG Fiber optic cables are in conflict with the bridge and roadway improvements. Perform test pits to verify the limits of the relocation efforts; Relocate approximately 600' of the fiber optic system to include a steel casting pipe adjacent to the new bridge
Rte. 7 WB- 2040 to 2043+50 L of BL		Underground Fiber Optic Cables	The Summit IG System is in conflict the drainage system; Relocate the fiber optic system in-place
Rte. 7 EB - 1048+50		Handholes	The Summit IG handholes are in conflict with the roadway improvements on both sides of the Rt 7; Relocate the handholes out of conflict
Rte. 7 EB - 1032 to 1038+50 Rt of BL		Underground Fiber Optic Cables	The Summit IG fiber optic cables are in conflict with the drainage system and the guardrail; Relocate the fiber optic system in-place

Location	Utility Company	Type/ Size	Conflict Description and Proposed Solution
Rte. 7 WB- 2028 to 2038+50 L of BL	Summit IG	Underground Fiber Optic Cables	The Summit IG system does not have cables in the conduits; Perform test pits at points in conflict to test conduits
Battlefield - 5025+50	Century Link	Underground Fiber Optic Cables and Handholes	The Century Link fiber optic cables are in conflict with 2 drainage crossings and the handholes are in-conflict with the roadway improvements; Relocate the fiber optic system in-place and adjust the handholes out of conflict
Rte. 7 EB 1061 to 1077 Rt of BL		Underground Fiber Optic Cables	The Century Link fiber optic cables are in conflict with the drainage system, guardrail and the roadway improvements; Relocate the fiber optic system in-place
Rte 7 EB Sta 1045+50	Town of Leesburg Department of Utilities	12" Sanitary	12" Sanitary to be abandoned in place and replaced by a new 15" SS in a 30" Casing; Skew to be corrected and PVC C900 to be used in casing if possible TBD during DD. Coordinate access roadway with developer plan or as part of ramp design. Waiver required if fill greater than 18' and skewed
Rte 7 EB Sta 1028+00 to 1062+00		8" Water	8" DIP waterline to be capped and abandoned in place after new line installed by Leegate. Coord with Leegate Dev required anticipated to be allowed in first phase of const
Rte 7 EB Sta 1036+00 to Sta 1046+00		Access to Sanitary Sewer	Provide access roadway for exiting SS in LA RW, Town not requiring relocation outside LA line if access provided and approved by LUD
Battlefield Blvd 5034+50		8" Sanitary	8" Sanitary to be abandoned in place and replaced by a new 8" SS in a 24" Casing; Skew to be corrected and PVC C900 to be used in casing if possible TBD during DD. Coord access roadway w LDU as part of road design to minimize casing on north side outside road w/in LA. Waiver required if skewed. Also avoid SWM slope or impoundment in design
Battlefield Blvd 1070+50		30" Sanitary	30" San Sewer existing with no anticipated impacts from widening. LUD did not identify it as an issue based on prop LA line however LA may be modified if LUD requires a casement and access
Rte 7 EB Sta 1067+75		16" Water	16" W existing with no anticipated impacts from widening; LUD did not identify it as an issue based on prop LA line however LA may be modified if LUD requires a casement and access

Utility Companies Contact List

Dominion Energy Distribution	Verizon Virginia	Comcast	Century Link	Cavalier Telephone	Washington Gas Distribution	Summit IG	Town of Leesburg Department of Utilities
Sebastian Gutierrez (571) 342-7793	Jim Temple (540) 359-1576	Brandon Moats (240) 675-3454	Boyd Williams (571) 455-2355	Jerry Richardson jrichardson@cavtel.com	Thomas Fryer (703) 750-5849	Steve Summa (703) 943-0649	Patrick Moore (703) 771-2754

Dry Utilities

To advance the construction schedule, the plan will be to install temporary facilities to allow for the highway construction activities to start while the utility companies are designing and constructing the relocations. This effort will be performed to coincide with the phases of the overall construction project. Most of the relocation work will be performed in Phase 1.

At the earliest stage of the utility relocation efforts, the temporary Dominion Energy poles and anchor adjustments on the west side will begin. This will also include the temporary Verizon poles on the Route 7 eastbound lanes, if the duct bank has not been completed. This can be started before any additional land rights have been obtained because the work will be performed within the existing easements. The placement of the poles will only take 2 weeks, but another 2 weeks will be required for the other utilities, including Comcast, Century Link, and Cavalier Telephone, to transfer their facilities to the new poles. The electrical service pole to the overhead sign structure on Ramp B will also be relocated out of conflict. These activities will clear 90 percent of the conflicts that are created by the construction of the ramps.

After the land rights are obtained for the north side of the interchange, the relocation work can begin to move the Verizon service cables out of conflict with the Ramp B construction. This will also allow for Washington Gas to start its utility adjustments to clear the bridge conflict, and will allow for Summit IG to start its relocation efforts to clear the bridge and various drainage systems. The long-lead utility for the north side is Washington Gas because its work is estimated to take approximately 6 months to complete. It is estimated that the gas mains will be constructed in fall 2019 and completed in spring 2020. The Summit IG system will take approximately 4 months to relocate to clear the bridge. Summit IG currently has only 1 customer in the system. The conduit system will be built in fall 2019 and the splicing will be completed after the yearly splicing moratorium in late January to early February 2020.

As the easements and proposed ROW are obtained on the south side of the interchange, Dominion Energy will begin construction of the distribution pole system. The construction is estimated to take approximately 4 months to 5 months depending on the weather. The completion of the electrical system will allow for the other companies to build their system. The plan is to have Verizon start first while leaving space above its cables on the poles for the other companies to attach. The strategy behind this is to provide Verizon more time to complete its splicing—which is always a long-lead activity. The other utility companies, including Comcast, Century Link, and Cavalier Telephone, will rebuild their facilities on the distribution poles. After the new systems have been completed, the old ones will be removed. The total duration to build this new distribution system is estimated at 14 months while the bridge and other roadway improvements are being constructed.

After all the required documentation is completed for the eastbound duct bank, Verizon will start modifying the duct bank and install the hand holes to create the conduit system for Comcast. The conduits will be constructed for both of the Route 7 underground crossings. This will complete the infrastructure for the duct bank so that Verizon and Comcast can start installing their cables. If the overhead system on the westbound section has been completed, the splicing for both sections will be performed at the same time. This will save several months of coordination for splicing.

The fiber-optic system adjustments on the eastbound and westbound lanes of Route 7 will be scheduled in advance of the construction activities to clear the areas of conflict. Advance scheduling is important to allow the utility companies time to mobilize their crews. The limits of the relocation efforts for Summit IG and Century Link will be established after test pits are performed on their systems. The test pit information will be evaluated, and conflicts will be mitigated to limit the amount of utility adjustments. These mitigation strategies will also include avoiding the Washington Gas main in regard to the drainage

system and guardrails. It is very possible that there are other fiber-optic systems on the Project that have not been designated. Thus, during the test pitting operation, the field locates by the one call system of Miss Utility will validate the utility designations, and we will investigate for the undesignated facilities. This investigation is also performed during the utility relocation activities in order to avoid damage, but the investigation will also avoid construction delays of unknown utility systems.

During the utility relocation activity of all the systems, field controls will be established so that the facilities are installed correctly the first time. These field controls will include recording the horizontal and vertical location of the underground systems to create an accurate as-built plan. So that the information can be retrieved in the future, this utility data will be recorded and stored using the latest radio frequency identification (RFID) and GPS technologies. The successful management of utilities on a project of this magnitude is based on open, honest, and clear communication with all the affected stakeholders.

Wet Utilities

Our team has extensive knowledge and experience working with the Town of Leesburg Utilities Department and has coordinated with its staff regarding the impacts associated with and relocation required according to the RFP plans for the Project. We have reviewed the RFP plans and validated the need for relocation of facilities based on impacts associated with the current plans. The conflicts, related to the roadway construction and limited ROW access, with the existing 8- and 12-inch sanitary sewers and 8-inch waterline are identified in the utility conflict matrix (Figure 4.4-5). During our coordination meeting on September 7, 2018, with the Town’s engineering staff, we discussed our approach to relocation to meet the Town’s Design & Construction Standards Manual (DCSM) requirements. The team met with Tom Brandon and Patrick Moore to resolve any issues related to the RFP plans and develop an approach moving

forward with the design and construction of the facilities. Items discussed at the meeting included the following:

- Verifying the existing inverts and maintaining the capacity of the existing 12-inch sanitary line by upgrading the line to 15 inches based on the initial increase in length across the roadway
- A 30-inch steel casing would be required to extend the line to the limits of the limited-access ROW
- Waivers required based on the current design’s skew and the potential to eliminate the skew to improve slope and capacity and to reduce the length of the line in the casing
- The need for a waiver from the Town if fill heights exceeded 18 feet
- The need to provide a 24-inch casing for the relocation of the existing 8-inch sanitary sewer and to resolve any potential skew issues considering the location of the access relative to SWM facilities
- Potentially using alternative materials including C900 pipe versus ductile iron in the casing based on the requirements set forth in the DCSM
- The need to coordinate with the developer of Leegate to disconnect and remove the existing 8-inch water line after a new connection is made by the developer

The Town noted that after selection is made the team could coordinate with its staff and present the technical information to modify the sanitary material to reduce installation time and costs for the Project. In addition, the Town noted that based on its understanding of the project schedule the developer would most likely be connected to the 8-inch crossing under Battlefield Boulevard before the team begins construction of the proposed roadway improvements. In order to accommodate either scenario the team will provide a Protection Plan for the water line should the currently anticipated schedule change and the water line be in place during construction. The team also noted

that the current design does not impact the existing 30-inch sanitary sewer and 16-inch water line under Battlefield Boulevard, as shown in the RFP plans.

C. Mitigation Strategies for Relocation Impacts and Unidentified Utilities

Utility-Relocation and Utility-Delay Risk Management

Our team successfully coordinated and relocated multiple utilities along the Route 7 corridor when we replaced the Route 7 bridge over the Dulles Toll Road. Many of the utility owners that we will be coordinating with on the Project are the same utility owners we worked with on the Route 7 Interchange over DTR. Our existing relationships will lead to success by minimizing relocation efforts through the following: design coordination, design changes, alternate construction means and methods, early planning, use of temporary facilities, early relocation, and open communication.

Our approach to utility risk mitigation is to do the following: (1) avoid the conflict by designing around the utility; (2) if the conflict cannot be avoided, evaluate opportunities to remove the utility relocation from the critical path; and (3) accelerate acquisition of the utility easements and permits needed for the relocation. We removed from the critical path the following proposed utility relocations on the Project:

- **Temporary poles** will be installed at Sta. 403+75 RT on Ramp D and at Sta. 1058+00 RT on Ramp A to allow work to start on each ramp earlier. Work on Ramps D and A will be completed concurrently with the relocation.
- **The Columbia Gas line** will be relocated to the north of Route 7 within the existing ROW, allowing this work to begin as early as possible and avoiding any schedule conflict with the pier construction.
- **The Summit IG fiber-optic line** will be relocated to the north of Route 7 within the

existing ROW, allowing this work to begin as early as possible and avoiding any schedule conflict with the north abutment construction across Battlefield Parkway.

Mitigation Strategies to Offset the Potential Impacts of Utility Relocations

Our team fully understands the local demands on the utility companies, their designers, and their contractors—they all have many other commitments and priorities. Lead times for obtaining materials, scheduling crews, and seasonal outage windows will be coordinated and scheduled. Any one of these can impact project schedules when a utility relocation gets behind schedule.

The team will work hard to prevent delayed relocations through the following:

- Early engagement with utility owners (already held preliminary UFI, on September 7, 2018)
- Avoiding utility relocations through design
- Mandatory bimonthly coordination meetings with utility owners on the status of plans, specifications, and estimates (PS&Es)
- Prioritizing ROW acquisition for required utility easements
- Bimonthly utility matrix update and utility coordination status report
- Monthly partnering meetings with utility owners, VDOT, and other third-party stakeholders
- Continued design evaluation for avoidance opportunities
- Developing a baseline schedule to remove utility relocations from the critical path (submitted schedule does this)
- Daily coordination with utility relocation contractors once the physical work starts on the Project
- Weekly schedule meetings when relocation work begins

Delayed relocations will be coordinated and managed by the following:

- Keeping all utility coordination and documentation in RUMS up to date
- Meeting with utilities and the VDOT Utility Manager to discuss opportunities for schedule recovery through reallocation of regional resources or the use of additional crews
- Rearranging construction activities to ensure that utility relocations are not on the critical path
- Weekly schedule updates to monitor delays and develop mitigation strategies

Mitigation Strategies for Unidentified/ Nonlocated Utilities Discovered During Construction

Even with a thorough SUE identification process and effort, unidentified utilities could be discovered during construction. To maintain the safety of the work zone and prevent delays from unidentified utilities we will do the following:

- Work hard to prevent unidentified utilities by following the discovery steps for identifying potential utilities including research, coordination, and designation
- Field verify horizontal and vertical location of all relocated utilities by QC inspection staff as they are placed to ensure no conflict with future construction activities
- Before construction, call Miss Utility to mark all utilities within the project limits (and the location tickets will remain open until final completion)
- After a work zone is established, the construction crews will test-pit existing utilities within areas of conflict (this can help identify unidentified utilities)

If an unknown utility is encountered, crews will do the following:

- Stop work immediately.

- Contact Matt McLaughlin, Utility Coordinator; Dave Leber, Construction Manager; Anthony Bednarik, DBPM; and the VDOT Utility Manager.
- Convene an on-site meeting to develop a plan to mitigate potential delays.
- Determine and contact owner.
- Hold a field meeting with all parties to determine if the line is active or abandoned. No construction activities will continue in the area until this is determined.
- Partner with utility owner to resolve conflict in an expedient manner.
- Evaluate impact and magnitude to current work.
- Evaluate and manage the schedule to look for opportunities outside the conflict area to continue work while relocation is taking place.

D. Integrated Utility Relocation in Project Sequencing and CPM Schedule

Our team has coordinated with the utility companies and developed a timeline for the utility relocations that will be integrated in our baseline schedule through predecessor and successor activities, including key meetings, relocation plan approvals, acquisition of necessary easements, and appropriate hold points for design and construction. Our team has performed an in-depth review of the various utility relocations needed for the Project and allocated reasonable time in our proposed project schedule. As described earlier, we mitigated several utility risks by developing design enhancements to avoid utility relocation and removed utility relocations from the critical path.

ADDED VALUE  *Using many of the same strategies, our Utility Coordinator, Matt McLaughlin, successfully reduced eight areas of anticipated relocation to three relocations by protecting utilities in-place and by changing designs and construction methods on VDOT's I-66 Spot Improvement Project.*

4.4.3 Geotechnical

Our team reviewed the available geotechnical information contained in the RFP documents for the Project, specifically the geotechnical data report (GDR) dated April 16, 2018, and has also reviewed relevant geotechnical information from other nearby projects. These efforts will validate and confirm our proposal design solution and reduce VDOT’s construction costs and risks.

A. Geotechnical Approach

Upon the Notice of Intent to Award, we will develop a geotechnical investigation plan to include soil borings, in situ testing, and soil laboratory testing. Geotechnical investigation will be planned and performed in accordance with the RFP and Chapter 3 of the VDOT Materials Division, Manual of Instructions for Geotechnical Engineering (MMOI Chapter 3). This effort will be represented in the baseline schedule. Upon the Notice to Proceed, we will perform all accessible borings and in-situ tests within the scope validation period. We plan to perform classification, index, California bearing ratio (CBR), shear- and rock-strength, and consolidation tests. The type and quantity of these tests will conform to VDOT requirements and as needed based on our experience to identify geotechnical properties in order to validate the RFP geotechnical assumptions and scope and to mitigate geotechnical risks.

The geotechnical data will be presented in a Geotechnical Engineering Report (GER) to allow the design team to have proper information to prepare foundation, retaining wall, stormwater management, slope construction, and pavement design. We will schedule the test borings based on the design priority. Performing the borings for the bridge abutments and retaining walls will be prioritized over the roadway borings. By doing so, the critical information is shared with the design team in a timely manner, allowing the team to proceed to final design and avoid delays during design.

B. Identification and Management for Geotechnical Risks

We have determined that there are three major categories of risk as follows:

1. **Working Near Existing Structure and Utilities** | Structures such as the existing box culvert at Sta. 2046+50, ductile iron sanitary sewers crossing Route 7 and Battlefield Boulevard, the existing retaining wall, and slope near Russell Branch Parkway have been identified as features that will be impacted by the proposed embankment and. The culvert will be monitored for any additional loading due to permanent and temporary conditions. The Sanitary sewer line will be replaced in the permanent condition before placing additional fill.
2. **Poor Quality Existing Soil** | The boring and test data in the GDR indicate the existing fill contains varying amounts of organics at the approach embankments to the bridge.
3. **Presence of Rock** | The borings indicate shallow intermediate geomaterial (IGM). The diabase rock is very hard and highly variable with depth changes of up to 25 feet at the location of the proposed multi column pier.

Figure 4.4-6 on the following page, identifies additional geotechnical risks and our mitigation strategies.

Figure 4.4-6 | Geotechnical Risks and Mitigation Strategy

Category	Risk	Risk Identification	Risk Mitigation
Existing Structure/Utility	Surcharging of existing retaining wall at Russell Branch Parkway	<ul style="list-style-type: none"> • Proposal phase: review of existing wall location. 	<ul style="list-style-type: none"> • Design phase: turn lane has been realigned to eliminate the need for a new retaining wall or new fill and eliminate any risk to the wall.
Existing Structure/Utility	During construction, overstressing of existing box culvert at Sta. 2046+50 and ductile iron sanitary crossing Route 7 and Battlefield Boulevard	<ul style="list-style-type: none"> • Proposal phase: review of existing conditions. • Construction phase: monitor culvert and pipes during construction. 	<ul style="list-style-type: none"> • Design phase: design for anticipated loadings considering the permanent and MOT conditions. • Construction phase: sequence work to replace the culvert and pipes before fill placement.
Existing Structure/Utility	Maintaining or reconstructing existing slopes	<ul style="list-style-type: none"> • Proposal phase: review of existing conditions. 	<ul style="list-style-type: none"> • Design phase: grading will be designed to minimize cuts or impacts to existing slopes. • Construction phase: observation of existing slopes.
Presence of Rock	Shallow IGM and variable depth to hard rock at bridge foundations	<ul style="list-style-type: none"> • Proposal phase: review of GDR. • Investigation phase: perform test borings to better quantify the bearing stratum and understand depth to rock. • Construction phase: Use predrilling where necessary and careful construction observation of bridge pile foundations to confirm embedment into suitable bearing stratum. 	<ul style="list-style-type: none"> • Design phase: the bridge design will use predrilled and staggered piles to reduce the quantity of piles with a resultant reduction in duration for this activity and reduction in risk of encountering unanticipated rock. • Construction phase: Wagman will use in-house geotechnical engineers experienced pre-drilling h-pile into hard rock.
Presence of Rock	Construction delays from presence of hard diabase rock and boulders	<ul style="list-style-type: none"> • Proposal phase: review of GDR. • Investigation phase: perform test borings to understand depth to rock. • Construction phase: use predrilling and careful construction observation of bridge pile foundations to confirm embedment into suitable bearing stratum. 	<ul style="list-style-type: none"> • Design phase: design grading and utility vertical locations to minimize excavation. • Construction phase: select utility crossing methods that can penetrate hard diabase rock.
Settlement Potential	Embankment settlement resulting in downdrag loading on the bridge foundations and differential settlements at the bridge approach	<ul style="list-style-type: none"> • Proposal phase: review of GDR. • Investigation phase: perform test borings, organic content, and consolidation testing to define the extent, depth, composition, and settlement characteristics of the in situ soils. 	<ul style="list-style-type: none"> • Construction phase: Continuous sampling and testing of material in existing fills. Organic content and/or consolidation tests with time-settlement readings are critical for evaluating the magnitude and time-rate of embankment settlements. Sleeving of piles to minimize downdrag

4.4.4 Quality Assurance/Quality Control

The Wagman approach to quality management uses proven, effective procedures for design and construction quality management. Our approach will instill VDOT with confidence that it will not incur unexpected oversight and administrative costs during the Project and that the Project will meet the expectations of the Town of Leesburg and other project stakeholders. Wagman will deliver the highest standards of quality through the following actions:

- Partnering with VDOT to address all viewpoints and commitments and to reach mutually agreeable issue resolutions
- Incorporating best practices from previous D/B projects, including VDOT D/B projects such as the I-64 Widening and High-Rise Bridge Replacement and I-395/Seminary Road High Occupancy Vehicle (HOV) Ramp D/B; ICC A and B, D/B projects in Maryland; and the Virginia Avenue Tunnel, in Washington, D.C.
- Incorporating lessons learned from previous projects, which include complex interchanges and intersections (including Virginia D/B projects such as the Zions Crossroads [first diverging diamond interchange {DDI} in Virginia] and Military Highway Continuous Flow Intersection [CFI] D/B [first CFI in Virginia], and ICC A [SPUI], in Maryland)
- Using interdisciplinary quality, constructability safety, and environmental reviews for optimized solutions
- Implementing a comprehensive QA/QC Plan that generates well-structured documentation in accordance with VDOT's Road Design Manual, and Instruction and Informational Memoranda
- Dedicating an independent Quality Assurance Manager (QAM) and an autonomous Quality Control Manager (QCM) with authority to stop work at any time
- Implementing the following clear provisions for tracking and correcting nonconforming work:

- Perform a comprehensive review of the plans, specifications, and referenced requirements
- Identify all testing, submittals, and quality requirements for each construction operation or item
- Develop design checklists used by the construction, QC, and QA teams to confirm strict compliance with the RFP, other VDOT design criteria, design codes, project commitments, and general requirements (CADD, file formats, etc.)
- Use the design checklist as a tool to establish the submittal log, agenda for pre-activity meetings, and hold and witness points

Wagman will not start construction activities without Released for Construction (RFC) Plans and appropriate pre-activity meetings, including task-specific Work Plans, a job hazard analysis, and discussion of quality requirements (hold points and testing/inspection requirements).

A. Approach to QA/QC and Staffing Plan

Anthony Bednarik, DBPM, has overall responsibility for the Project, including the quality management effort. The D/B Coordinator, Jerry Whitlock, PE, will assist Anthony in his QC duties. Within their jurisdictions, the three legs to the Quality Management Plan (QMP) are as follows:

1. Design quality management
2. Construction QC
3. Construction QA

Overall assurance and auditing of the program will be performed by Jerry, our D/B Coordinator. Our Design QA/QC Plan, based on VDOT's minimum requirements for QA and QC on D/B projects, follows the successful plans that our lead engineering firm, Parsons, developed for other VDOT D/B projects. It will be implemented by Design Manager Josh Wade, with direct input from Jerry and Anthony, and with assistance from our Design Quality Manager, Greg Anderson. Josh will establish design criteria and checklists, using

effective tools developed for the Military Highway CFI project and other D/B projects for VDOT.

Construction QC Manager Michael Pruitt will oversee compliance with VDOT’s construction quality standards, as well as our own internal high-quality standards. Michael will be on-site full time and report directly to Construction Manager David Leber and have no assigned duties other than QC. He will manage the QC process and supervise the on-site QC staff of inspectors, technicians, and material testing specialists, placing precedence on critical issues and issuing nonconformance notices (NCNs) to Michael when necessary. He will also verify that QC inspection and testing staff are appropriately certified in accordance with VDOT requirements.

ADDED VALUE  *As proven on past projects, 80 percent of project issues result from only 20 percent of work activities. Michael Pruitt, our experienced QC Manager, will identify the activities that historically cause issues on D/B contracts and concentrate his resources on those items.*

Quality Assurance Manager John Vicinski, PE, of Quinn Consulting, will manage the independent construction QA program. He will oversee a team of inspectors and technicians, as well as the QA materials-testing lab. The QA inspection team will feature full-time Lead QA Inspectors for bridge work and for roadway work. The QA Leads will supervise the fieldwork of the QA Testing Technicians.

The timing of this procurement offers a great opportunity for Wagman to build on the relationships developed with VDOT NOVA staff in the delivery of the \$42 million Route 7 Interchange over DTR project, in Tyson’s Corner. Along with our Construction Manager and nine other project management staff, Quinn Consulting will again serve in the independent QA role—so there will be no learning curve in the implementation of VDOT’s D/B performance evaluation program.

B. Unique Project Element – Design

As discussed elsewhere in this proposal and identified as a key project risk in our SOQ, the Project involves coordination with a high number of stakeholders. Unique among these stakeholders is the Town of Leesburg, which is responsible for the maintenance of Battlefield Parkway. The Town of Leesburg design criteria and standards must be adhered to for many of the design components. Complying with overlapping VDOT and Town of Leesburg criteria is a unique element that warrants additional attention. Design components that require compliance with the Town of Leesburg’s DCSM and/or approval by the Town of Leesburg include:

- Pipe culverts and storm sewer pipe
- Modifications to existing SWM facilities
- SWM facility as-built drawings
- Tuscarora Creek Watershed requirements
- All local roadway signs
- Traffic control devices on Battlefield Parkway
- Temporary traffic signal plans
- Traffic signal design and equipment and signal timings for new or modified permanent signals
- Roadway lighting calculations and selection of light poles, luminaires, bolt template, anchor bolt diameter, and other equipment
- Coordination with the Town’s proposed landscape design
- Aesthetic and architectural treatments applied to the Battlefield Parkway Bridge over Route 7

Project-Specific Checklist to Seek Approvals and Minimize Schedule Impact

Our team developed a project-specific checklist based on the RFP requirements, the Town of Leesburg’s DCSM, and our experience working with the Town. This checklist (Figure 4.4-7) will be used along with VDOT’s standard LD-436 and our internal VDOT QC checklist, which has been developed through our extensive D/B and VDOT experience, to manage the Town of Leesburg’s requirements and stakeholder expectations.

Figure 4.4-7 | Project-Specific Checklist



Date: _____

Reviewer Initials: _____

Submittal Name: _____

Submittal No: _____

No.	Description	Y/N
1	Any deviations from Town of Leesburg DCSM?	
2	Aesthetic and architectural treatments are provided in accordance with RFP Part 2 Attachment 2.3.10.	
3	Drainage and SWM features are designed in accordance with DCSM.	
4	Traffic control devices on Battlefield Parkway are designed and in accordance with Town of Leesburg’s requirements provided in RFP, Part 2, Attachment 2.9.2.	
5	Modifications to existing signals that are owned, operated, and maintained by the Town of Leesburg are coordinated and discussed with the Town of Leesburg.	
6	The signal timing plans/programs are submitted for review and approval.	
7	Lighting options are coordinated with Dominion Energy, the Town of Leesburg, and VDOT personnel before the initial selection of light poles, luminaires, the bolt template, the anchor bolt diameter, and other equipment.	
8	All in-plan utility relocations are in accordance with the Town of Leesburg’s DCSM.	
9	Design provides directional signs for businesses at decision points.	
10	MOT design considers holiday shopping patterns (Black Friday, Christmas, etc.).	
11	MOT phasing details are coordinated with external stakeholders and emergency responders.	

C. Unique Project Element – Construction

The most critical, unique element from the construction perspective of our concept are the bridge foundations. The geotechnical information we have reviewed indicates a large amount of diabase rock. We expect that we will not be able to use conventional construction methods to drive steel H-pile for bridge foundations to the proper tip elevation. Therefore, we will overcome this issue by

drilling into the rock to the proper elevation, setting the pile in place, and then laying concrete.

After the design is complete, our quality-focused process will begin with the development of our project-specific Work Plan. Our engineering and field staff will develop the Work Plan for the Project and then review it with the field crew and QC staff before the start of work. We will conduct a preplanning meeting with engineers, safety staff, field staff, QC staff, and VDOT and project-management staff. The Work Plan will include all necessary information for the scope of work, including safety, quality, roles/responsibilities, materials, equipment, and schedule.

After the Work Plan review is complete, our survey team will then calculate and provide layout for the pile locations. The Survey Chief will perform regular follow-ups with the Field Surveyors to ensure that their work has been performed correctly. Our field crew in turn will begin by verifying that all necessary layout is complete. We will ensure that the hole is the proper size by using the auger that corresponds to that diameter. If the field conditions dictate the need for casing to keep the hole open, we will case the hole.

Our equipment will automatically notify the operator if the hole is being drilled plumb. To further verify that this is done properly, we will also use a 4-foot level on the Kelly bar of the machine as the holes are augured. As the hole is drilled, drill spoils will be removed by pulling the auger out of the hole. If the material is muddy or wet, we will use a cleanout bucket (flat Auger). We will ensure that the hole is drilled to depth by the instrumentation on the machine and confirm the depth is correct by using a weighted measuring tape to sound the hole. We will also sound the hole in many places to verify that the bottom has been sufficiently cleaned. If the measured distance is consistent, the hole has been properly cleaned.

The next major operation is the placement of the piles. The main concern during this operation is that the piles are set to the proper horizontal and

vertical alignments. In order to accomplish this, we will weld a guide to the tip of the pile so that it remains centered in the hole and does not “wander.” At ground level, we will use a template to keep the pile on location. This will be verified by our survey team. Before concrete is delivered, our Work Plan will include a hold point so that the QC staff and VDOT can confirm that the Work Plan and QC Plan are being followed.

As concrete is delivered, it will be tested on-site per American Concrete Institute (ACI) and VDOT requirements. Concrete will then be placed after the pile is secured in the hole and the hold point has been verified. We will regularly check the pile with a 4-foot level to confirm that it is plumb. If there is a risk of cave-ins, casing will be used.

After the concrete has gained proper strength, we will place the corrugated metal pipe (CMP) sleeves over the pile and stabilize using timber kickers and stakes. The sleeves will extend from the existing ground to the bottom of concrete abutment. After the sleeve is stabilized, we will fill the sleeve with sand. We will store the material separately on-site so that it does not get contaminated before placement in the sleeves. We will maintain the supports until one third of the fill has been placed around the sleeves. At that point, enough stability will have been developed so that the sleeves will remain plumb on their own. Construction of pile foundations augured into rock can be challenging. However, our team has the equipment, personnel, and expertise required to complete the work within the quality standards for the Project.

ADDED VALUE  *We have a proven track record of delivering projects with similar geotechnical elements for VDOT and many other regional owners without incurring any major quality issues. We will use the same project staff members from the Route 7 Interchange over DTR, which received positive QA/QC ratings from VDOT.*

Our design team, led by Parsons and with Schnabel as our geotechnical engineering firm, will work directly with Wagman in-house Geotechnical

Engineers during design to develop the most-efficient and cost-effective foundation system.

D. Design Quality Management to Minimize VDOT’s Efforts

Wagman’s design QA/QC Plan will be based on the refined and proven process that Parsons uses on all of its projects, including the Zions Crossroads (first DDI in Virginia); Military Highway CFI (first CFI in Virginia); and ICC A (SPUI), in Maryland. Those processes have been approved and vetted by VDOT personnel. They will be tailored to address the specific needs of the Project. Key elements of our design QA/QC program are as follows:

1. Design quality management plan (DQMP)
2. Design schedule
3. File structure and setup
4. Design criteria/standards validation and setup
5. Design quality program training
6. Implementation of the design quality program
7. Postdesign and tracking logs
8. Design support during construction

1) The DQMP is a VDOT requirement on all D/B projects. Parsons prepares DQMPs for all D/B projects where it is the lead engineering firm. It will build on those successful efforts and improve them with lessons learned, tailoring its DQMP to project-specific requirements and needs. This document will detail the quality processes, describe roles and responsibilities, and integrate construction and the project quality program.

2) An accurate design schedule is critical to the success of the Project. The Parsons design schedule will document anticipated durations and workflow for design elements, including review times, comment periods, third-party coordination, and permitting requirements.

3) The project design file structure and setup uses standardized MicroStation workspaces to improve project quality, minimize potential errors,

unify staff efforts, and simplify communication and collaboration across the team. The use of web-based document-control tools simplifies archival processes, especially for QC documents and record sets.

4) Design criteria and standards validation and setup is critical to selecting correct assumptions, software, and validation methods. Our experience in understanding and properly disseminating this information will prove beneficial.

5) An effective design quality training program will be needed to ensure the quality program receives 100 percent commitment from all involved parties. We will ensure that all designers, especially those new to the team, know every detail of the quality plan and the standards for compliance.

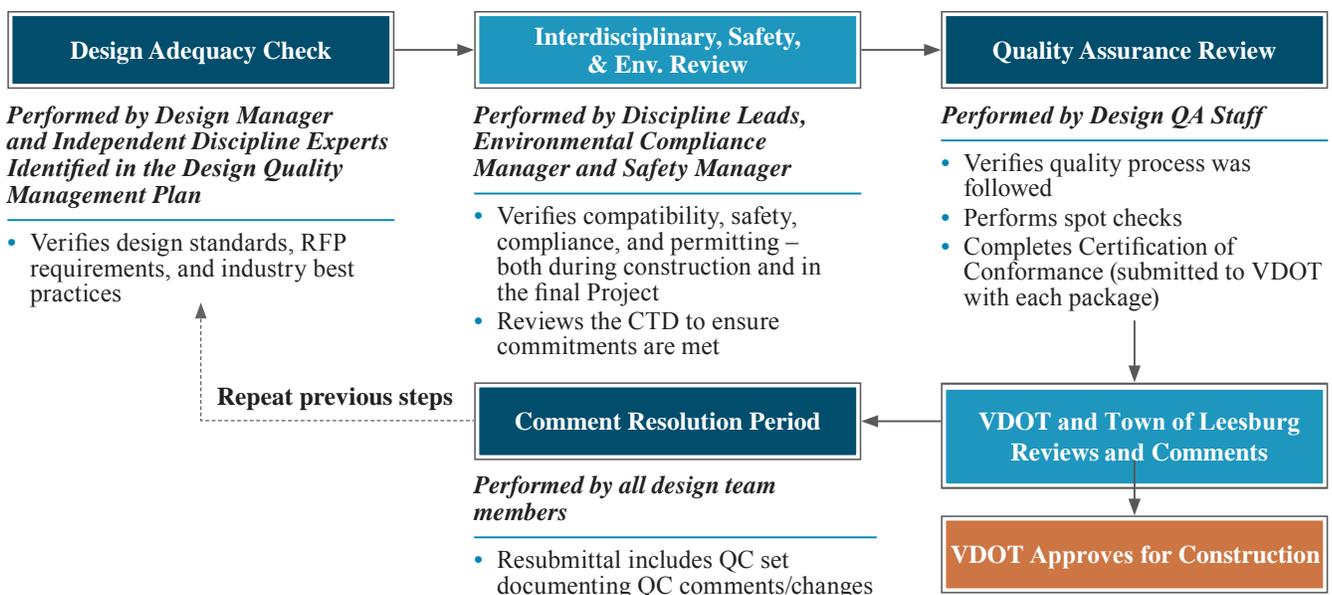
6) Implementation of the design quality program ensures a successful project. During the design-development phase, the design effort will follow the steps presented in Figure 4.4-8. Relevant disciplines, clients, and stakeholders will be involved through over-the-shoulder reviews, task-force meetings, and other collaboration methods to optimize potential solutions.

The design QC is handled by a senior independent engineer. If changes arise from this review, the design package is returned to the design team to restart the process. After going through QC review,

the design package undergoes interdisciplinary, environmental, safety, and constructability reviews. This review cycle allows for formal checks (completed in addition to the over-the-shoulder reviews, task-force efforts, and other methods used early in design) and documents compliance with all requirements, accounts for all potential conflicts, and ensures a safe, environmentally compliant, and constructible solution. After this stage is completed, the design package is submitted to VDOT, the Town of Leesburg, and other stakeholders for a formal review and comment resolution process, resulting in an approved package.

7) Maintenance of the postdesign and tracking logs will be done after the design phase is complete and the design staff provides engineering services during construction (ESDC) documentation. Seeking continual improvement, the design team will track NDCs and respond to RFIs using proven tracking processes and logs to ensure that all staff are informed of ongoing questions and potential changes to drawings to eliminate rework. This process is currently being used on the I-64 Widening and High-Rise Bridge Replacement and was successfully deployed on all of Parsons’ VDOT D/B projects. It has proven effective for reducing rework and ensuring everyone has up-to-date information.

Figure 4.4-8 | Design Quality Review Process



8) Design support during construction. After the design packages have been reviewed and released for construction, the design team will remain engaged through construction as field conditions change, schedules evolve, and revisions to approved designs or approaches are warranted. In addition to participation in progress meetings, reviewing shop drawings and certain Work Plans, evaluating subgrades and foundation elements, and compiling as-built drawings, the following give insight into other ESDC that will be provided:

- **RFI tracking** | RFIs are tracked in logs, including a log for VDOT and one for our team’s questions. Questions may result in design changes that require revisions to the approved plans, which will be tracked as an NDC.
- **NDC log maintenance** | The NDC log will alert team members of upcoming changes to approved drawings upon initiation of a revision and track these revisions through approval. The log will identify sheets being modified, the elements being modified, the reasons for the changes, and the approval notice and date.
- **Design team progress review visits** | The design team will periodically perform site visits during construction to review progress and discuss potential improvements with the construction team. The design team’s ongoing engagement leads to collaboration on implementation, enhancements, and problem solving—ultimately promoting jobsite safety and improving the quality and timeliness of the finished product. An example of these services will include visits by the Geotechnical Engineer of Record to approve subgrade or recommend undercut or soil modifications.

A familiar saying is that “the job isn’t complete until the paperwork is done.” This is especially true for QC and QA. QA is not only ensuring that the work is performed correctly, but also that processes are documented and readily retrievable. Wagman’s QA Plans detail documentation and document storage and retrieval requirements with the aim of minimizing effort for the contractor and VDOT.

Wagman, Parsons, and all the other members of the team are familiar with VDOT documentation requirements and VDOT’s document-control program, CADAC. In addition to serving as lead designer on numerous D/B projects for VDOT, Parsons serves as VDOT’s general engineering consultant (GEC) on several megaprojects. This participation as the owner’s representative provides Parsons with an especially high awareness of the need for proper documentation and with the understanding that in addition to project-level audits, audits external to the project by VDOT, funding partners, and other stakeholders are likely to occur.

E. Construction Quality Management to Minimize VDOT’s Efforts

We will provide a construction QA/QC effort that focuses on complying with the plans and specifications, ensuring quality workmanship, and producing easily auditable documentation—thereby minimizing VDOT’s efforts. We will develop our construction QMP during the design phase, using feedback from quality, safety, field, and design personnel to tailor a project-specific plan that uses Wagman’s QMPs from past VDOT D/B projects as a template. Key elements of our construction QMP are as follows:

1. Dedicated QCM
2. Independent QA
3. Detailed Work Plans
4. Effective document control
5. Documenting changes to approved Construction Plans
6. Documenting nonconforming work
7. Inspection and testing requirements

1) Dedicated QCM | Our project team includes an independent, full-time QCM, Michael Pruitt, whose sole responsibility will be construction QC program management. Michael is familiar with VDOT requirements and local construction methods. Adding an on-site, full-time QCM to our project

staff is a quality management enhancement that will produce a better project and better documentation of the final product.

2) Independent QA | Although contractual QA requirements are prescriptive, our team will expand QA’s role by involving QA in aspects of construction planning and oversight such as Work Plan reviews, preparatory meetings, and casting yard inspections.

3) Detailed Work Plans | Wagman will assemble Work Plans for each major construction element, including task-oriented construction engineering, as necessary (Figure 4.4-9). Although the primary purpose of these plans is to ensure proper planning and execution of the work based on RFC drawings, the Work Plans also outline QA and QC prework, inspection, testing, acceptance requirements, and hold points. These plans will be communicated to construction personnel in preparatory meetings, led by our QCM, and then monitored and reinforced through the inspection process.

4) Document control | A simple way to avoid mistakes is to ensure that current documents are used. We will include a QR code on all plans and working drawings, which can be scanned with a smartphone to verify status. This ensures that outdated drawings are not used for construction.

5) Documenting changes to approved RFC Plans | We will document and track any changes made to

RFC Plans through detailed RFI, NDC, and FDC procedures, and thoroughly review such changes to ensure conformance with contract documents. In addition, a set of red-line drawings will be maintained in the project office to track clarifications of and variations from the RFC drawings. While developing as-built drawings, the QC staff will do contemporaneous updates and forward them to the design team to compile in the official set of electronic as-built drawings at the end of the Project. Tracking logs will include a checkbox indicating that the FDC, NDC, or RFI requires changes to as-built drawings. These logs will then become checklists when compiling final as-builts and ensure no change is not captured on final as-builts.

6) Documenting nonconforming work | We will document and track any nonconforming work through NCRs. Our QAM will formally initiate NCRs and track them through resolution. Construction Manager Dave Leber will work with the QCM and QAM to develop and implement agreeable and effective NCR solutions.

7) Inspection and testing requirements | The QMP will incorporate applicable inspection and testing requirements per the VDOT minimum requirements for QA and QC on D/B and Public-Private Transportation Act of 1995 projects issued in July 2018, as well as additional testing that is pertinent to specific Work Plans.

Figure 4.4-9 | Wagman’s Workplan from VDOT’s Route 7 Interchange over Dulles Toll Road Project

SUPERINTENDENT: DUSTIN BURKETT # PAGES: 1		PREPARER: SHREESH KATOLE DATE: 9/8/2017	
JOB #: 3228 OPERATION NE QUAD CIP DECK			
PROJECT: RT.7 OVER THE DULLES TOLL ROAD			
SCOPE OF WORK: ERECT SCAFFOLDINGS / POUR DECK CONCRETE / CURE CONCRETE / STRIP DECK			
COST CODES & BUDGET			
DESCRIPTION	CODE	QTY	UNIT
DRY RUN DECK	34212-PB2	1	EA
POUR STEEL DECK	34200-PB2	47	CY
POUR DECK	34200-PB2	266	CY
SETUP BIDWELL	34210	1	EA
ERECT/REMOVE SCAFFOLDING	35108-PB2	1	LS
EQUIPMENT & CREW			
DESCRIPTION	QTY	NOTES	
LABORER	5		
CEMENT FINISHER	3		
CARPENTER	3		
FOREMAN	1		
BIDWELL OPERATOR	1	Shoring	
CRANE OPERATOR	1		
MATERIALS, SMALL TOOLS & SUPPLIES, SUBCONTRACTORS			
DESCRIPTION	QTY	UNITS	NOTES
BIDWELL	1	EA	
Crane, Hydraulic 31-4	56.35	HR	
MANLIFT 60'	112.5	HR	
Scaffolding	1	LS	
SUBCONTRACTORS AND SUBCONTRACTOR SUPPORT			
SUBCONTRACTOR	SUPPORT NEEDS		
PRE-REQUISITE ACTIVITIES REQUIRED PRIOR TO START OF THIS ACTIVITY			

WORKPLAN SUMMARY		WAGMAN BRIDGING GENERATIONS - SINCE 1902	
#	HAZARD DESCRIPTION	AHA REQ'D?	NOTES
1	PINCH POINTS/STRUCK BY'S	N	BE AWARE OF BIDWELL LOCATION AND MOVEMENT
2	SLIPS / TRIPS / FALLS	N	WATCH YOUR STEP WALKING ON DECK REBAR
3	OVERHEAD LOADS	N	BE AWARE OF CONCRETE PUMP MOVING OVERHEAD
4	ADJACENT TRAFFIC	N	STAY CLEAR OF TRAFFIC ADJACENT TO OVERHANG RAILINGS
5	TRAFFIC BELOW	N	BE AWARE OF TRAVELING PUBLIC BELOW WORK AREA
TOP 5 SAFETY HAZARDS			
FIRST RULE OF SAFETY: Never Walk Past an Unsafe Act or Condition			
HOLD POINT#	WORK SEQUENCE / OPERATIONAL PLAN STEP BY STEP	HAVE YOU CONSIDERED THESE?	
HP1	1) Prepare subgrade and install stone	<input type="checkbox"/>	Weather?
	2) Survey Foundation Pads	<input type="checkbox"/>	Access/Egress?
	3) Install Foundation Pads – Shoot Elevations to verify prop height	<input type="checkbox"/>	Material Storage and Lay Down Plan?
	4) Assemble Shoring Props from Abut B to Pier 4 based on Pad Elevation	<input type="checkbox"/>	Traffic Control/MOT?
	5) Install Shoring Props from Abut B to Pier 4	<input type="checkbox"/>	Utilities/Overhead Lines?
	6) Install Stringers Checking Slope & Wedge to Profile	<input type="checkbox"/>	Crane/Equipment Setup?
	7) Install Joists, Decking, and Handrail	<input type="checkbox"/>	Haul Rd?
	8) Survey Decking	<input type="checkbox"/>	EAS/Drainage?
	9) Adjust Props for Decking Elevation based on Survey	<input type="checkbox"/>	Crane Radius vs Load?
	10) Repeat steps 1-9 from Pier 4 to Pier 1	<input type="checkbox"/>	Rigging?
	11) Layout Radii for Bottom Flat & Deck Edge	<input type="checkbox"/>	Tag Lines Qty/Length?
	12) Install Wood Buildup for Section & Deck	<input type="checkbox"/>	Concrete Washout location?
	13) Install Deck Edge & Rail	<input type="checkbox"/>	Lightplans?
	14) Install Coil Loops for Handrail after Shoring is removed	<input type="checkbox"/>	CONCRETE ITEMS
HP2	15) Install Reinforcing	<input type="checkbox"/>	
HP3	16) Dry Run	<input type="checkbox"/>	
	17) Pour Deck & Make 10 additional sets of cylinders	<input type="checkbox"/>	
	18) After 7 days of curing and 28 day strength, strip per shop drawings	<input type="checkbox"/>	
HOLD POINT ACTIONS			
HP1	Check Density		
HP2	Check Rebar		
HP3	Check Bidwell and rebar clearances		
Approved By: <i>[Signature]</i>		Date: 9/11/17	
ITEMS NOT CONSIDERED-NOT COMPLETE			

4.5

Construction of Project



4.5 Construction of the Project

Our focus during the proposal development was to come up with an efficient design that will allow for construction to start quickly. We also focused on how to safely and efficiently deliver this critical project ahead of schedule.

Our proposed construction approach, including the sequence of construction and the Transportation Management Plan (TMP), has been developed to achieve the following goals:

- Construction of the Project without impacting Route 7 traffic or reducing the posted speed of 55 mph
- Ensuring the safety of the public and workers
- Minimizing impacts to the adjacent landowners and businesses
- Proactive stakeholder coordination

Our team’s proposal schedule, presented in Section 4.6 (Proposal Schedule), has been developed with input from all project disciplines including design, environmental permitting, utilities, right-of-way (ROW), quality assurance/quality control (QA/QC), and construction. Our enhanced design concept provides several opportunities to accelerate the construction schedule.

Schedule Enhancements 1–2



Final Completion Date of November 23, 2021

- 1 Project delivery 7 days earlier than final completion date established by VDOT (i.e., opening before the Thanksgiving holiday)

Unique Milestone – Detour of 309 days

- 2 Reduced long term detour duration to 309 days

With these enhancements our team will deliver the entire project early, and we are committed to further advance the operational improvements for the Project. In addition, in this section we demonstrate how our team offers the Virginia Department of

Transportation (VDOT) confidence and added value in the following areas:

ADDED VALUE	Stakeholder Coordination	Cost
	Quality	Schedule
	Safety and Environmental Health	

4.5.1 Sequence of Construction

A. Approach to Construction Phasing

Our planned sequence of construction (Figure 4.5.1) and related schedule, shown in Section 4.6 (Proposal Schedule), are based on beginning work in areas as soon as possible after constraints are removed or after required prework such as design is completed. The Wagman/Parsons Design-Build (D/B) Team will construct the Project in three major construction phases, which can generally be built independently from each other and have separate maintenance-of-traffic (MOT) phases. The three major phases are as follows:

- **Phase 1** | Construction of proposed widening on Route 7, interchange ramps, and access roads
- **Phase 2** | Construction of the bridge and approaches on Battlefield Parkway
- **Phase 3** | Construction of all remaining roadway finishes and ancillary items outside the travel lanes

Figure 4.5-1 | Phasing and Sequence of Construction (PHASE 1)

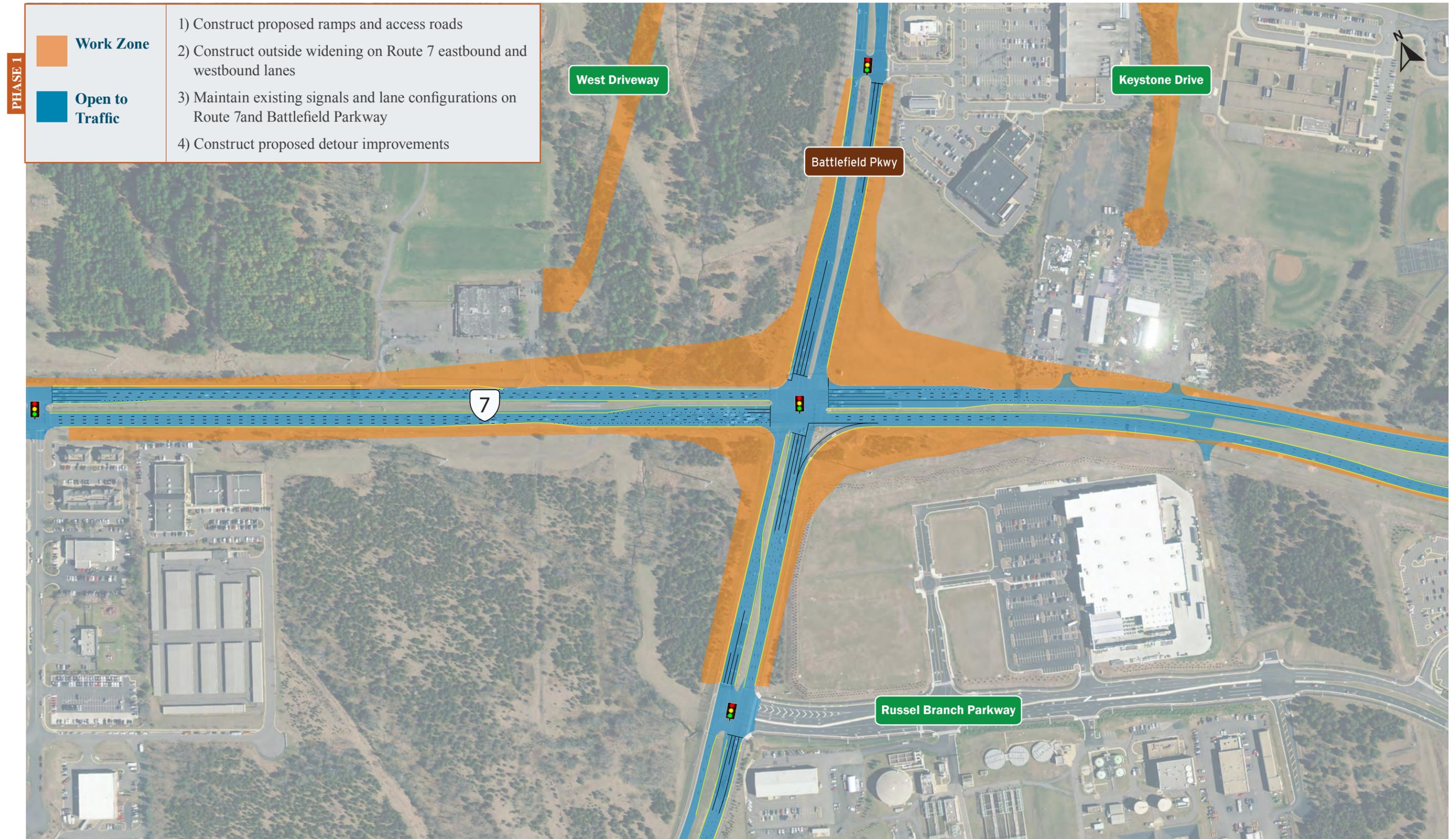


Figure 4.5-1 | Phasing and Sequence of Construction (PHASE 2)

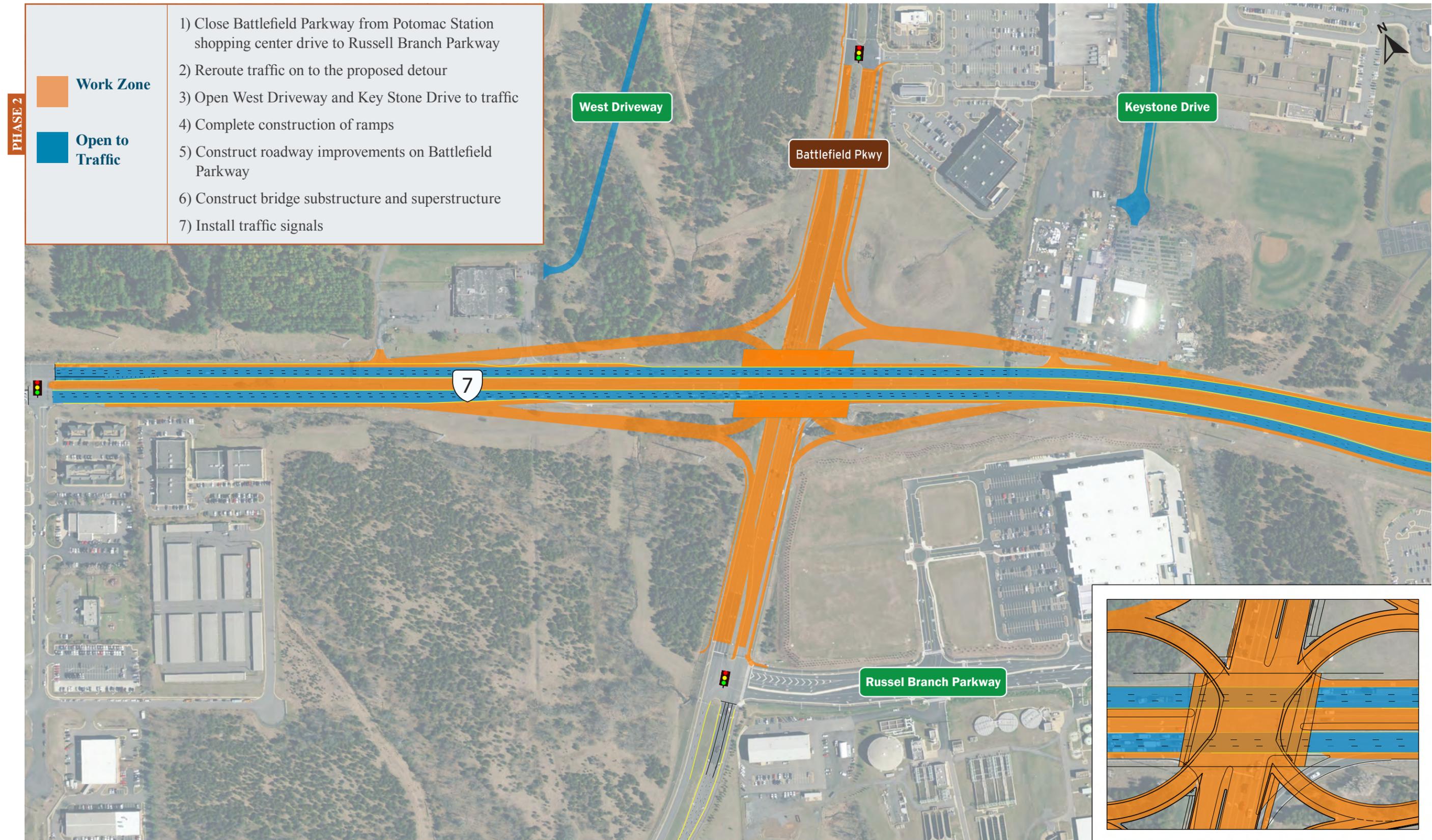


Figure 4.5-1 | Phasing and Sequence of Construction (PHASE 3)



B. Approach to Addressing Safety, Operations, Staging, and Storage Areas

Safety

Safety is a core value for Wagman and is its top priority for its employees, subcontractors, adjacent property owners, pedestrians, and the traveling public. We have a proven record of safely delivering multiphase, complex-interchange projects as exhibited by Wagman’s current experience modification rating (EMR) of 0.80 and recent industry safety awards from the American Road & Transportation Builders Association (ARTBA), Virginia Transportation Construction Alliance (VTCA), and Associated General Contractors of America – Maryland (AGC-MD).



Our Safety Manager, CJ Frum, recently completed the ARTBA Safety Certification for Transportation Project Professionals to go along with his OSHA 30, VDOT ESCC, and VDOT Intermediate Traffic Control. CJ will oversee the project safety program starting with the development of the project-specific EHSP and project-specific safety training through design development, construction, and project acceptance.

ADDED VALUE

Our team understands the critical nature of keeping traffic moving safely at the current posted speed while making the necessary infrastructure improvements. To accomplish this, we plan to perform the majority of our construction behind temporary concrete barrier (TCB). This enables us to better protect our employees and perform most of the work during the daytime work hours. Our construction team has already worked closely with our design team in determining the sequence of construction and will continue to perform detailed constructability reviews of the TMP and MOT Plans, ensuring that our plans provide safe and effective advance warning and transit through the work zone. In addition, we will provide the following: on-call towing service, emergency pull-off/refuge areas, access through all work zones for emergency responders, preapproved messaging for a variety of incidents, and an Emergency Contingency Plan.

Wagman will provide a dedicated MOT Manager, Brian Sluder (American Traffic Safety Service Association, Inc. [ATTSA] and VDOT Intermediate Traffic Control certified), who has extensive local MOT experience with limited-access highways, including having served in the same role on the Route 7 Interchange D/B Project that included the phased bridge rehabilitation over Dulles Toll Road. All new MOT patterns will be videotaped immediately after implementation and verified for conformity and operational acceptance. In addition, all MOT will be videotaped at the end of each work week for documentation.

Our team understands the overall traveler mobility limitations that may be present due to the ongoing construction activities of both adjacent and region projects, in particular, the Widening of Route 7 project and the I-66 Outside of the Beltway project. We will work with VDOT and third-party stakeholders to minimize impediments to the traveling public and maintain a safe work zone throughout our own project. David Leber (Construction Manager) and Brian Sluder (MOT Manager) have excellent relationships and experience working with VDOT’s Traffic Operations Center. To help support them, our team already has personnel trained and familiar with the use of the VDOT Land Closure Advisory Management System (LCAMS). These personnel are dedicated to the Project.

Our solution will conform to the RFP to provide safe and continuous access for motorcyclists, pedestrians, and bicyclists where existing facilities exist.

Operations

All operations will be conducted behind the appropriate safety equipment: TCB, temporary attenuators, an MOT shadow vehicle with attenuator, barrels, signs, etc. All ingress and egress points will be limited, signed, and identified to reduce confusion for deliveries, workers, and the traveling public.

Staging and Storage

Wagman has engaged in discussions with the adjacent property owners and has reached an

agreement to use the property adjacent to the work area for the project field office and primary yard. This location will be the main area where we will stage and store equipment and materials for the Project. We will also have sufficient space in the discreet work areas to stage and store equipment and material necessary to complete the work in each respective phase.

Phase 1 | In addition to the primary yard, equipment and material will be staged behind TCB in each quadrant of the interchange for ramp construction. Each ramp has enough space to stage and store the equipment and material required to construct the ramps. Material and equipment for access road construction will use the primary yard and areas within the access roads.

All equipment and material will be stored within the primary yard to construct the Battlefield Parkway detour improvements.

Phase 2 | After the Battlefield detour is implemented, we will continue to use the work areas in each quadrant of the intersection; furthermore, equipment and material will be stored and staged on the existing Battlefield Parkway. For work on the north side of Route 7, we will use the area between Route 7 and the entrance to Best Buy. On the south side of Route 7, we will use the existing Battlefield Parkway between Route 7 and Russell Branch Parkway.

Phase 3 | After Battlefield Parkway is opened, we will store and stage material and equipment in the primary yard during nonwork hours. Equipment and material will be transported to the work areas as required to complete the bridge and roadway finishes within the interchange and along Battlefield Parkway and the ramps. Nothing will be staged or stored next to adjacent traffic unless it is protected by TCB or attenuators.

C. Anticipating and Mitigating Potential Delays

Our team has developed design enhancements and project-specific procedures for ensuring that the

Project is completed 1 week ahead of schedule. We have developed an extensive risk register that helped us identify the issues and concerns that could impact the schedule. As we developed our design plans and sequence of construction, we established risk mitigation strategies to mitigate any potential delays.

Geotechnical

Our team will prioritize the completion of boring and necessary testing and develop the Geotechnical Engineering Report. As detailed in Section 4.4.3 (Geotechnical), we identified geotechnical risks and developed mitigation strategies to minimize schedule impact. For off-site borrow, sources are tested in advance of delivery to the site to confirm they meet specification requirements before placement. During construction, delivered material will be inspected by the QA/QC team to confirm that it is consistent with the tested material and placed with the appropriate methods.

Environmental

Our team has reviewed all potential environmental impacts and developed a design and construction plan to minimize the impacts. As detailed in Section 4.4.2 (Utilities), our team came up with a robust Environmental Management Plan and incorporated the permitting schedule into the Project schedule.

Utility

As detailed in Section 4.4.2 (Utilities), we have already conducted a preliminary UFI meeting with the utility companies and started our coordination. Our Utility Coordinator, Matt McLaughlin, created a strong working relationship with the utility companies; with our early coordination and detailed process for utility coordination, we are well prepared to tackle the utility relocations needed for the Project.

ROW Plan Approval and ROW Acquisition

The ROW process must start as early as possible and is integrated into our overall project schedule. As we developed our schedule and sequence of

construction, we analyzed the impact on the adjacent landowners and modified the design to minimize the impact. With our design enhancements we were able to completely avoid acquisition on three of the original planned acquisitions, further reducing project cost, impacts to the public, and risk of schedule delay.

Three parcels along Route 7 are losing their current access from Route 7 and getting new access roads. Our sequence of construction is planned in anticipation of some delay in acquiring these parcels. In addition, for construction of Keystone Drive, ROW acquisition is needed from the school board. We anticipate a lengthy process for the acquisition on school property; our approach is to prioritize the required ROW approvals needed for these parcels to minimize impact to the project schedule. Our proposal schedule included in Section 4.6 (Proposal Schedule) outlines the complete acquisition process and indicates our planned ROW sequence.

Design Approval and RFC Plans

Our goal for plan preparation is to “do it once and do it right.” As discussed in Section 4.4.4 (Quality Assurance/Quality Control), our QA/QC process is tailored to the Project. With our robust plan and experience, we are confident that the design phase will be completed with minimum oversight from VDOT. Our proposal schedule takes into account coordination and approvals needed from the Town of Leesburg in addition to other reviewing agencies.

Construction

Our phasing and sequence of construction (Figure 4.5-1) has been developed to anticipate potential delays while allowing work to continue if an issue arises in any phase.

Phase 1 | We will construct the ramps within the four quadrants of the interchange and the access roads from Potomac Station Drive to the properties on the north side of Route 7. In addition, the widening and improvement along the shoulder of Route 7 (eastbound and westbound) will be constructed. If an issue arises, such as a delay in

utility relocation or ROW acquisition in one area, we can continue to work in that area in Phase 2. The ramps will not be opened until Phase 3, so work can continue with the work from Phase 1 into Phase 2 if necessary.

Phase 2 | This phase starts with the Battlefield detour. The work on Battlefield Parkway, the bridge substructure, and the completion of the ramps will proceed in Phase 2. This is the most critical phase due to the RFP requirement of a 12-month detour for Battlefield Parkway. The critical work is the bridge and ramp construction. If an issue arises in Phase 2, improvements along Battlefield Parkway outside of the major fill sections can be completed under lane closures in Phase 3. TCB can be used along the shoulder if the roadway finishes must be completed along Battlefield Parkway after the detour has been lifted. Our team will have the resources to complete the work necessary to open the detour in 309 days.

Phase 3 | This phase includes the completion of all roadway finishes and paving overlay along Battlefield Parkway and the ramps (A, B, C, and D). This phase includes seeding, guardrail, pavement markings, signals, lighting, etc. This work may require additional lane closures, but will not put the Project in jeopardy. Work in Phase 3 is small in scope and additional resources can be added to mitigate impacts to the project schedule and project completion.

4.5.2 Transportation Management Plan

Our team is committed to maximizing safety for motorists, pedestrians, and construction personnel while developing a TMP and Temporary Traffic Control (TTC) Plans that minimize travel delays and provide accessibility to local business throughout all stages of construction. The TMP will include TTC, Public Information, Incident Management, and Traffic Operations Plans, in accordance with IIM L&D-241/TE-351 for Type C, Category V projects. TTC Plans will be developed in accordance with VDOT’s I&IM LD-241.7, the latest *Virginia Work Area Protection Manual (VAWAPM)*, the *Manual on Uniform Traffic Control Devices (MUTCD)*, and

VDOT’s Transportation Management Plan Design Checklist.

The TMP will be a living document that will get updated over the life cycle of the Project. Before construction, impacts will be analyzed and used to develop the appropriate traffic mitigation strategies. However, adjustments to the plan are typically necessary during construction to address actual conditions that develop and which could not have been predicted. Our team has constructed many successful projects throughout the area and has used VDOT’s *Guidelines for TMP Performance Assessment*, including the *Post-Construction Transportation Management Plan Performance Assessment*, and developed lessons learned that guide the our team in its mission to continually provide safer work zones.

On any given day, motorists’ travel times, perceptions, and behavior—both individually and collectively—can be dramatically impacted by varying factors, which include the following:

- The presence of construction equipment and activities
- Altered lane configurations, traffic movements, and ingress/egress to destinations within or near the project area
- The Battlefield Parkway closure and extended detour route
- Emergencies, accidents, or disabled vehicles
- Weather conditions
- Time of day
- Special events or holiday shopping periods

Although we cannot eliminate all these factors, we can help minimize their impacts and influence how motorists respond through effective preparation and implementation of our traffic management plan and its specific components, including proactive communication and outreach about MOT leading up to and throughout construction. Based on extensive experience, our team knows this is critically important, particularly on multiyear projects like this one. For over time, the level of impact from the above factors will cumulatively affect motorist

perceptions and behavior for good or bad. Successful traffic management that minimizes impacts from the outset builds trust, positive relationships, and the political capital necessary to overcome a time when something may not go as planned.

A. Maintaining Traffic Through all Phases of Construction

We developed a sequence of construction that maintains three through-lanes in each direction of Route 7 at all times, with the exception of allowable daily lane closures in accordance with the RFP. Our TTC Plans are designed to maintain safe and efficient traffic operations and consider several other elements like safe snow-removal operations and proper drainage during all phases of construction. Access will be maintained to all businesses and residential communities at all times. Traffic will be maintained in all three construction phases as follows:

Phase 1 | All existing through-lanes and turn lanes on Route 7 and Battlefield Parkway will remain open.

Phase 2 | Battlefield Parkway traffic will be diverted to the long-term detour and three through-lanes will be maintained on Route 7.

Phase 3 | All lanes on Battlefield Parkway and Route 7 will be open to traffic.

B. Lane and Ramp Closures

Our team has developed a TTC Plan that consists of the three phases described below. Our plan minimizes disruptions to the traveling public by maintaining three lanes on Route 7 and constructing the interchange ramps outside of traffic before the full closure of Battlefield Parkway to construct the elevated roadway.

Phase 1 | Work is mostly offline, but we will need lane closures along Route 7 to install temporary barrier to work in the four quadrants of the interchange. Lane closures may be required along Potomac Station Drive for access road tie-ins.

Phase 2 | We will need a lane closure along Route 7 to install TCB across Battlefield Parkway at Route 7 and for the construction of the pier in the median of Route 7. A lane closure along Battlefield Parkway will be required south of Russell Branch Parkway to construct turning lanes and to complete curb and sidewalk work.

Phase 3 | Lane closures will be required along Battlefield Parkway to complete roadway finishes and overlay of Battlefield Parkway. The ramps will be impacted by lane closures to allow surface paving and completion of the single-point urban interchange (SPUI). At this point, we will overlay the entire project under lane closures along the ramps and Battlefield Parkway. This will ensure a quality final product with better ride quality.

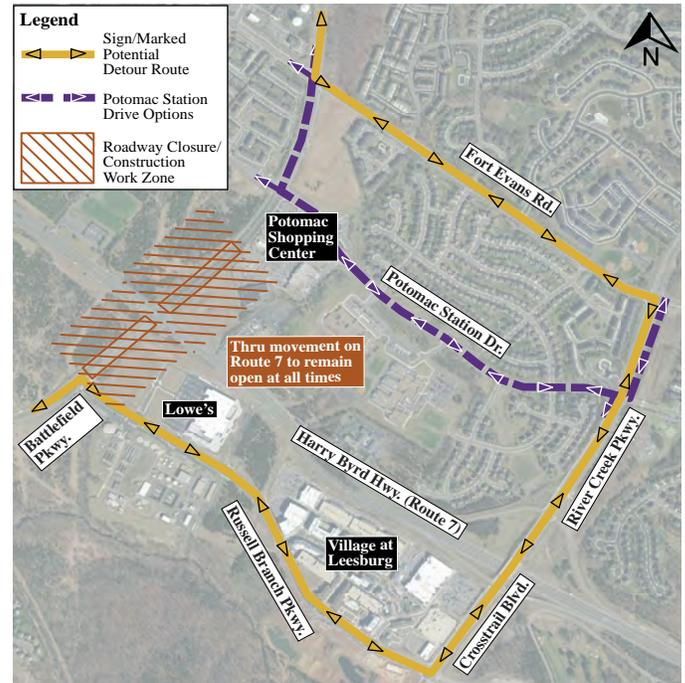
C. Temporary Detours

The construction of the Project is improved by closing Battlefield Parkway as allowed by the RFP (see Figure 4.5.2). During this time an off-site detour will be implemented for **309 days, as our team has committed to this reduction as a unique project milestone**. The detour will close Battlefield Parkway from Shopping Center Drive to Russell Branch Parkway. Traffic heading north on Battlefield Parkway will travel east along Russell Branch Parkway to Cross Trail Boulevard. Access to Route 7 is available from Cross Trail Boulevard. Detour traffic will continue north along Cross Trail Boulevard, then turn west onto either Potomac Station Drive or Riverside Parkway to reconnect with Battlefield Parkway.

In order for the detour to function properly, we will provide the following improvements at the following intersections as required by the RFP:

- Add a dual-left-turn bay on southbound Battlefield Parkway at Fort Evans Road and provide sufficient receiving lane widths on Fort Evans Road. The existing signal pole and mast arm for the southbound approach will be replaced and upgraded to accommodate the additional turn lane.

Figure 4.5-2 | Proposed Detour Route



- Existing hatched pavement markings will be eradicated and new striping put down to create a dual-left-turn bay at the River Creek Parkway at Fort Evans Road intersection. The existing signal will be modified to accommodate the additional left-turn lane. Within the intersection, the existing pavement will be milled 1.5 inches and resurfaced with 1.5 inches of SM-9.5D. The traffic signal at the River Creek Parkway and Fort Evans Road intersection has been designed to account for an extra traffic signal head, and therefore no recertification of the signal is required, per the RFP.

MOT inspections of the detour will occur 7 days a week and will be documented in the project files. Members of the team will be on-call 24 hours a day, 7 days a week to assist with any traffic-related issues along the corridor. In order to mitigate issues during the detour, our team is committed to providing the following safety and mobility enhancement strategies:

- Liberal use of portable changeable message sign (PCMS) devices throughout the routes affected by the detour

- Enhanced detour signage and business signage along Battlefield Parkway, Route 7, and other roadways
- An advanced public-relations effort before and during implementation of the detour
- Maintenance of existing commercial access to mitigate the impact of the detour
- Direct and frequent contact with local stakeholders to address concerns quickly
- Providing closed-circuit television (CCTV) cameras with wireless connectivity capability
- Using advanced safety devices
- Close coordination with project stakeholders, VDOT, and the Town of Leesburg while developing the detour plan to ensure a successful design and implementation

Traffic stoppages along Route 7 will be required to complete the superstructure construction; the stoppages will be limited to 20 minutes and will be completed between 12:00 a.m. to 5:00 a.m.

D. Time-of-Day Restrictions, Flagging, Lane Widths, and Work-Zone Speed Reductions

Time-of-Day Restrictions

Our team will adhere to the RFP requirements for all time-of-day restrictions for allowable short-term lane- and shoulder-closure times. This will be included in the Public-Communication and Incident Management Plan along with updates to VDOT’s Regional Traffic Operations Center on a weekly basis.

Flagging Operations

Because Battlefield Parkway will be detoured, we do not anticipate flagging operations along Route 7 or Battlefield Parkway for most of the construction. Flagging may be required for the tie-in work along Potomac Station Drive for the two new access roads. Business patrons may require flagging operations for the various business entrances along Route 7 and Battlefield Parkway, and flagging operations will be required along Cardinal Park Drive to reconstruct

the entrance to Route 7. The intersection work for Russell Branch Parkway will require minor flagging operations during final paving and roadway finishes. Flagmen will be used when any construction adjacent to or overhead of traffic could pose a safety hazard to the traveling public.

Minimum Lane Widths

Our team will conform with the RFP and will provide 11-foot-wide travel lanes along all roadways affected by the work zone during construction. A 2-foot minimum offset to the temporary traffic barrier will be maintained throughout the Project.

Work-Zone Speed Reductions

We recommend maintaining the existing posted speed limit of 55 mph on Route 7. All elements of our TMP and specifically all temporary alignments, temporary lane closures, and temporary lane shifts will be designed for the posted speed limit and in accordance with the requirements of the VAWAPM.

E. Impacted Project Stakeholders

Given its location and function in the transportation network in Leesburg and Loudoun County, the Project has an array of stakeholders. If not properly accounted for and communicated with throughout design and construction, many of these stakeholders may pose critical MOT, third-party coordination, and other risks to the short- and long-term success of the Project.

The most obviously impacted stakeholders are the more than 80,000 and 14,000 motorists that drive Route 7 and Battlefield Parkway, respectively, daily to travel between home, work, businesses, schools, government offices and recreational facilities both locally and regionally.

The other stakeholders range from pedestrians and bicyclists to residents and neighborhoods to businesses and organizations to schools and government agencies in and around the project area. Each has different needs and concerns that must be understood and addressed for the Project to be

successful. Potential impacts to these stakeholders include the following:

- Changes to property boundaries and access
- Reduced business visibility
- Potential lost business/revenue
- Noise and dust during construction
- Impacts to operations such as delivery times, maintaining schedule/appointments, and resource availability
- Area avoidance (commuters and local drivers avoiding the area during construction)
- Increased traffic along detour and other roads in and around the project area

Response times and service calls for the Leesburg and Virginia State police; Loudoun County Sheriff's Office; and Loudoun County Department of Fire, Rescue, and Emergency Services all could be negatively impacted if not properly accounted for and accommodated in our TMP. Three fire stations in the town (Station 1, Station 20, and Company 13), as well as Ashburn Volunteer Fire and Rescue Station 22, must be kept informed and coordinated with.

Our team will hold a separate Pardon Our Dust meeting for the Project to discuss our TMP and the schedule for our MOT phases and to invite first responders, school transportation, and regional transportation service providers. In addition, we will conduct training with the first responders related to specific components of our EHS, including confined-space and fall-retrieval systems.

Leesburg, Loudoun County, and Virginia State elected and agency officials also are important stakeholders. In representing the other project stakeholders, each official has important interests and roles in ensuring, among other things, that project impacts are minimized, issues/concerns are quickly responded to and addressed, communications and outreach are timely and effective, regulations are complied with, and the Project is successful overall. While they may not always receive positive feedback, these officials will

be the first to know and share if other stakeholders are unhappy or have complaints.

Similarly, building trust and political capital by working with VDOT to proactively update it and effectively helping it address questions and concerns will be very important. Through its office's communications channels, VDOT also can help extend the reach of our communications and outreach efforts to more stakeholders than otherwise might be possible. Leesburg Mayor Kelly Burk has been quoted in the local media and Vice Mayor Suzanne Fox submitted comments at the March public hearing about the need to minimize impacts on businesses, neighborhoods, and schools. Leesburg Councilman Ron Campbell, who lives off Potomac Station Road, publicly shared his concern that cars might use that neighborhood road as a cut-through instead of the detour along Fort Evans Road. Councilman Tom Dunn has expressed concern about the lack of a traffic light on Route 7 significantly backing up traffic at the Fort Evans Road traffic light along the Route 15 bypass.

To best account for and minimize potential impacts on the breadth of stakeholders, our team has further identified specific stakeholders, potential impacts, and minimization strategies in Figure 4.5-3. Upon the Notice of Intent to Award, we will continue to build out and use this table as a starting point for most effectively involving motorists and third-party stakeholders in the D/B process. The table will serve as a checklist during the development of design packages and throughout the construction process to ensure that impacts to stakeholders are always at the forefront of everyone involved and to help minimize impacts on the stakeholders. This will include using the checklist during the interdisciplinary reviews of the design package development.

We intend to proactively share information about our plans and to solicit feedback, which we will seek to incorporate throughout the Project to refine and improve our work to provide the best level of service possible to these stakeholders and VDOT given resources available. In developing this proposal, we developed communication channels and compiled

Figure 4.5-3 | Stakeholders, Potential Impacts, and Minimization Strategies

	Third-Party Agency	Impacts	Minimization Strategies
Local Governments	Town of Leesburg	The Leesburg Town Plan calls for the construction of the interchange at Route 7 and Battlefield Parkway, but the Town is concerned with the impacts the construction of the Leegate development and this project will have on local businesses and commute times.	Provide proactive project briefings, coordination throughout design and construction, and sharing of notices and other materials for distribution through town information channels, including the Alert Loudoun phone system for first responders
	Loudoun County	This interchange is a priority. County supervisors want a successful project for their constituents.	
	First responders	Response times are critical to first responders and any impacts to their ability to respond quickly can cost lives.	Provide proactive project briefings, coordination with these schools throughout design and construction, and sharing of notices and other materials for distribution through school information channels. Provide additional coordination with Loudoun County Public Schools to minimize impacts on school bus routes stemming from the Battlefield Parkway closure and detour. We will install a temporary, 6-foot chain-link fence with privacy screening on the school side of the new road to obscure the view of construction. Our team will avoid construction of Keystone Drive during May (the Standards of Learning testing period) as required by the RFP.
	Loudoun County Public Schools (Tolbert Elementary School, Harper Park Middle School, and Loudoun County high schools; the Catoctin School of Music and CS Monroe Technology Center; Kincaid Montessori School along Route 7; and the Goddard School	Tolbert and Harper Park schools are directly impacted by construction and new access roads adjacent to school properties that could result in noise and safety concerns. Bus routes and parent travel for these and the other schools may be impacted by congestion, detours, and construction. This may result in additional resource planning for schools and increase time spent by students on buses.	
	VDOT – Leesburg Residency and Area HQ	Material and equipment deliveries and access times.	
Northern Virginia Transportation Authority (NVTA)	The NVTA provides project funding and will want to see that its funds are bringing benefits to the community as quickly and efficiently as possible.	Provide proactive project briefings, coordination throughout design and construction, and sharing of notices and other materials for distribution through NVTA information channels.	
Utilities	Utility companies	See Section 4.4.2 (Utilities).	
Federal	USPS (warehouse)	USPS requires consistent delivery times and access to its warehouse to meet its delivery time requirements and operate as it needs to.	Ensure ingress/egress throughout construction.
	Federal Aviation Administration (FAA)	The FAA facility is a critical infrastructure resource that cannot be impacted and must have its utilities and access unimpeded. FAA will access Route 7 via the Cardinal Drive intersection after Route 7 access is closed.	Ensure Cardinal Drive ingress/egress throughout construction. Provide proactive project briefings, coordination throughout design and construction, and sharing of notices and other materials for distribution by the FAA to employees.
Businesses	Lowe’s Home Improvement Center	Lowe’s receives and sends out trucks and shipments many times a day. As a relatively new business in the community, it must meet the expectations of its customers and corporate management. Impacts from the Project could hurt its business and/or reputation. Congestion could reroute potential customers (i.e., drive-by traffic) to other routes or keep potential business away.	Maintain the flow of traffic through and in the vicinity of the intersection. Provide proactive project briefings and coordination throughout design and construction. Provide wayfinding signs as needed. Share notices and other materials for distribution to guests and visitors.
	Jerry’s Leesburg Ford	As with Lowe’s, above, congestion and difficulty getting through the area could reduce drive-by potential customers or push customers to other options such as other car dealers outside the project area.	
	Clarion Inn Hotel and Conference Center	Congestion could impact the access to this hotel and reduce the perception of the facility as a go-to hotel in the area.	Provide proactive project briefings, coordination throughout design and construction, and sharing of notices and other materials for distribution to customers and trucks making deliveries. Provide additional wayfinding signs as access to businesses shifts from Route 7 to Keystone Drive via Potomac Station Drive.
	AutoNation	As with Jerry’s Ford above, congestion and difficulty getting through the area could reduce drive-by potential customers or push customers to other options such as other car dealers outside the project area.	
Developments	Meadows Farm Nurseries, This n’ That Amish Outlet, MC Fence and Deck, Backyard Buildings, Model Home Furniture, and Consignment Solutions	These businesses currently have access directly from Route 7. The Project includes changing their access to come from Potomac Station Drive. This indirect access is seen as a major impact to their business operations and the timing and handling of their access changes is an important aspect of this project and their future viability.	
	Leegate, Stanley Martin Homes (77 acre development; 430,000 SF offices; 200,000 SF of commercial uses; 130 room hotel; two parking structures, and 475 homes)	Leegate has been in the planning stage for many years and now is close to being constructed. The primary concerns are the timing of the construction so as not to build cumulative impacts with the Project and to allow for access to the existing businesses impacted with the change to the Cardinal Drive intersection (i.e., the construction of the proffered Trailview Boulevard connection to Battlefield Parkway).	Provide proactive project briefings and coordination throughout design and construction. Provide sharing of notices and other materials for distribution to development stakeholders.

Figure 4.5-3 | Stakeholders, Potential Impacts, and Minimization Strategies (CONTINUED)

	Third-Party Agency	Impacts	Minimization Strategies
Residential	Potomac Station and other nearby residential neighborhoods	Nearby residential neighborhoods would be impacted by diverted traffic coming onto roadways primarily used by the local community to access local businesses, schools, and Fort Evans Road and Potomac Station Drive.	<p>Keep traffic flowing and provide proactive project briefings, coordination throughout design and construction, and sharing of notices and other materials for distribution to customers, bus services bringing out-of-area guests specifically for Leesburg Corner Premium Outlets, and trucks making deliveries.</p> <p>Ensure Cardinal Drive ingress/egress throughout construction. Keep traffic flowing. Provide proactive project briefings and coordination throughout design and construction. Share notices and other materials for distribution to customers and trucks making deliveries.</p>
	Leesburg FC Complex (Leesburg Football Club)	Access to this property and maintaining proper parking space are critical as soccer fields are in short supply in the county.	
Commercial	Marketplace at Potomac Station	Marketplace at Potomac Station is home to a Best Buy, Giant Grocery, banks, fast food restaurant, and services such as a Patient First and SwimKids Swim School. Delays getting to and from these locations could push business to other areas. Access is a priority.	
	Village at Leesburg	As with the Marketplace at Potomac Station, access and visibility reductions could impact these businesses for years to come. In this competitive area, Cobb Theater, LA Fitness, Wegmans, and many other businesses cannot suffer income losses due to this project.	
	Leesburg Corner Premium Outlets	Similar to the aforementioned third parties, these businesses would suffer with a reduction of income due to decreased access.	
	Luck Stone Quarry	Luck Stone’s business relies on truck access and delivery of its raw materials. Impacts to its access or increases in congestion could delay deliveries and impact its reputation.	
	Leesburg Professional Center	The Leesburg Professional Center accesses Route 7 through the Cardinal Drive intersection. Any changes to this access could impact its visibility and/or overall revenue.	

contact information for and reached out to these stakeholders, including Homeowners Associations and developers representing property owners in and around the project area.

As touched on above, best mitigating these impacts and potential risks to the Project requires not only effective communication and coordination with external stakeholders but also internal communication and coordination among our team and with VDOT. To this end, our TMP and Communication, MOT, and Sequence of Construction (SOC) Plans will be planned, implemented, and refined in a coordinated and integrated manner to ensure their effectiveness. In recognition of their importance to ultimate project success, each will be emphasized in the TMP.

F. Approach to Public Outreach

Our Community Involvement Manager, Bryon Johnston, reports directly to our D/B Project Manager (DBPM), Anthony Bednarik, and is fully integrated with the rest of our team. This is important to note because it is indicative of our recognition of the importance of proactive, effective communications and outreach to our and VDOT's ultimate success in planning, executing, and completing this project.

Bryon has more than 22 years of experience maximizing the power of communications to overcome challenges on high-profile, politically sensitive transportation and infrastructure projects like this one, in Virginia, the District of Columbia, and Maryland.

His and our team's mantra for this project during design and construction is "no surprises," which guides our overall approach for this project's strategic communications and outreach plan (Figure 4.5-3). Notably, this approach is circular rather than linear because it is continuous and ongoing. While specific tactics or tools may evolve based on project progress or needs at any given time, our commitment to continuing to build and maintain

strong relationships with the project stakeholders will remain constant.

To best support and achieve the Project's goals, objectives, and ultimate success, our plan will have four comprehensive, integrated, and effective core activities. We will develop these activities, coordinate with VDOT, and use them, as follows, with project stakeholders:

- Public involvement: all modes of travelers, residents, and businesses.
- Media outreach: print/broadcast and local agency VDOT social media channels.
- Government/third-party relations: all levels of elected and agency officials, schools, Homeowners Associations, Chamber of Commerce, and other organizations.
- Supporting information materials: VDOT website content, press releases, public-notice fact sheets, displays, presentations, and other materials that are clear, concise, and easily understandable and that include helpful graphics, renderings, or photos.

We will plan and execute tactics tailored to best account for how the breadth of stakeholders will receive, respond to, and integrate into their lives the project information we provide. As stipulated by the RFP, within 45 days of commencement, we will present VDOT with the Communications Plan for review and approval. The plan will be periodically reviewed and updated to ensure its effectiveness. It also will comply with the VDOT Policy Manual for Public Participation in Transportation Projects, revised November 2016, in conducting meetings with stakeholders. All public meetings will be coordinated and scheduled to ensure VDOT staff are in attendance.

The plan's communication approach will include the following:

- An overall proactive and robust public-outreach and coordination program involving design and construction personnel
- "Pardon Our Dust" and other public meetings

- Conducting training with the first responders related to specific components of our EHS, including confined-space and fall-retrieval systems
- Direct one-on-one meetings with stakeholders to discuss the Project, timing, coordination of operations, lane closures, and detours and changes to traffic patterns so that third-party delivery and operations services know what to expect
- Coordination with VDOT communications staff, including for the project website
- Use of social media, newspapers, and radio to notify the public and other third parties on the project, schedule, and changes to traffic patterns
- Direct and continual communication with emergency medical services (EMS) and public-school transportation services to ensure that they are knowledgeable and plan for changes in traffic patterns and that they develop emergency plans and contact trees

The plan's coordination approach will include the following:

- Direct meetings with first responders to ensure unimpeded passage through the work zone
- Sight-line analyses with 3D modeling help to ensure safe stopping distances throughout construction
- Temporary and long-term lane-closure coordination
- Potential detour development and coordination
- Access closure timing with new access construction
- Commercial signage/viewshed coordination to minimize impacts to business revenue
- Coordination of lane closures to overlap usage
- Direct communication with the construction team during construction
- Message boards throughout the corridor to communicate to the traveling public

Based on stakeholder interactions and feedback received so far, our team strived to incorporate enhancements to design, construction sequencing, and MOT strategies that optimize the coordination between the parties and reduce overall impacts. Throughout the Project, Bryon and our other staff will work together to proactively and regularly notify travelers and other stakeholders about changing conditions, work progress, schedule, delays, accidents, and lane closures near the Project and in accordance with VDOT-approved procedures.

Notification methods will include using PCMSs to warn motorists of changes to the traffic patterns within the project limits. We will work through VDOT and with the regional traffic operations center (TOC) that can control the PCMS boards remotely and notify 511 Virginia. We will coordinate with any other nearby roadway improvement and development projects. The D/B team has experience with VDOT's LCAMS.

I. Mitigating Impacts From Adjacent Private Land Development

Leegate Development

At the southwest corner of Route 7 and Battlefield Parkway, the Leegate Development project is currently developing mixed-use facilities, including office space, town homes, multifamily units, and a hotel on nearly 120 acres. Our coordination efforts with this project include the abandonment of the 8-inch water line, the relocation of the sanitary sewer system under Route 7, timing of construction of Trailview Boulevard, and signal design for the intersection of Battlefield Parkway and Trailview Boulevard. Our team has already begun a coordination effort with Leegate Development and met with its traffic engineering team (Gorove/Slade Associates, Inc.) to establish a communication channel.

Peterson Companies

Peterson Companies is actively considering development of the two vacant parcels in the

northwest and southeast quadrants of the interchange. Our team met with Peterson Companies and its engineer to discuss the impacts of the interchange project on its property. The development plans for the parcel next to the Lowe's in the southeast quadrant are more advanced and developed than the plans for the northwest quadrant. Peterson Companies has several concerns with respect to the ROW impact and losing access from Route 7. Our team will create open communication channels and proactively communicate any concerns with VDOT and the Town of Leesburg before they become issues.

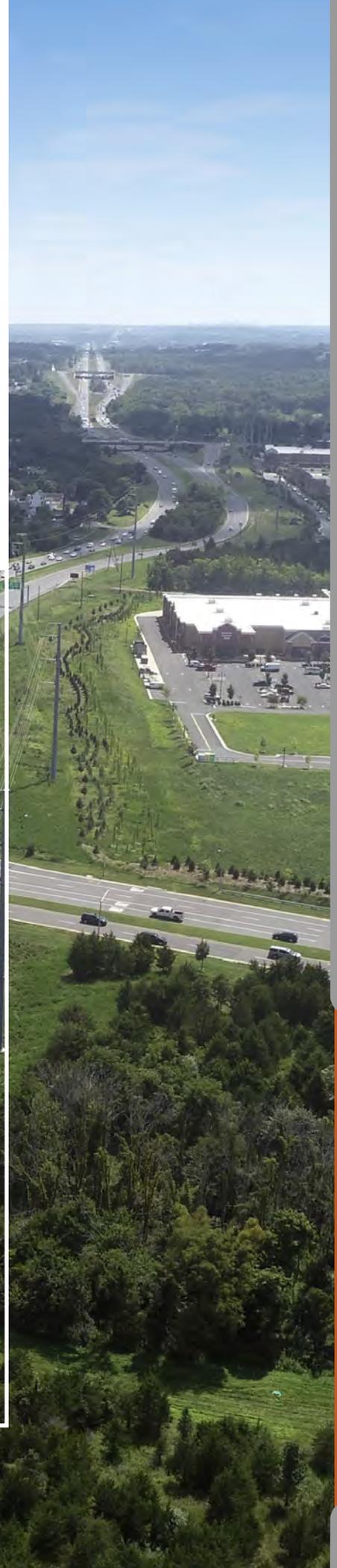
J. Coordination Efforts for Mitigating Impacts From Utility Projects

The utility relocation for this project will be performed concurrently with utility relocations for other projects including the Route 7 Interchange over the Dulles Toll Road D/B and I-66 Outside the Beltway. These projects will utilize the same utility company resources. Our team has employed several strategies that were described in Section 4.4.2 (Utilities) in an effort to avoid schedule impacts to this project. Examples of our strategies include early coordination with the utilities, redesigning around the utilities, using existing land rights for some first phase utility work, and prioritizing acquisition of utility easements acquisition in the project schedule. We also plan on getting the plan and estimates authorized by utility companies several months in advance of the relocation efforts to allow the project to be scheduled accordingly. Our team is committed to managing utility coordination right from the very beginning with open, honest and clear communication.

With our extensive coordination and proven experience, we are confident that our team is well positioned to mitigate the impacts caused by other utility projects. Our Utility Coordinator, Matt McLaughlin, has relationships with all of the utility owners affected by this Project and has already started discussions concerning resources and schedule for the Project.

4.6

Proposal Schedule



4.6 | Proposal Schedule

The Wagman/Parsons Design-Build (D/B) Team understands that the timely completion of the Route 7 and Battlefield Parkway Interchange project (Project) is very important. We have developed a balanced schedule that accounts for the resources required to design and build the Project within the time frame desired by the Virginia Department of Transportation (VDOT). We will deliver the following schedule benefits to VDOT:

Schedule Enhancements 1–2

Final Completion Date of November 23, 2021

- 1 Project delivery 7 days earlier than final completion date established by VDOT (i.e., opening before the Thanksgiving holiday)

Unique Milestone – Detour of 309 days

- 2 Reduced long term detour duration to 309 days

Our plan to accomplish the work will deliver maximum value to VDOT. Our project schedule accounts for multiple, sequentially completed design submittal packages to expedite design approvals/permitting and initiate construction as early as possible. We target discrete areas of work that can be done with early-start construction packages to allow construction to begin ahead of the anticipated final right-of-way (ROW) acquirement, final utility relocations, and final Ready for Construction (RFC) Plan activities as shown in the schedule. The team will develop and coordinate early-work construction packages for temporary utility relocations and grading work as there will be less impact on stakeholders as work will be within VDOT ROW. Milestones for the detour of Battlefield Parkway are included to clearly show our planned time to complete the work that requires the detour.

The proposed sequence of the Project is broken up into three phases. The first phase accomplishes work to construct improvements on Route 7; builds the two access roads necessary to maintain traffic to

adjacent stakeholders; performs initial construction of the four ramps including culvert extensions; and provides necessary improvements to the detour route so that it can support added traffic. The second phase is the work that occurs during the full closure and detour of Battlefield Parkway, including all work necessary to build the new Battlefield Parkway bridge; complete ramp tie-ins; and open the newly constructed areas to traffic. The third and final phase includes work after the detour, including finishes such as the final surface paving; final striping; final signage; and final guardrail.

The project’s critical path begins with the initial project design, including the first submittals of hydraulic plans, structures, and roadway plans. This is followed by the development and submittal of the noise abatement data report allowing the 60 percent design package to be submitted. The ROW acquisition process (including plan development, reviews, comment resolution, appraisals, authorizations, and final acquisition) occurs next on the Project. Upon completion of ROW, Phase 1 construction on the Project begins with the construction of the west access road followed by the initial construction of Ramps B and C. Next, detour improvements will be completed to end Phase 1. Phase 2 begins with the start of the detour of Battlefield Parkway. After traffic has been diverted off Battlefield, bridge and mechanically stabilized earth (MSE) wall construction will begin. The bridge substructure and MSE wall work will happen concurrently; the MSE wall must be complete before the bridge superstructure can begin. Bridge activities will be complete once superstructure activities including girder erection, deck concrete placement, and the parapet are complete. Phase 2 is completed with paving and the removal of the detour. Phase 3 begins with the completion of signal work followed by lighting and final seeding.

We will use commonly accepted means and methods for the performance of accelerated projects on this contract. The Project needs the right resources because of the amount of concurrent work required to complete the Project within the allotted time. Parsons will provide the necessary resources to perform design; drawing from its pool of engineers along with support from various subconsultants.

ADDED VALUE

Wagman, having recently completed the Route 7 Interchange D/B Project over the Dulles Toll Road, will draw from its local resources for labor and equipment, and will use its relationship with local subcontractors and suppliers to support its efforts in the execution of the Project.

Many key assumptions regarding the dedication of project time, including the following, were considered while the schedule was developed for the Project:

- Limited-access approval from CTB in advance of design approval
- A Phase 2 environmental site assessment (ESA) for six parcels identified in the Phase 1 ESA
- The ROW acquisition process
- Geotechnical investigations

Significant utility relocations are specifically identified in the schedule. Environmental permitting and constraints were considered and are included as activities where needed. Specific activities were created for VDOT, Federal Highway Administration, and Town of Leesburg plan reviews, giving the agencies the time they need to perform their evaluations. Construction activities account for work restrictions, including lane-closure limitations, in the schedule. Activities that may suffer potential weather impacts are placed on calendars that reasonably anticipate those impacts. Keystone Drive construction is restricted so that it will not occur in May. Time is included in design and construction activities to account for the quality assurance/quality control inspection and testing process.



Appendix



Technical Proposal Checklist and Contents (Attachment 4.0.1.1)

ATTACHMENT 4.0.1.1 – Addendum No. 1

Route 7 and Battlefield Parkway Interchange

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	A-1 – A-3
Acknowledgement of RFP, Revisions, and/or Addenda	Attachment 3.6 (Form C-78-RFP)	Sections 3.6, 4.0.1.1	no	A-4
Letter of Submittal	NA	Sections 4.1		
Letter of Submittal on Offeror's letterhead	NA	Section 4.1.1	yes	1
Identify the full legal name and address of Offeror	NA	Section 4.1.1	yes	1
Authorized representative's original signature	NA	Section 4.1.1	yes	1
Declaration of intent	NA	Section 4.1.2	yes	1
120 day declaration	NA	Section 4.1.3	yes	1
Point of Contact information	NA	Section 4.1.4	yes	1
Principal Officer information	NA	Section 4.1.5	yes	1
Interim Milestone and Final Completion Date(s)	NA	Section 4.1.6	yes	1
Unique Milestone Date(s)	NA	Section 4.1.7	yes	1
Proposal Payment Agreement or Waiver of Proposal Payment	Attachment 9.3.1 or 9.3.2	Section 4.1.8	no	A-6 – A-9
Certification Regarding Debarment Forms	Attachment 11.8.6(a) Attachment 11.8.6(b)	Section 4.1.9	no	A-10 – A-19
Written statement of percent DBE participation	NA	Section 4.1.10	yes	1

ATTACHMENT 4.0.1.1 – Addendum No. 1

Route 7 and Battlefield Parkway Interchange

TECHNICAL PROPOSAL CHECKLIST AND CONTENTS

Technical Proposal Component	Form (if any)	RFP Part 1 Cross Reference	Included within page limit?	Technical Proposal Page Reference
Offeror's Qualifications				
	NA	Section 4.2		
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	2
Organizational chart with any updates since the SOQ submittal clearly identified	NA	Section 4.2.2	yes	3
Revised narrative when organizational chart includes updates since the SOQ submittal	NA	Section 4.2.2	yes	2
Design Concept				
	NA	Section 4.3		
Conceptual Roadway Plans and description	NA	Section 4.3.1.1	yes	5 – 12
Conceptual Structural Plans and description	NA	Section 4.3.1.2	yes	12 – 14
Project Approach				
	NA	Section 4.4		
Environmental Management	NA	Section 4.4.1	yes	15 – 21
Utilities	NA	Section 4.4.2	yes	21 – 28
Geotechnical	NA	Section 4.4.3	yes	29, 30
Quality Assurance/ Quality Control (QA/QC)	NA	Section 4.4.4	yes	31 – 37
Construction of Project				
	NA	Section 4.5		
Sequence of Construction	NA	Section 4.5.1	yes	38 – 44

ATTACHMENT 4.0.1.1 – Addendum No. 1

Route 7 and Battlefield Parkway Interchange

TECHNICAL PROPOSAL CHECKLIST AND CONTENTS

Technical Proposal Component	Form (if any)	RFP Part 1 Cross Reference	Included within page limit?	Technical Proposal Page Reference
Transportation Management Plan	NA	Section 4.5.2	yes	44 – 53
Proposal Schedule	NA	Section 4.6		
Proposal Schedule	NA	Section 4.6	no	S-1 – S-7
Proposal Schedule Narrative	NA	Section 4.6	no	S-1
Proposal Schedule in electronic format (CD-ROM)	NA	Section 4.6	no	See CD-ROM

Acknowledgement of RFP,
Revisions, and/or Addenda
(Form C-78-RFP)

ATTACHMENT 3.7

**COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION**

ACKNOWLEDGEMENT OF RFP, REVISION AND/OR ADDENDA

RFP NO.	C00106573DB101
PROJECT NO.:	0007-253-109

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 3.7, 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 RFP – June 18, 2018
(Date)
2. Cover letter of RFP Addendum No. 1 – August 2, 2018
(Date)
3. Cover letter of RFP Addendum No. 2 – September 5, 2018
(Date)
4. Cover letter of RFP Addendum No. 3 – September 18, 2018
(Date)
5. Cover letter of RFP Addendum No. 4 – October 5, 2018
(Date)
6. Cover letter of RFP Addendum No. 5 – October 15, 2018
(Date)
7. Cover letter of RFP Addendum No. 6 – November 2, 2018
(Date)
8. Cover letter of RFP Addendum No. 7 – November 14, 2018
(Date)
9. Cover letter of RFP Addendum No. 8 – November 16, 2018
(Date)



 SIGNATURE

November 26, 2018
 DATE

Anthony W. Bednarik, DBIA Vice President, Major Pursuits/Design-Build
 PRINTED NAME TITLE

List of Approved ATCs (Attachment 3.6.7)

ATTACHMENT 3.6.7
LIST OF APPROVED ATCs INCLUDED IN TECHNICAL PROPOSAL

OFFEROR:

List all approved ATCs included in the Technical Proposal along with the page number references from Technical Proposal.

ATC ID Number	ATC Name Description	Date ATC Approved	Technical Proposal Reference Page(s) #
	NONE		

By signing this document, the Offeror hereby confirms that they are agreeing to all conditions that may have accompanied the ATC approval(s). The Offerors shall make a note of RFP Part 4 Section 2.1.10

“If the Contract Documents incorporate any ATCs and Design-Builder, for whatever reason: (a) does not comply with one or more Department conditions of pre-approval for the ATC; (b) does not obtain required third-party approval for the ATC; or (c) fails to implement the ATC, then Design-Builder shall: (1) provide written notice thereof to Department; and (2) comply with the requirements in the Contract Documents that would have applied in the absence of such ATC. Such compliance shall be without any increase in the Contract Price or extension to the Contract Time(s). For the avoidance of doubt, Design-Builder shall not be entitled to any increase in the Contract Price or extension of the Contract Time(s) as a result of any delay, inability or cost associated with the acquisition of any property that may be required to implement any ATC”.



 [Signature: Offerors POC or Principal Officer]

Anthony W. Bednarik, DBIA

 [Printed Name]

Vice President, Major Pursuits/Design-Build

 [Title]

DATE: November 26, 2018

Proposal Payment
Agreement
(Attachment 9.3.1)

ATTACHMENT 9.3.1
PROPOSAL PAYMENT AGREEMENT

THIS PROPOSAL PAYMENT AGREEMENT (this “Agreement”) is made and entered into as of this 26 day of November, 2018, by and between the Virginia Department of Transportation (“VDOT”), and Wagman Heavy Civil, Inc. (“Offeror”).

WITNESSETH:

WHEREAS, Offeror is one of the entities who submitted Statements of Qualifications (“SOQs”) pursuant to VDOT’s December 8, 2017 Request for Qualifications (“RFQ”) and was invited to submit proposals in response to a Request for Proposals (“RFP”) for the **Route 7 and Battlefield Parkway Interchange, Project No. 0007-253-109** (“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 **Fifty Thousand and 00/100 Dollars (\$50,000.00)** ("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.

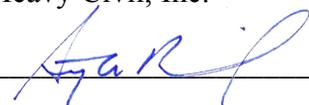
VIRGINIA DEPARTMENT OF TRANSPORTATION

By: _____

Name: _____

Title: _____

Wagman Heavy Civil, Inc.

By:  _____

Name: Anthony W. Bednarik, DBIA

Title: Vice President, Major Pursuits/Design-Build

Certification Regarding
Debarment Primary
(Attachment 11.8.6(a))

ATTACHMENT 11.8.6(a)
CERTIFICATION REGARDING DEBARMENT
PRIMARY COVERED TRANSACTIONS

Project No.: 0007-253-109

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

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

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

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

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

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

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



Signature

November 26, 2018
Date

Vice President,
Major Pursuits/Design-Build
Title

Wagman Heavy Civil, Inc.
Name of Firm

Certification Regarding
Debarment Lower Tier
(Attachment 11.8.6(b))

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

Project No.: 0007-253-109

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

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

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



Signature

November 26, 2018
Date

Vice President
Title

Parsons Transportation Group Inc.
Name of Firm

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

Project No.: 0007-253-109

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

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

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


Signature

November 19, 2018
Date

President
Title

Quinn Consulting Services, Inc
Name of Firm

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

Project No.: 0007-253-109

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

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

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

 _____ Signature	11/06/2018 _____ Date	<i>President</i> _____ Title
---	-----------------------------	------------------------------------

CES CONSULTING, LLC

Name of Firm

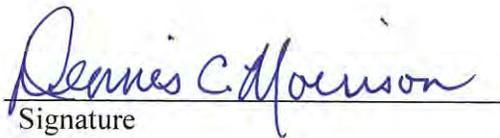
ATTACHMENT 11.8.6(b)
CERTIFICATION REGARDING DEBARMENT
LOWER TIER COVERED TRANSACTIONS

Project No.: 0007-253-109

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

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

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


Signature

November 19, 2018
Date

Senior Vice President
Title

Volkert, Inc.
Name of Firm

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

Project No.: 0007-253-109

- 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.

Paul Schrey
Signature

11-19-78
Date

ROW PROGRAM MANAGER
Title

CONTINENTAL ACQUISITION SERVICES, INC., dba CONTINENTAL FIELD SERVICE
Name of Firm

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

Project No.: 0007-253-109

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

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

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



Signature

November 15, 2018

Date

Vice President

Title

H&B Surveying and Mapping, LLC

Name of Firm

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

Project No.: 0007-253-109

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

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

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



Signature

11/15/2018

Date

President

Title

Endesco, Inc.

Name of Firm

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

Project No.: 0007-253-109

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

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

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

 _____ Signature	<u>11-16-18</u> _____ Date	<u>PRESIDENT</u> _____ Title
--	----------------------------------	------------------------------------

T3 DESIGN CORPORATION

Name of Firm

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

Project No.: 0007-253-109

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

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

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

 _____ Signature	<u>11/16/18</u> _____ Date	<u>SENIOR VICE PRESIDENT</u> _____ Title
--	----------------------------------	--

SCHNABEL ENGINEERING, LLC

Name of Firm

VDOT Approved Personnel Changes



COMMONWEALTH of VIRGINIA

DEPARTMENT OF TRANSPORTATION
1401 EAST BROAD STREET
RICHMOND, VIRGINIA 23219 2000

Stephen Brich
Commissioner

October 10, 2018

Mr. Anthony W. Bednarik, DBIA
Vice President Major Pursuits/Design-Build
Wagman Heavy Civil, Inc.
26000 Simpson Road
North Dinwiddie, VA 23803-8943

Subject: Route 7 and Battlefield Parkway interchange
Request for Personnel Change – Lead Structural Engineer, Landscape Architect and
Environmental and Permitting

Mr. Bednarik,

Thank you for your letter, dated August 3, 2018, requesting a change in your team's personnel:

- Lead Structural Engineer; replacing Amir Arab, PE, PhD with Kia Nejad, PE
- Landscape Architect; replacing Craig Richardson, RLA with Jeffrey Lormand, RLA
- Environmental and Permitting; replacing Stuart Tyler, PE with Steve Walter

These changes are respectively due to voluntary termination of employment, overseas transfer, and unavailability due to workload. After careful consideration of the information provided by Wagman Heavy Civil, Inc. and in accordance with Part 1, Section 11.4 of the RFP which allows VDOT to approve a change in a Offeror's Team, VDOT has determined it will grant the substitutions noted above. Accordingly the organizational chart and narrative in your Team's Technical Proposal shall be updated from the SOQ submittal as necessary to clearly indicate any changes that have been made and were previously approved by VDOT in accordance with Part 1 Section 4.2.2.

Sincerely,

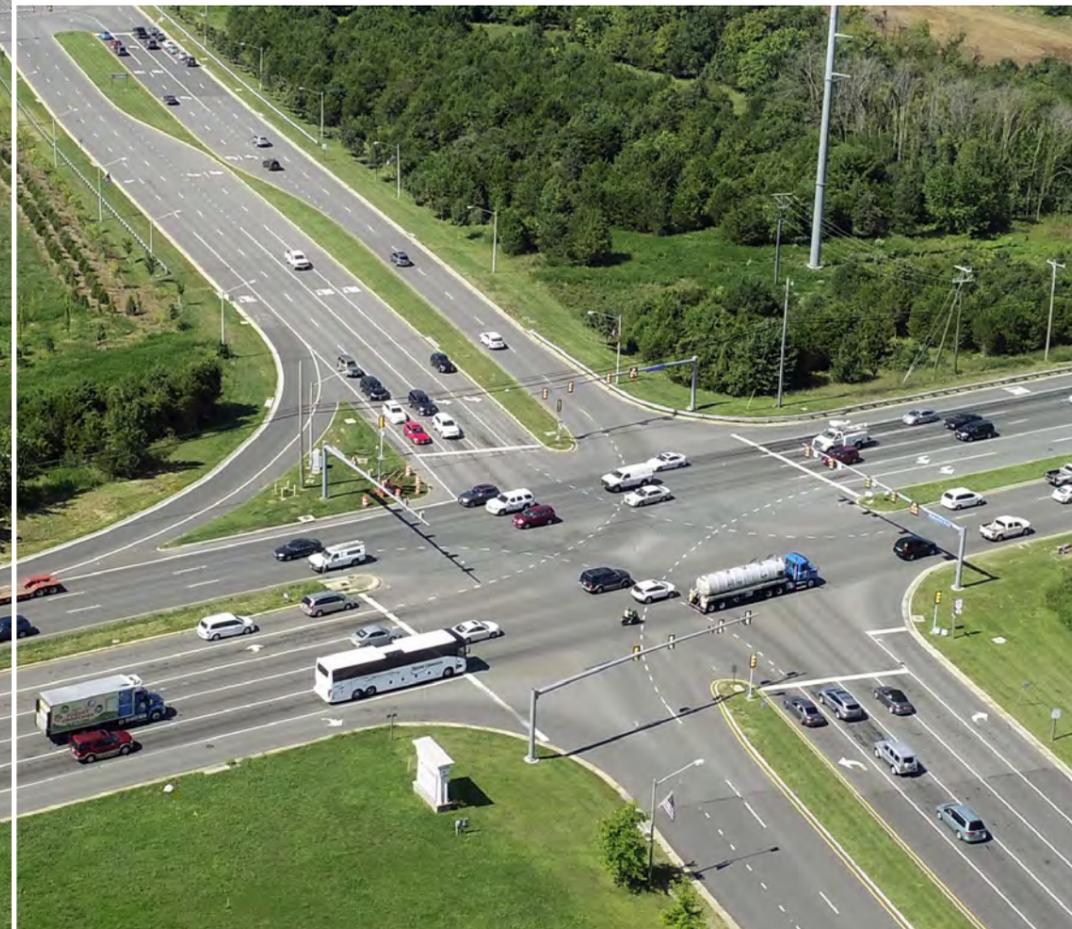
A handwritten signature in blue ink that reads 'Stephen D. Kindy'.

Stephen D. Kindy, P.E.
Senior Alternative Project Delivery Engineer

Route 7 and Battlefield Parkway Interchange

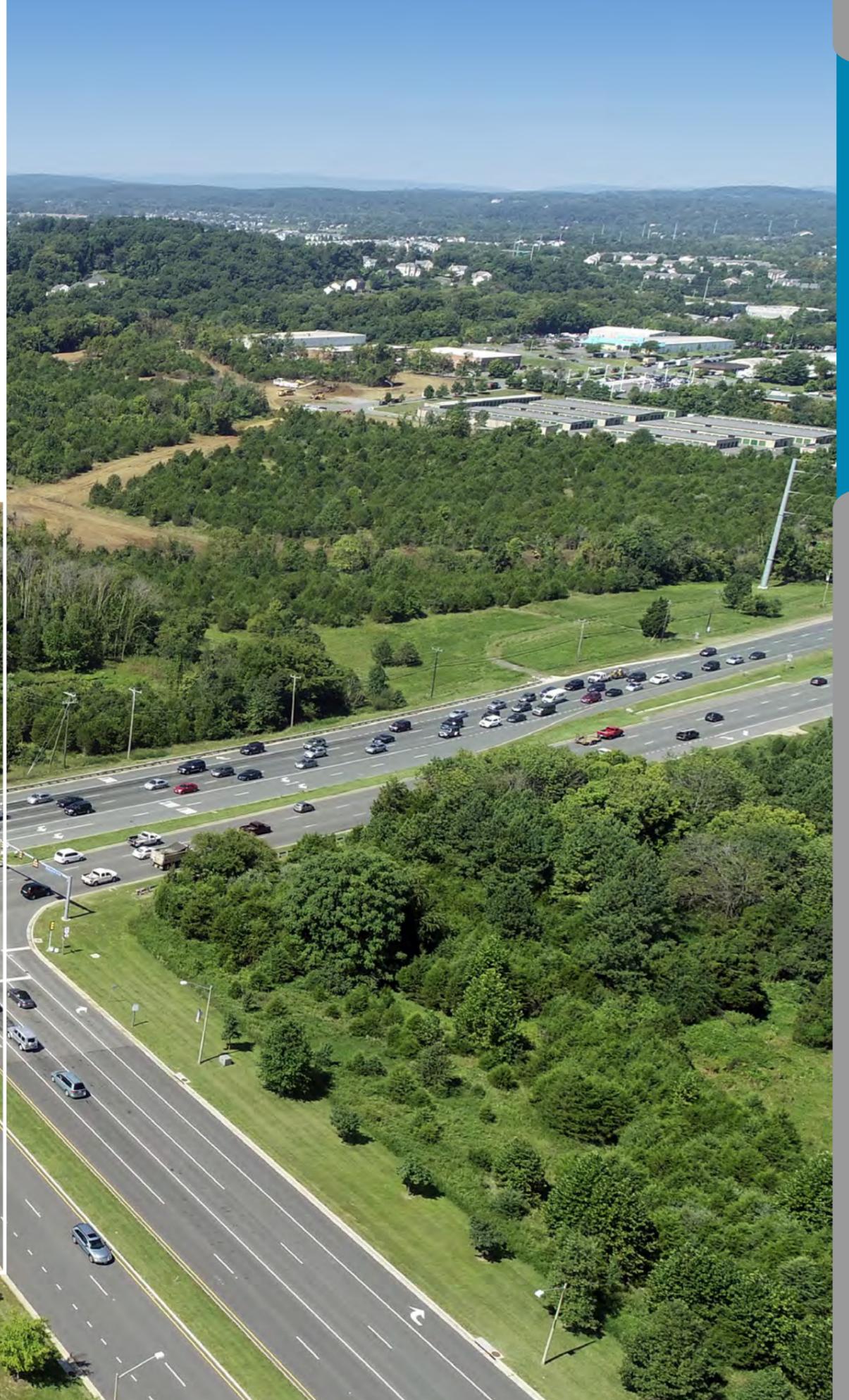
Town of Leesburg, Virginia

Project No. 0007-253-109 | Contract ID# C00106573DB101

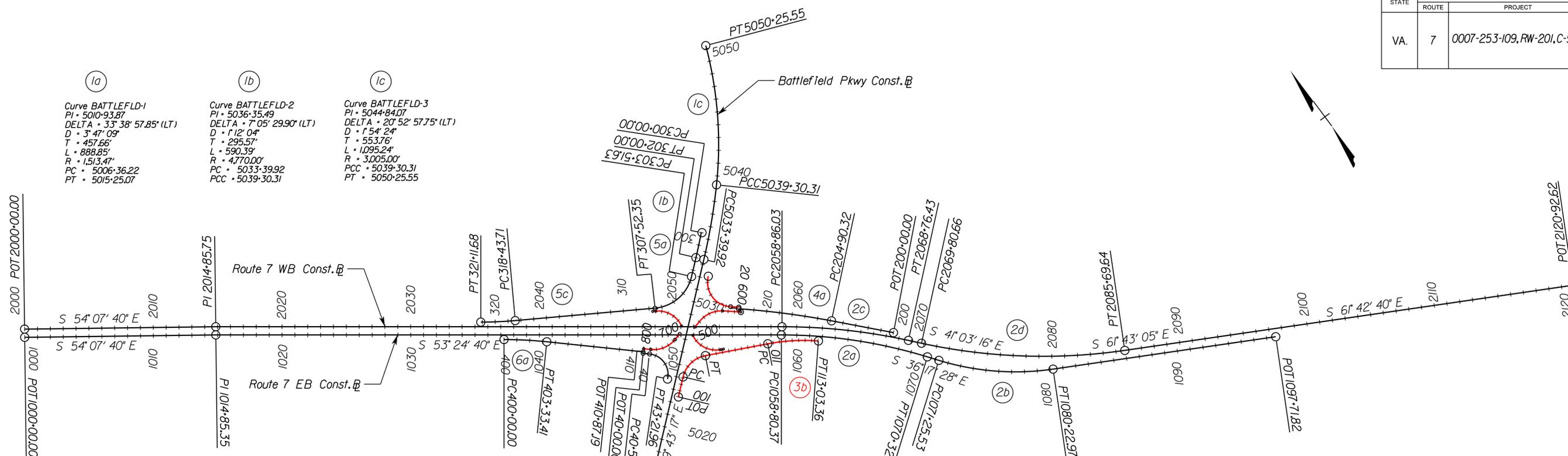


4.3

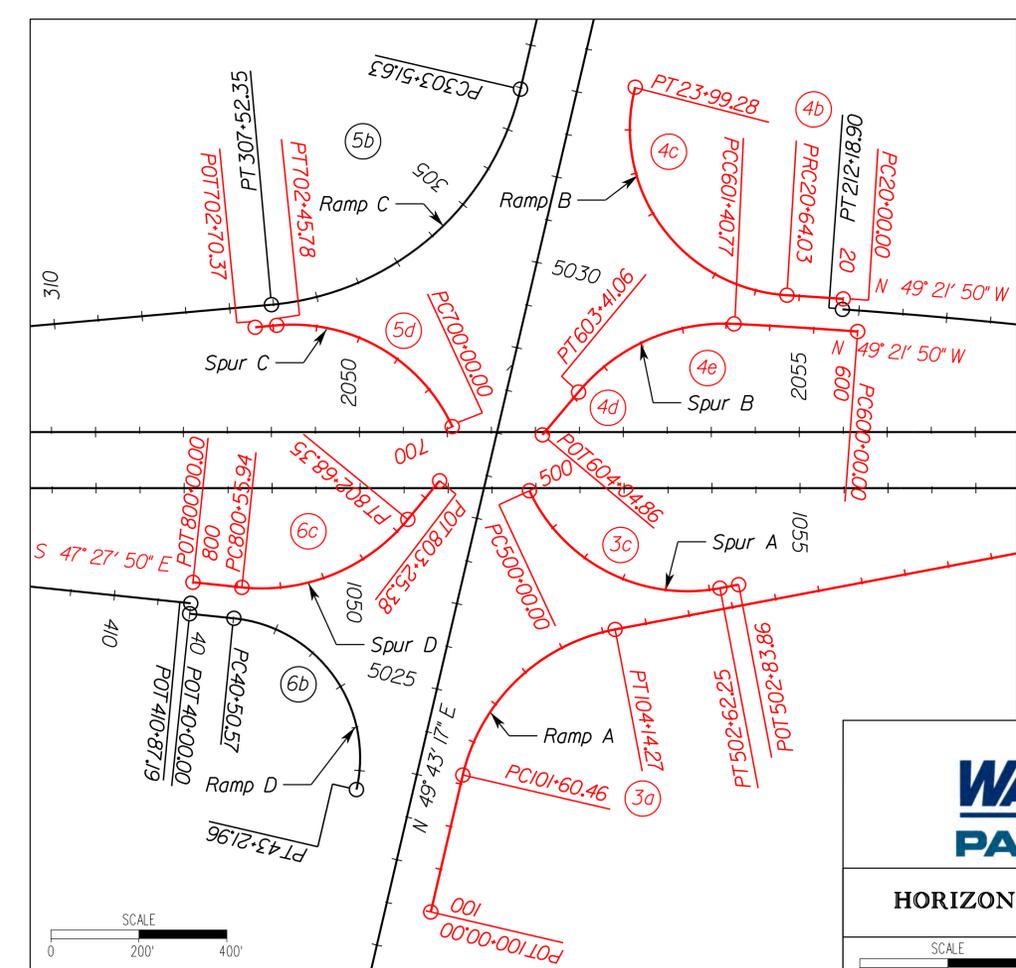
Design Concept



STATE	ROUTE	PROJECT	SHEET NO.
VA.	7	0007-253-109, RW-201, C-501	1



- (1a)**
Curve BATTLEFLD-1
PI = 5010.9387
DELTA = 33° 38' 57.85" (LT)
D = 3' 47' 09"
T = 457.66'
L = 888.85'
R = 1513.47'
PC = 5006.3622
PT = 5015.2507
- (1b)**
Curve BATTLEFLD-2
PI = 5036.3549
DELTA = 7° 05' 29.90" (LT)
D = 1° 12' 04"
T = 295.57'
L = 590.39'
R = 4770.00'
PC = 5033.3992
PCC = 5039.3031
PT = 5050.2555
- (1c)**
Curve BATTLEFLD-3
PI = 5044.8407
DELTA = 20° 52' 57.75" (LT)
D = 1° 54' 24"
T = 553.76'
L = 1095.24'
R = 3005.00'
PCC = 5039.3031
PT = 5050.2555
- (2a)**
Curve OLDEB-001
PI = 1064.6068
DELTA = 17° 07' 12.12" (RT)
D = 1° 29' 10"
T = 580.31'
L = 1151.97'
R = 3855.30'
PC = 1058.8037
PT = 1070.3234
- (2b)**
Curve OLDEB-002
PI = 1075.8176
DELTA = 25° 25' 37.15" (LT)
D = 2° 50' 00"
T = 456.23'
L = 897.43'
R = 2022.23'
PC = 1071.2553
PT = 1080.2297
- (2c)**
Curve OLDWB-001
PI = 2063.8316
DELTA = 12° 21' 23.73" (RT)
D = 1° 14' 52"
T = 497.13'
L = 990.40'
R = 4592.34'
PC = 2058.8603
PT = 2068.7643
- (2d)**
Curve OLDWB-002
PI = 2077.8387
DELTA = 20° 39' 23.86" (LT)
D = 1° 18' 00"
T = 803.21'
L = 1588.98'
R = 4407.39'
PC = 2069.8066
PT = 2085.6964
- (3a)**
Curve RAMP A
PI = 103.0360
DELTA = 66° 05' 59.83" (RT)
D = 26° 02' 37"
T = 143.14'
L = 253.81'
R = 220.00'
PC = 101.6046
PT = 104.1427
- (3b)**
Curve RAMP A2
PI = 111.0693
DELTA = 15° 05' 39.31" (RT)
D = 3° 49' 11"
T = 198.73'
L = 395.17'
R = 1500.00'
PC = 109.0819
PT = 113.0336
- (3c)**
Curve SPUR A
PI = 501.5438
DELTA = 75° 53' 15.97" (LT)
D = 28° 56' 14"
T = 154.38'
L = 262.25'
R = 500.00.00
PT = 502.6225
- (4a)**
Curve RAMP B-1
PI = 208.5503
DELTA = 6° 44' 44.24" (LT)
D = 0° 55' 33"
T = 364.71'
L = 728.58'
R = 6188.36'
PC = 204.9032
PT = 212.1890
- (4b)**
Curve RAMP B-RT1
PI = 20.3201
DELTA = 0° 35' 29.95" (LT)
D = 0° 55' 27"
T = 32.01'
L = 64.03'
R = 6200.36'
PC = 20.00.00
PRC = 20.6403
- (4c)**
Curve RAMP B-RT2
PI = 22.9491
DELTA = 10° 05' 50.66" (RT)
D = 30° 09' 20"
T = 230.89'
L = 335.25'
R = 190.00'
PRC = 20.6403
PT = 23.9928
- (4d)**
Curve SPUR B-1
PI = 600.7039
DELTA = 1° 18' 30.16" (LT)
D = 0° 55' 46"
T = 70.39'
L = 140.77'
R = 6164.36'
PC = 600.00.00
PCC = 601.4077
- (4e)**
Curve SPUR B-2
PI = 602.4884
DELTA = 53° 22' 35.89" (LT)
D = 26° 38' 57"
T = 108.08'
L = 200.29'
R = 215.00'
PC = 601.4077
PT = 603.4106
- (5a)**
Curve RAMP C-1
PI = 301.0002
DELTA = 2° 26' 04.17" (RT)
D = 1° 13' 02"
T = 100.02'
L = 200.00'
R = 4707.00'
PC = 300.00.00
PT = 302.00.00
- (5b)**
Curve RAMP C-2
PI = 305.8305
DELTA = 7° 44' 58.54" (RT)
D = 1° 54' 18"
T = 231.43'
L = 400.73'
R = 320.00'
PC = 303.5163
PT = 307.5235
- (5c)**
Curve RAMP C-3
PI = 319.7778
DELTA = 5° 07' 04.61" (RT)
D = 1° 54' 35"
T = 134.08'
L = 267.98'
R = 3000.00'
PC = 318.4371
PT = 321.1168
- (5d)**
Curve SPUR C-1
PI = 701.4111
DELTA = 70° 24' 40.97" (LT)
D = 28° 38' 52"
T = 141.11'
L = 245.78'
R = 200.00'
PC = 700.00.00
PT = 702.4578
- (6a)**
Curve RAMP D-1
PI = 401.6685
DELTA = 5° 56' 50.47" (RT)
D = 1° 47' 02"
T = 166.85'
L = 333.41'
R = 3212.00'
PC = 400.00.00
PT = 403.3341
- (6b)**
Curve RAMP D-RT-1
PI = 42.3201
DELTA = 9° 11' 06.40" (RT)
D = 35° 48' 36"
T = 181.44'
L = 271.39'
R = 160.00'
PC = 40.50.57
PT = 43.2196
- (6c)**
Curve SPUR D-1
PI = 801.7172
DELTA = 56° 36' 23.25" (LT)
D = 26° 38' 57"
T = 115.78'
L = 212.41'
R = 215.00'
PC = 800.55.94
PT = 802.6835



Design Revisions are
Shown in Red

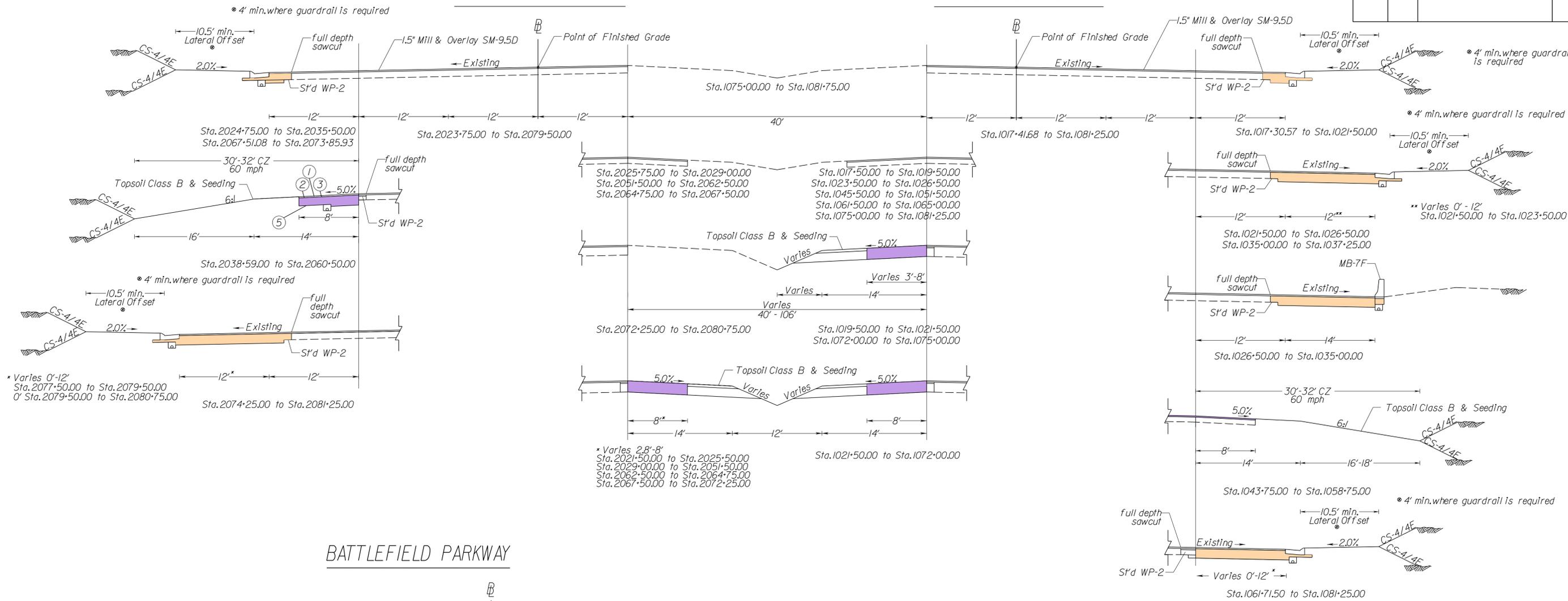


HORIZONTAL ALIGNMENTS

SCALE	PROJECT	SHEET NO.
0 400' 800'	0007-253-109	1

STATE	ROUTE	PROJECT	SHEET NO.
VA.	7	0007-253-109, RW-201, C-501	2

ROUTE 7 WESTBOUND EAST MARKET STREET ROUTE 7 ROUTE 7 EASTBOUND



BATTLEFIELD PARKWAY

NOTES:

1. See Plans For Guardrail Locations
2. Pavement Sections Will Be In Accordance With Section 2.6J of RFP Part 2.
3. Underdrains/Edgedrains Will be Provided as per Section 2.6J of RFP Part 2 and Final Geotechnical Recommendations

LEGEND

- FULL DEPTH PAVEMENT
- PAVED SHOULDER
- PROPOSED SIDEWALK
- PROPOSED SHARED USE PATH

DESIGN ENHANCEMENT #3

Eliminated Temporary and Permanent Impacts on Parcel 007

DESIGN ENHANCEMENT #4

Eliminated Excavation and Layered Geogrid Reinforcement

DESIGN ENHANCEMENT #2

Eliminated Impact on Existing Retaining Wall

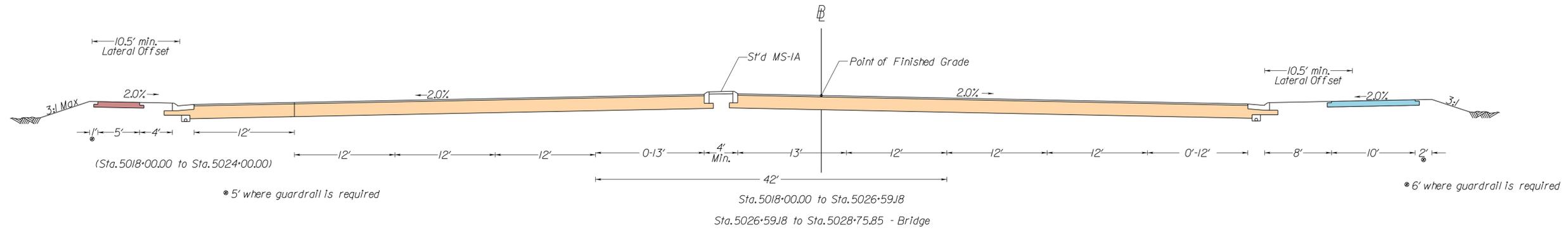


TYPICAL SECTIONS - 1

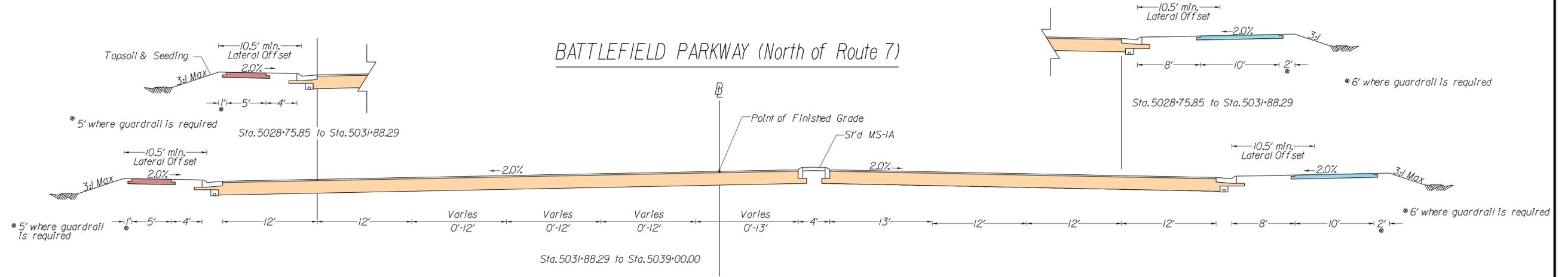
PROJECT	SHEET NO.
0007-253-109	2

STATE	ROUTE	STATE		SHEET NO.
		PROJECT		
VA.	7	0007-253-109, RW-201, C-501		3

BATTLEFIELD PARKWAY (South of Route 7)



BATTLEFIELD PARKWAY (North of Route 7)



LEGEND

- FULL DEPTH PAVEMENT
- PROPOSED SIDEWALK
- PAVED SHOULDER
- PROPOSED SHARED USE PATH

NOTES:

1. See Plans For Guardrail Locations
2. Pavement Sections Will Be In Accordance With Section 2.6.1 of RFP Part 2.

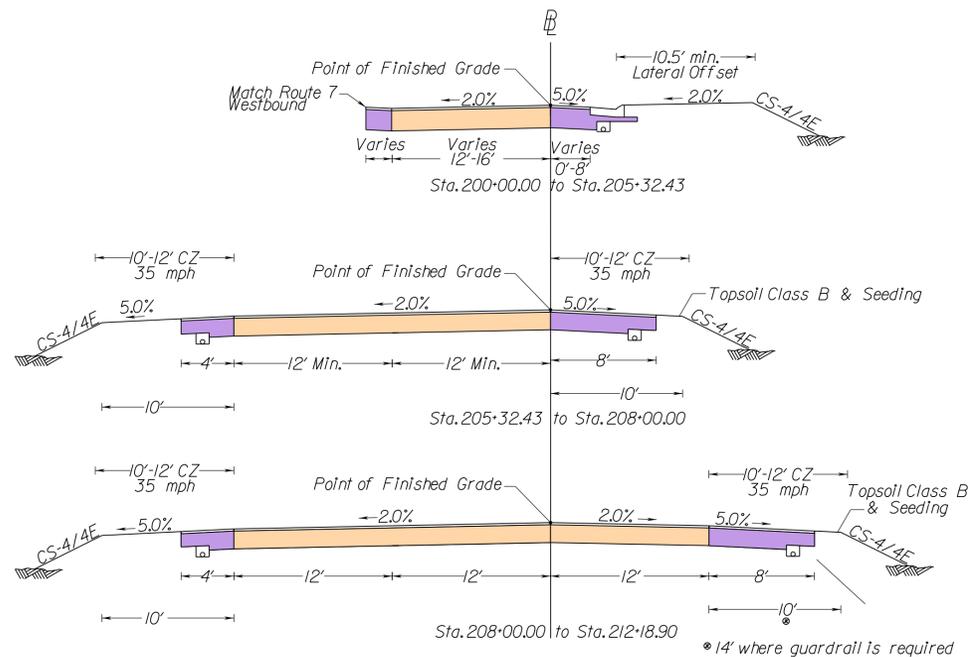


TYPICAL SECTIONS - 2

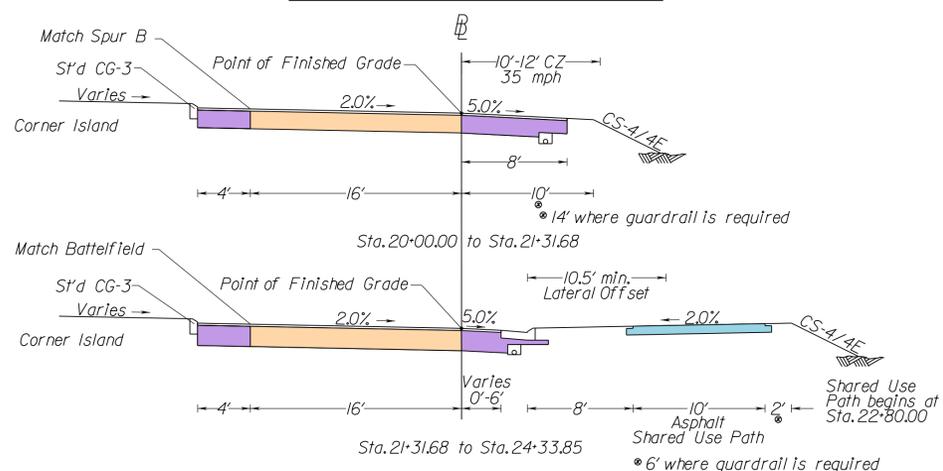
PROJECT	SHEET NO.
0007-253-109	3

STATE	ROUTE	STATE PROJECT	SHEET NO.
VA.	7	0007-253-109, RW-201, C-501	5

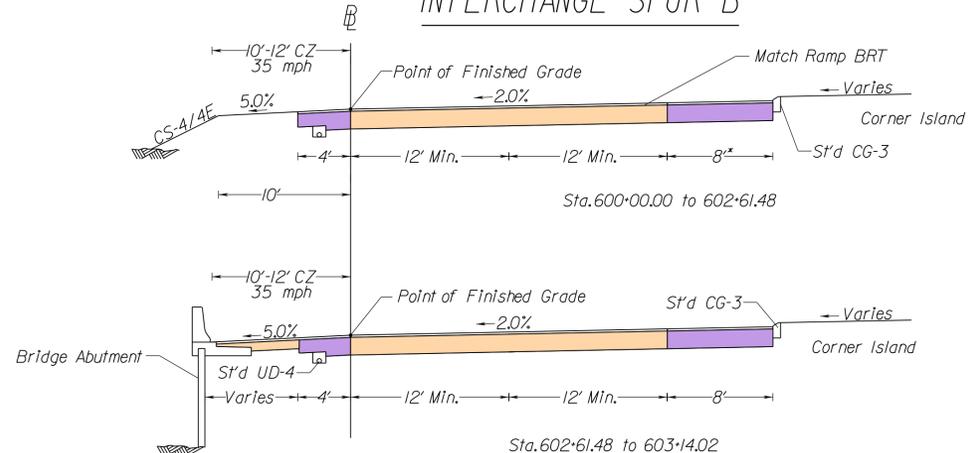
INTERCHANGE RAMP B



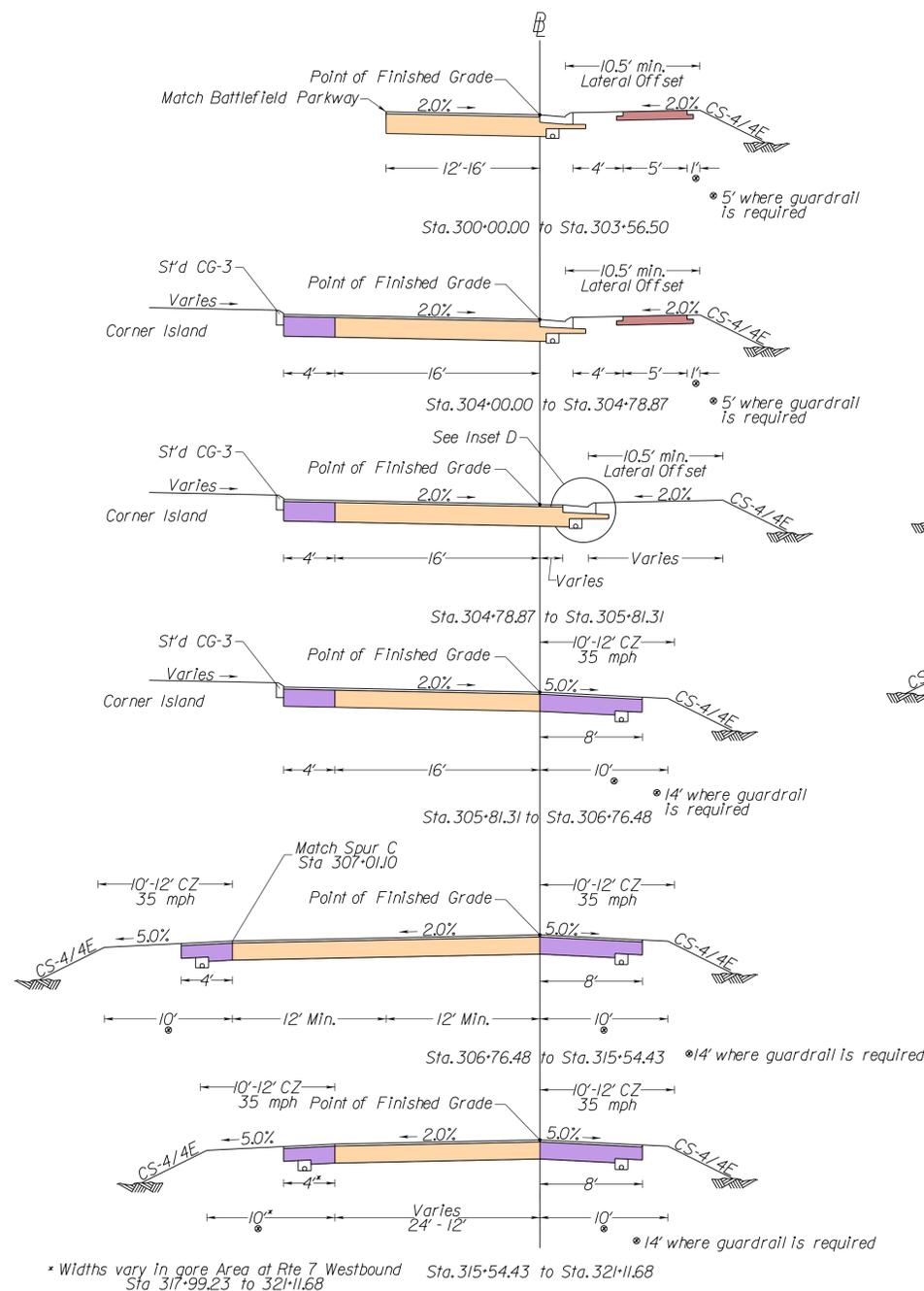
INTERCHANGE RAMP B RT



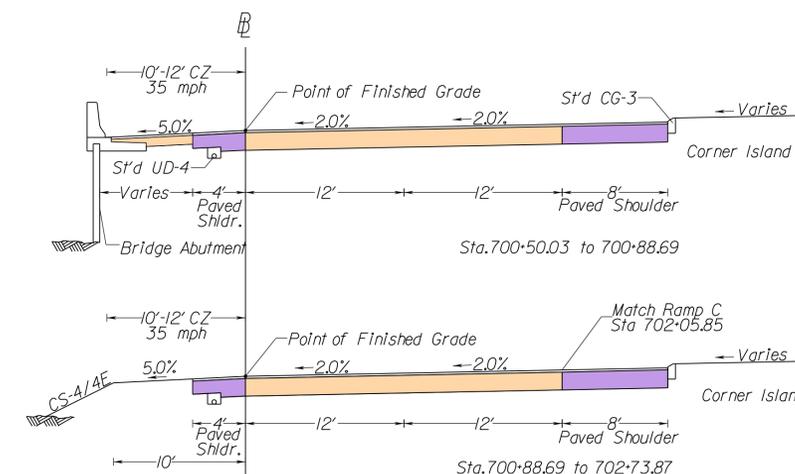
INTERCHANGE SPUR B



INTERCHANGE RAMP C



INTERCHANGE SPUR C



NOTES:

- See Plans For Guardrail Locations
- Pavement Sections Will Be In Accordance With Section 2.6.J of RFP Part 2.

LEGEND

- PROPOSED SIDEWALK
- PROPOSED SHARED USE PATH
- FULL DEPTH PAVEMENT
- PAVED SHOULDER

See Sheet 13 And 14
For Keystone Drive and
West Driveway Typical Sections.



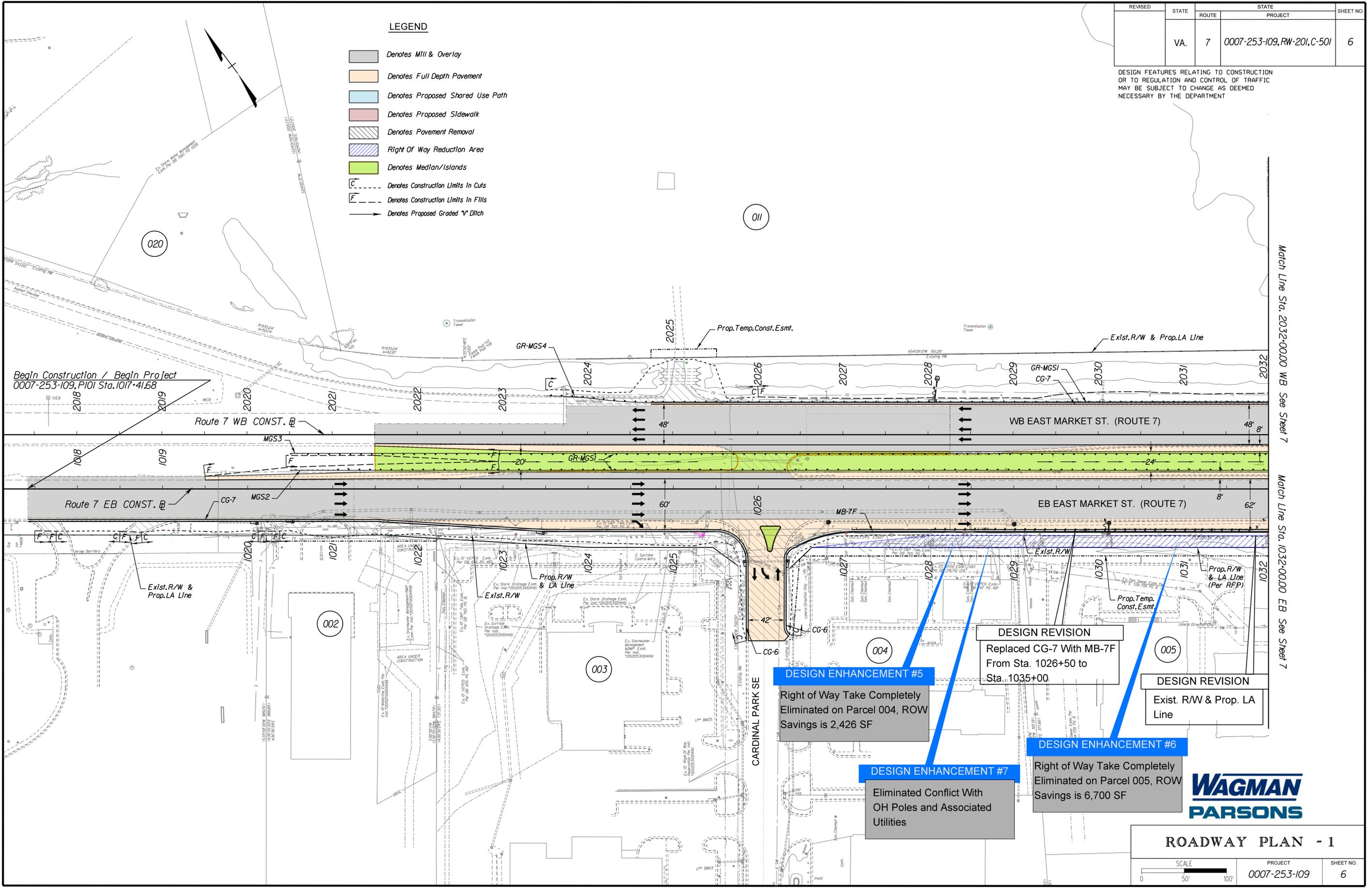
TYPICAL SECTIONS - 4

PROJECT	SHEET NO.
0007-253-109	5

REVISED	STATE	ROUTE	STATE PROJECT	SHEET NO.
	VA.	7	0007-253-109, RW-201, C-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

- LEGEND**
- Denotes Mill & Overlay
 - Denotes Full Depth Pavement
 - Denotes Proposed Shared Use Path
 - Denotes Proposed Sidewalk
 - Denotes Pavement Removal
 - Right Of Way Reduction Area
 - Denotes Median/Islands
 - Denotes Construction Limits In Cuts
 - Denotes Construction Limits In Fills
 - Denotes Proposed Graded "V" Ditch



Match Line Sta. 2032+00.00 WB See Sheet 7

Match Line Sta. 1032+00.00 EB See Sheet 7

DESIGN ENHANCEMENT #5
Right of Way Take Completely Eliminated on Parcel 004, ROW Savings is 2,426 SF

DESIGN REVISION
Replaced CG-7 With MB-7F From Sta. 1026+50 to Sta. 1035+00

DESIGN REVISION
Exist. R/W & Prop. LA Line

DESIGN ENHANCEMENT #7
Eliminated Conflict With OH Poles and Associated Utilities

DESIGN ENHANCEMENT #6
Right of Way Take Completely Eliminated on Parcel 005, ROW Savings is 6,700 SF



ROADWAY PLAN - 1

SCALE 0 50 100'	PROJECT 0007-253-109	SHEET NO. 6
--------------------	-------------------------	----------------

REVISED	STATE	ROUTE	STATE PROJECT	SHEET NO.
	VA.	7	0007-253-109, RW-201, C-501	7

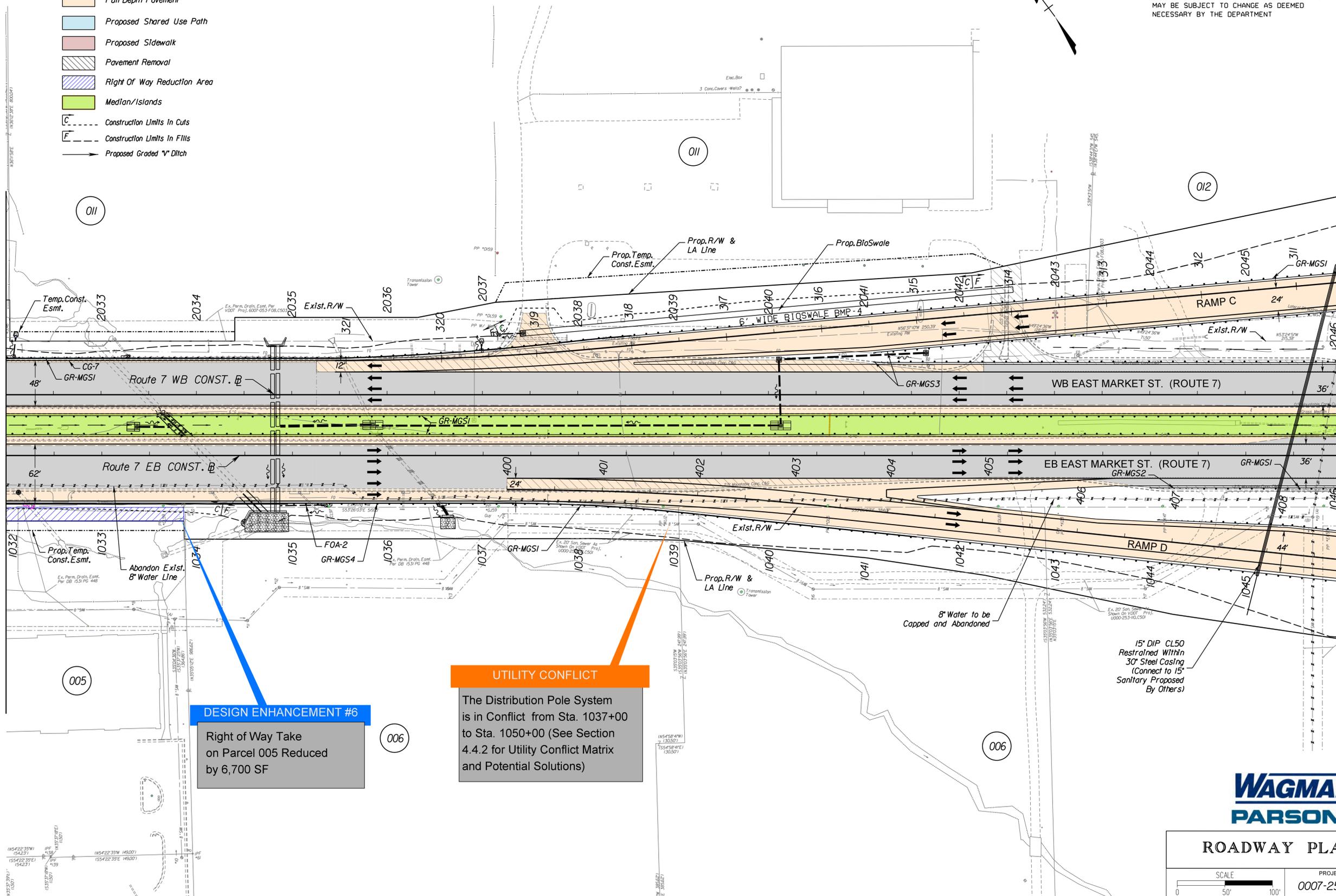
DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

LEGEND

- Mill & Overlay
- Full Depth Pavement
- Proposed Shared Use Path
- Proposed Sidewalk
- Pavement Removal
- Right Of Way Reduction Area
- Median/Islands
- Construction Limits In Cuts
- Construction Limits In Fills
- Proposed Graded "V" Ditch

Match Line Sta. 2032+00.00 WB See Sheet 6
Match Line Sta. 1032+00.00 EB See Sheet 6

Match Line Sta. 2046+00.00 WB See Sheet 8
Match Line Sta. 1046+00.00 EB See Sheet 8



DESIGN ENHANCEMENT #8
Right of Way Take on Parcel 005 Reduced by 6,700 SF

UTILITY CONFLICT
The Distribution Pole System is in Conflict from Sta. 1037+00 to Sta. 1050+00 (See Section 4.4.2 for Utility Conflict Matrix and Potential Solutions)

15' DIP CL50 Restrainted Within 30' Steel Casing (Connect to 15' Sanitary Proposed By Others)



ROADWAY PLAN - 2

SCALE 0 50' 100'	PROJECT 0007-253-109	SHEET NO. 7
---------------------	-------------------------	----------------

REVISED	STATE	ROUTE	STATE	PROJECT	SHEET NO.
	VA.	7		0007-253-109, RW-201, C-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

STRUCTURAL ENHANCEMENTS

DESIGN ENHANCEMENT #9
Reduced Bridge Deck Area

DESIGN ENHANCEMENT #11
Eliminated Longitudinal Joints

DESIGN ENHANCEMENT #12
Used Fully Integral Abutment with Deck Extension

DESIGN ENHANCEMENT #10
Eliminated Complex Structure & Framing Needed For RFP Bridge

DESIGN ENHANCEMENT #8
Provided Enhanced and Safer Pedestrian and Bicycle Crossings at Right Turn Ramps

Match Line Sta. 2046+00.00 WB See Sheet 7

Match Line Sta. 1046+00.00 EB See Sheet 7

Match Line Sta. 2059+00.00 WB See Sheet 9

Match Line Sta. 1059+00.00 EB See Sheet 9

NOTE:
See Bridge Sheets For Bridge and Pier Protection Locations

- LEGEND**
- Mill & Overlay
 - Full Depth Pavement
 - Proposed Shared Use Path
 - Proposed Sidewalk
 - Pavement Removal
 - Right Of Way Reduction Area
 - Median/Islands
 - Proposed Bridge
 - Construction Limits In Cuts
 - Construction Limits In Fills
 - Proposed Graded "V" Ditch

UTILITY CONFLICT
Distribution Pole in Conflict
(See Section 4.4.2 for Utility Conflict Matrix and Potential Solution)

UTILITY CONFLICT
6" Gas Main in Conflict
(See Section 4.4.2 for Utility Conflict Matrix and Potential Solution)

UTILITY CONFLICT
Distribution Pole in Conflict
(See Section 4.4.2 for Utility Conflict Matrix and Potential Solutions)

DESIGN ENHANCEMENT #1
Realigned Ramp A to Reduce Retaining Wall Height From 20' to 15'

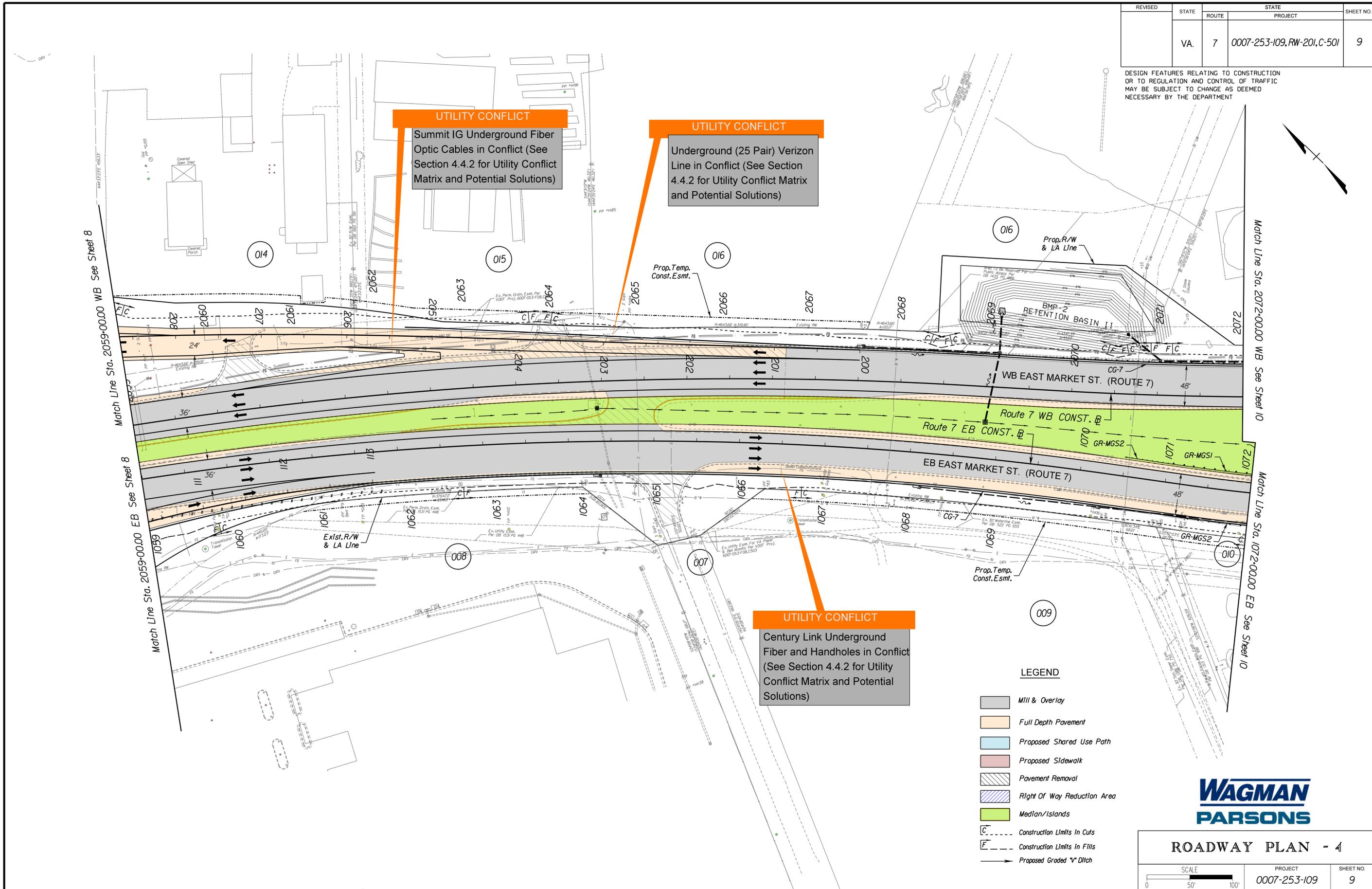


ROADWAY PLAN - 3

SCALE	PROJECT	SHEET NO.
0 50' 100'	0007-253-109	8

REVISED	STATE	ROUTE	STATE PROJECT	SHEET NO.
	VA.	7	0007-253-109, RW-201, C-501	9

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



LEGEND

- Mill & Overlay
- Full Depth Pavement
- Proposed Shared Use Path
- Proposed Sidewalk
- Pavement Removal
- Right Of Way Reduction Area
- Median/Islands
- Construction Limits in Cuts
- Construction Limits in Fills
- Proposed Graded "V" Ditch

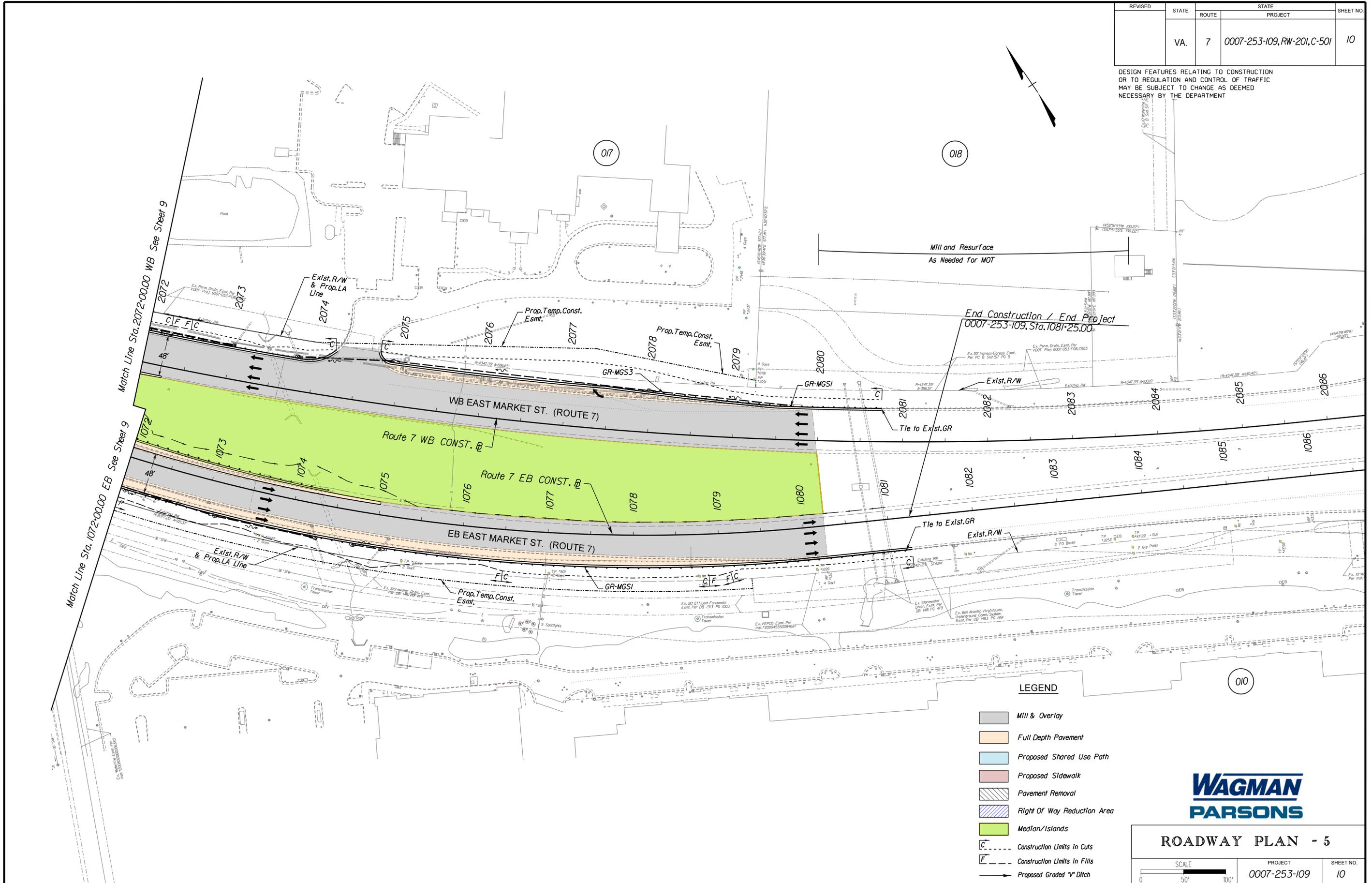


ROADWAY PLAN - 4

SCALE 0 50' 100'	PROJECT 0007-253-109	SHEET NO. 9
---------------------	-------------------------	----------------

REVISED	STATE	ROUTE	STATE PROJECT	SHEET NO.
	VA.	7	0007-253-109, RW-201, C-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



LEGEND

- Mill & Overlay
- Full Depth Pavement
- Proposed Shared Use Path
- Proposed Sidewalk
- Pavement Removal
- Right Of Way Reduction Area
- Median/Islands
- Construction Limits in Cuts
- Construction Limits in Fills
- Proposed Graded "V" Ditch



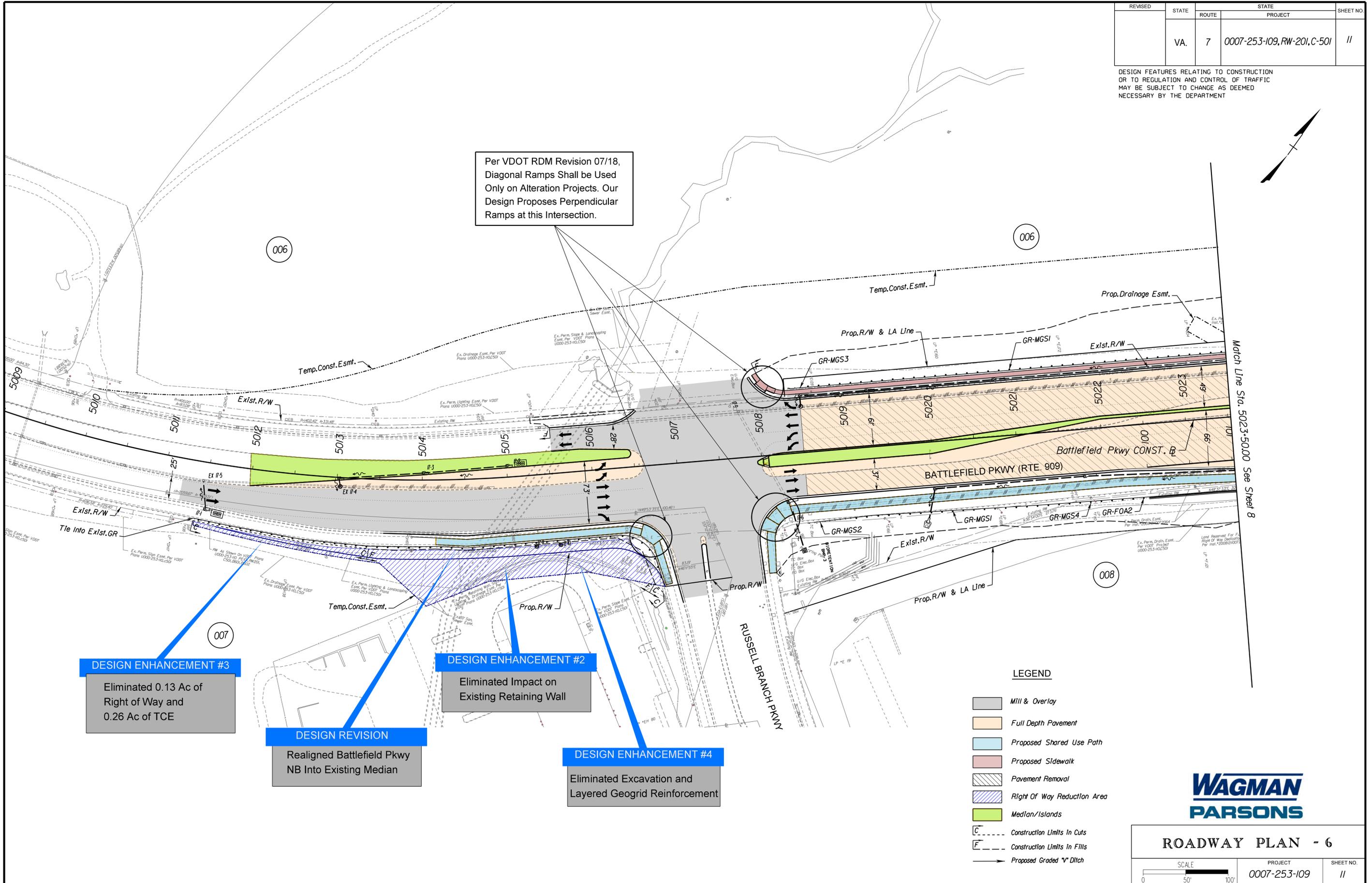
ROADWAY PLAN - 5

SCALE 0 50' 100'	PROJECT 0007-253-109	SHEET NO. 10
---------------------	-------------------------	-----------------

REVISED	STATE	ROUTE	STATE PROJECT	SHEET NO.
	VA.	7	0007-253-109, RW-201, C-501	11

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

Per VDOT RDM Revision 07/18, Diagonal Ramps Shall be Used Only on Alteration Projects. Our Design Proposes Perpendicular Ramps at this Intersection.



DESIGN ENHANCEMENT #3
Eliminated 0.13 Ac of Right of Way and 0.26 Ac of TCE

DESIGN REVISION
Realigned Battlefield Pkwy NB Into Existing Median

DESIGN ENHANCEMENT #2
Eliminated Impact on Existing Retaining Wall

DESIGN ENHANCEMENT #4
Eliminated Excavation and Layered Geogrid Reinforcement

LEGEND

- Mill & Overlay
- Full Depth Pavement
- Proposed Shared Use Path
- Proposed Sidewalk
- Pavement Removal
- Right Of Way Reduction Area
- Median/Islands
- Construction Limits in Cuts
- Construction Limits in Fills
- Proposed Graded "V" Ditch



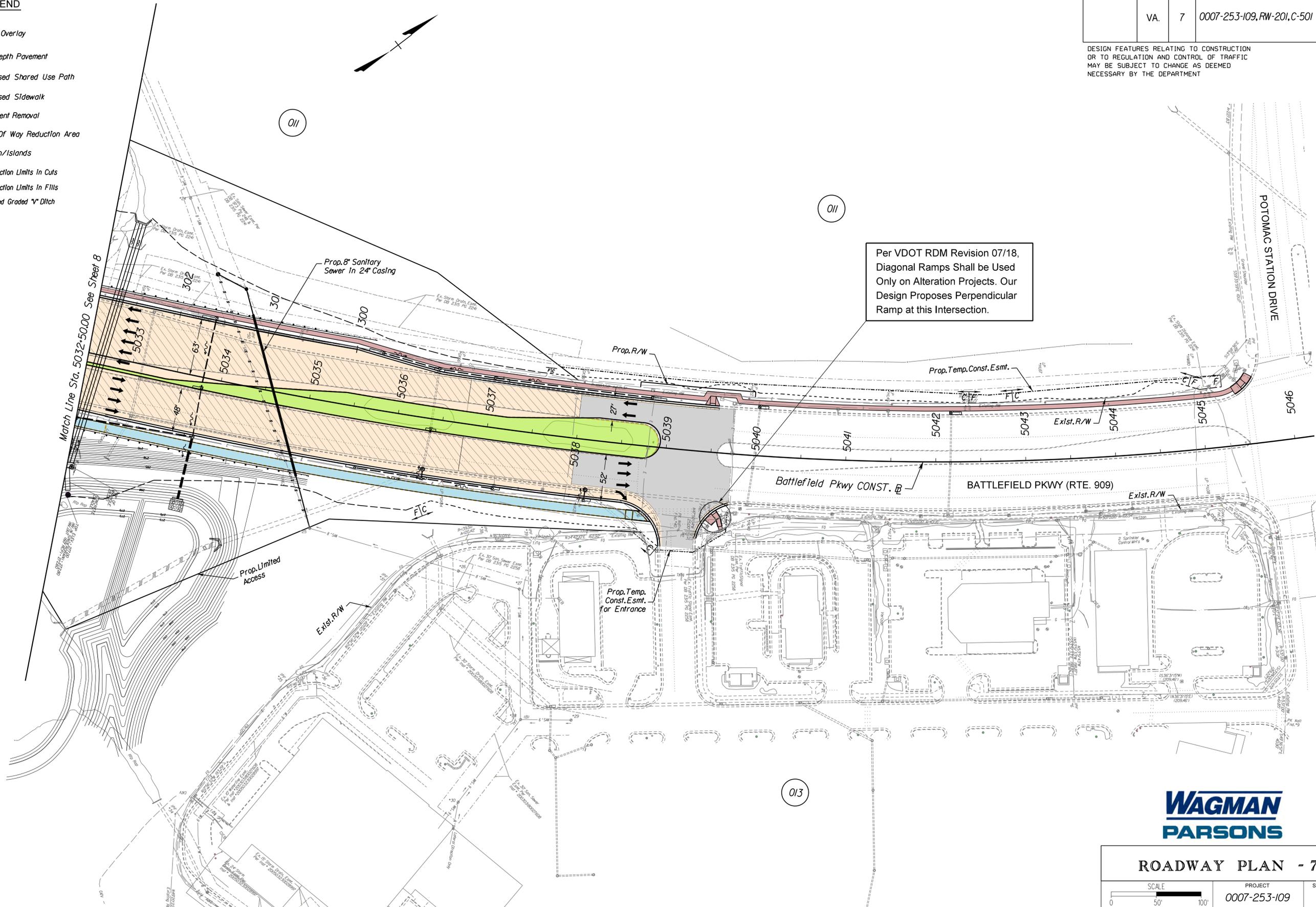
ROADWAY PLAN - 6

SCALE 0 50' 100'	PROJECT 0007-253-109	SHEET NO. 11
---------------------	-------------------------	-----------------

REVISED	STATE	STATE		SHEET NO.
	ROUTE	PROJECT		
	VA.	7	0007-253-109, RW-201, C-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

- LEGEND**
- Mill & Overlay
 - Full Depth Pavement
 - Proposed Shared Use Path
 - Proposed Sidewalk
 - Pavement Removal
 - Right Of Way Reduction Area
 - Median/Islands
 - Construction Limits in Cuts
 - Construction Limits in Fills
 - Proposed Graded "V" Ditch



Per VDOT RDM Revision 07/18, Diagonal Ramps Shall be Used Only on Alteration Projects. Our Design Proposes Perpendicular Ramp at this Intersection.



ROADWAY PLAN - 7

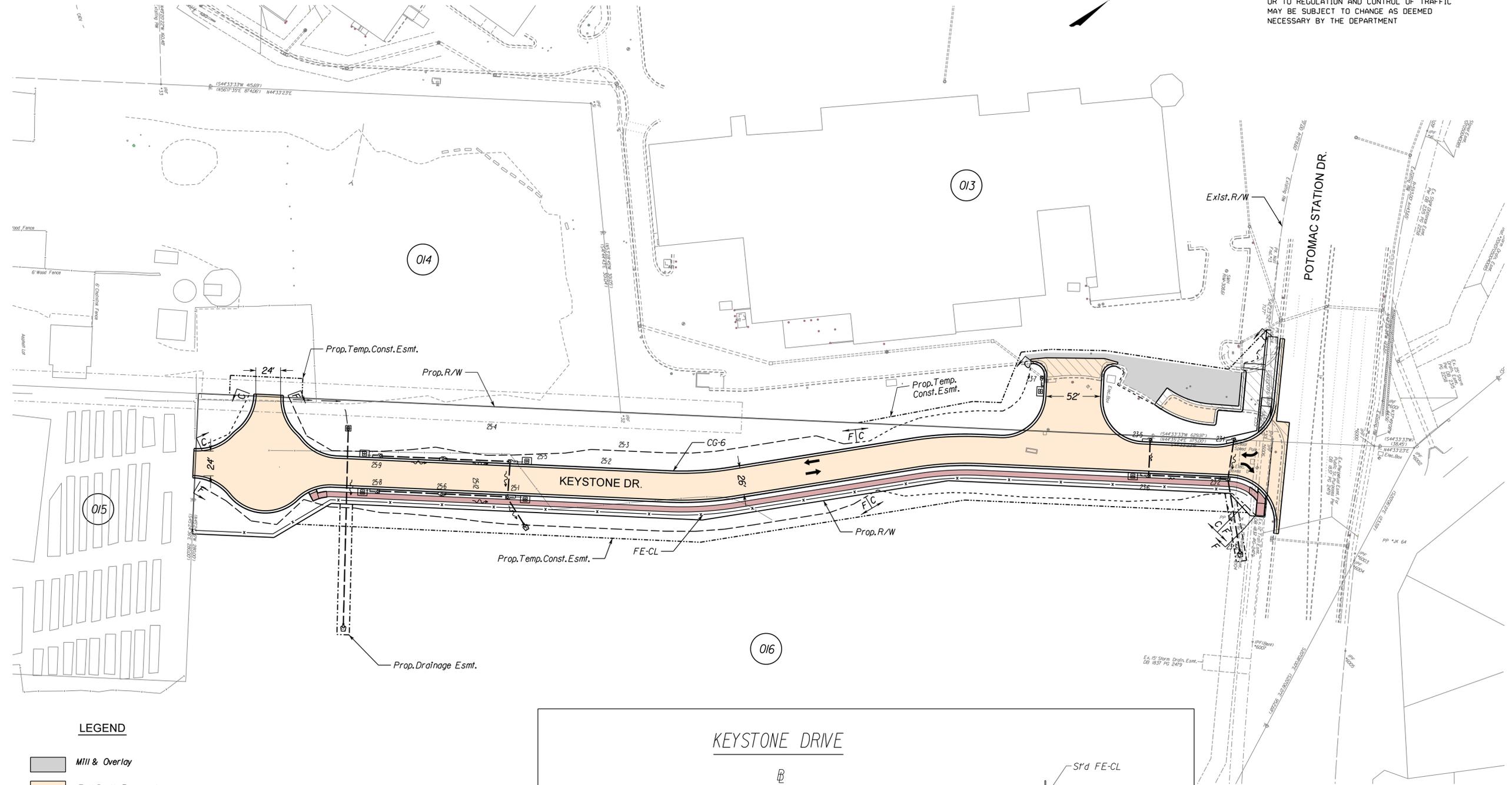
SCALE: 0 50' 100'

PROJECT: 0007-253-109

SHEET NO.: 12

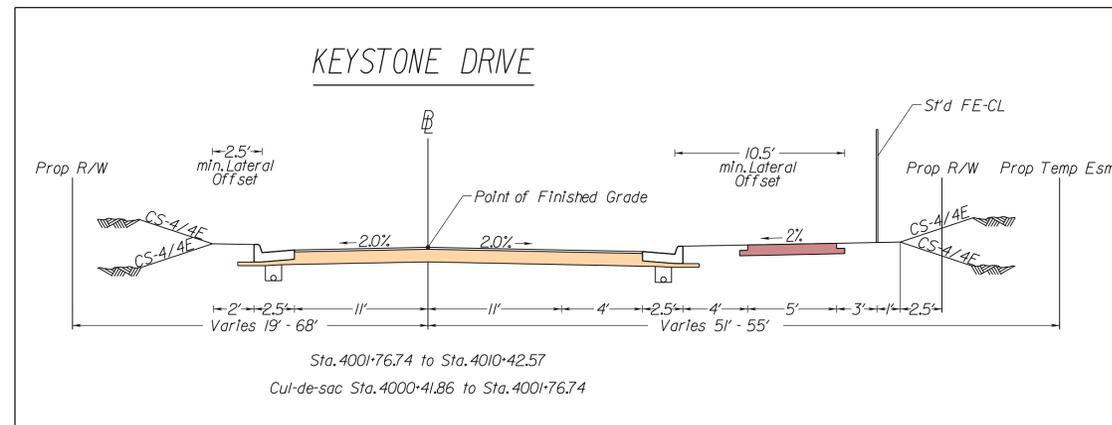
REVISED	STATE	STATE		SHEET NO.
	ROUTE	PROJECT		
	VA.	7	0007-253-109, RW-201, C-501	13

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



LEGEND

- Mill & Overlay
- Full Depth Pavement
- Proposed Shared Use Path
- Proposed Sidewalk
- Pavement Removal
- Right Of Way Reduction Area
- Median/Islands
- Construction Limits In Cuts
- Construction Limits In Fills
- Proposed Graded "V" Ditch

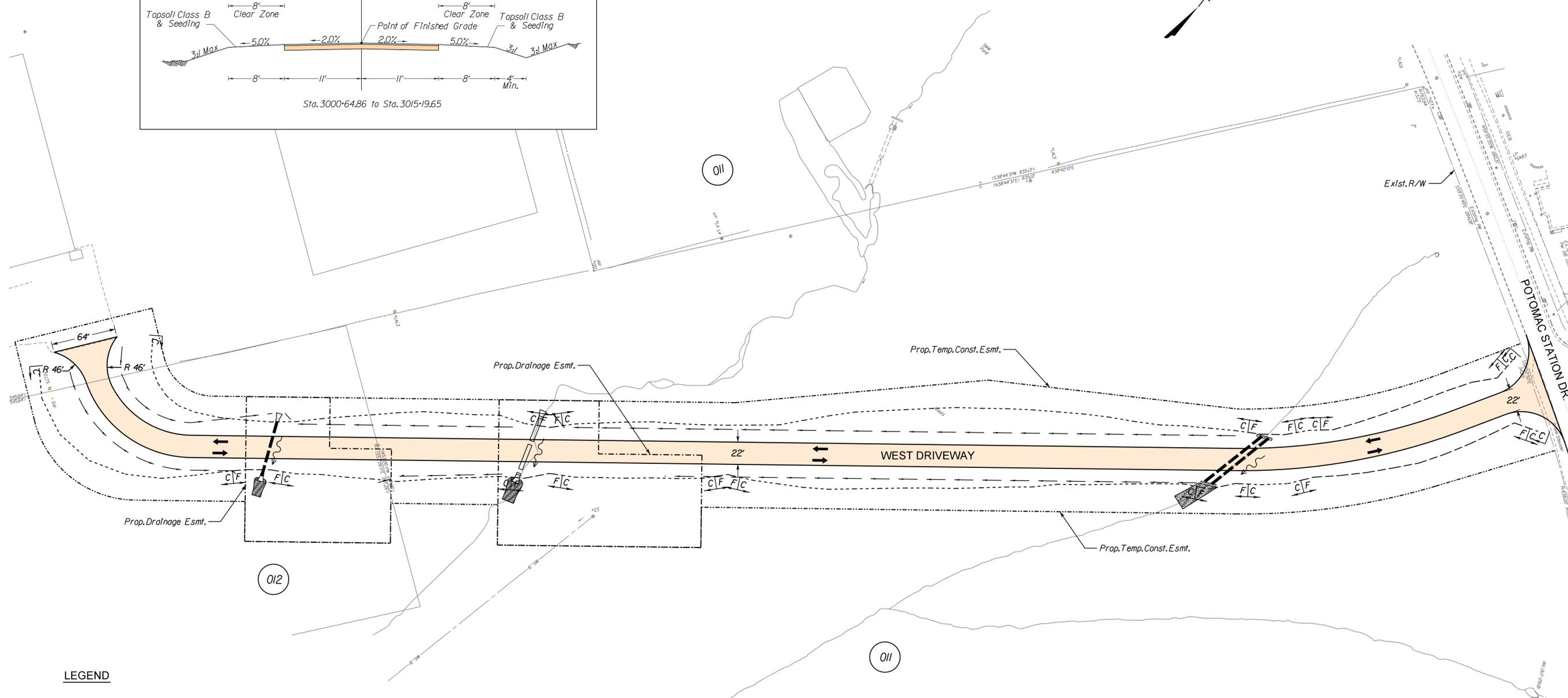
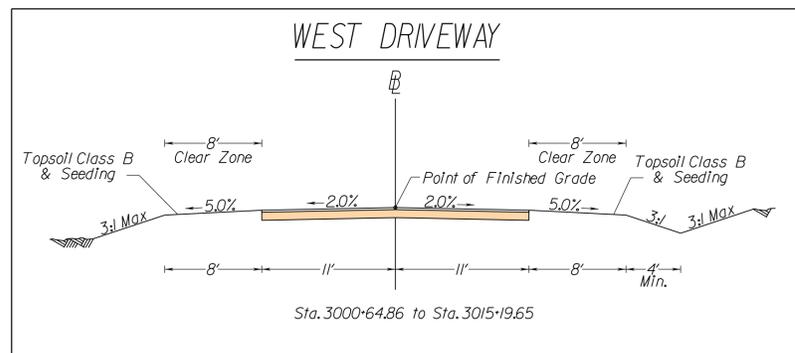


ROADWAY PLAN - 8

SCALE 0 50' 100'	PROJECT 0007-253-109	SHEET NO. 13
---------------------	-------------------------	-----------------

REVISED	STATE	STATE		SHEET NO.
	ROUTE	PROJECT		
	VA.	7	0007-253-109, RW-201, C-501	14

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



LEGEND

- Mill & Overlay
- Full Depth Pavement
- Proposed Shared Use Path
- Proposed Sidewalk
- Pavement Removal
- Right Of Way Reduction Area
- Median/Islands
- Construction Limits In Cuts
- Construction Limits In Fills
- Proposed Graded "V" Ditch



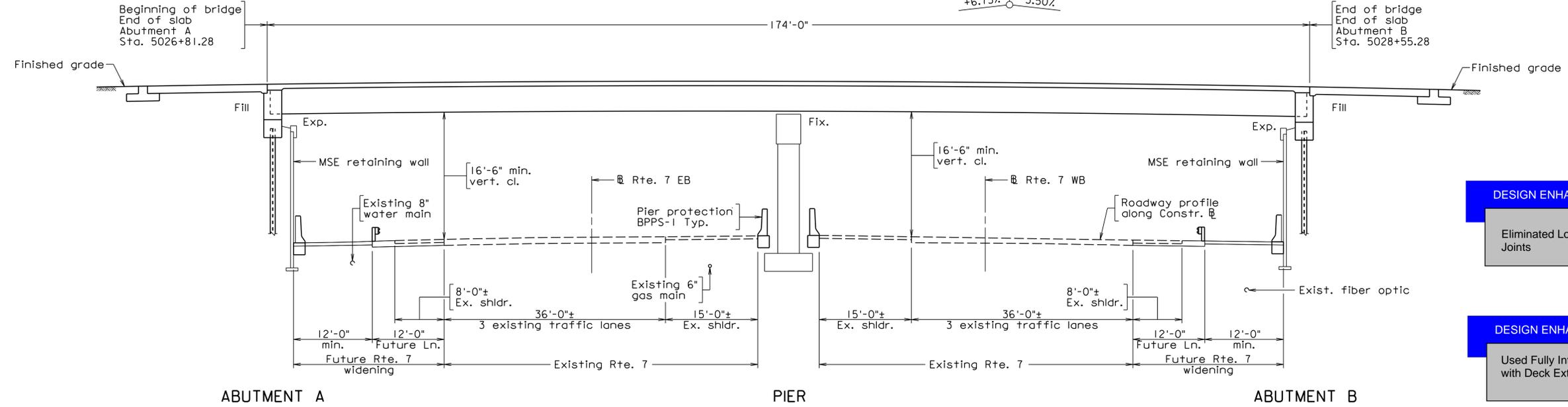
ROADWAY PLAN - 9

SCALE	PROJECT	SHEET NO.
0 50' 100'	0007-253-109	14

STATE	FEDERAL AID	STATE	SHEET NO.
VA	PROJECT	ROUTE	PROJECT
	STP-5A0-1(704)	007	0007-253-109, B601
			16

C.G. Sta. 5028+05.13
 C.G. Elev. 323.73
 V.C. = 747.25

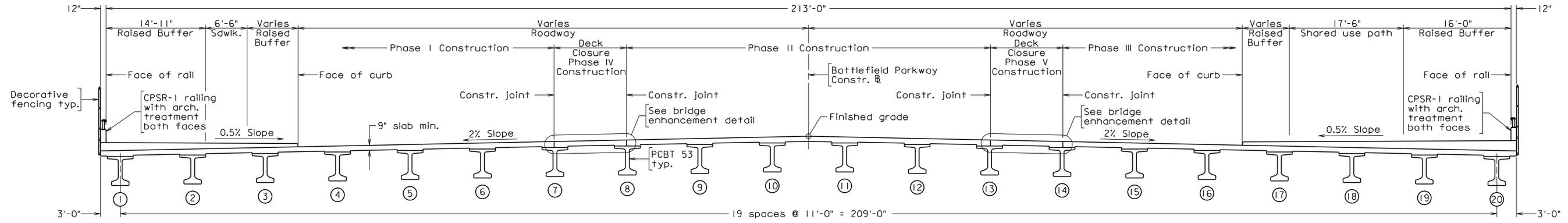
+6.75% -5.50%



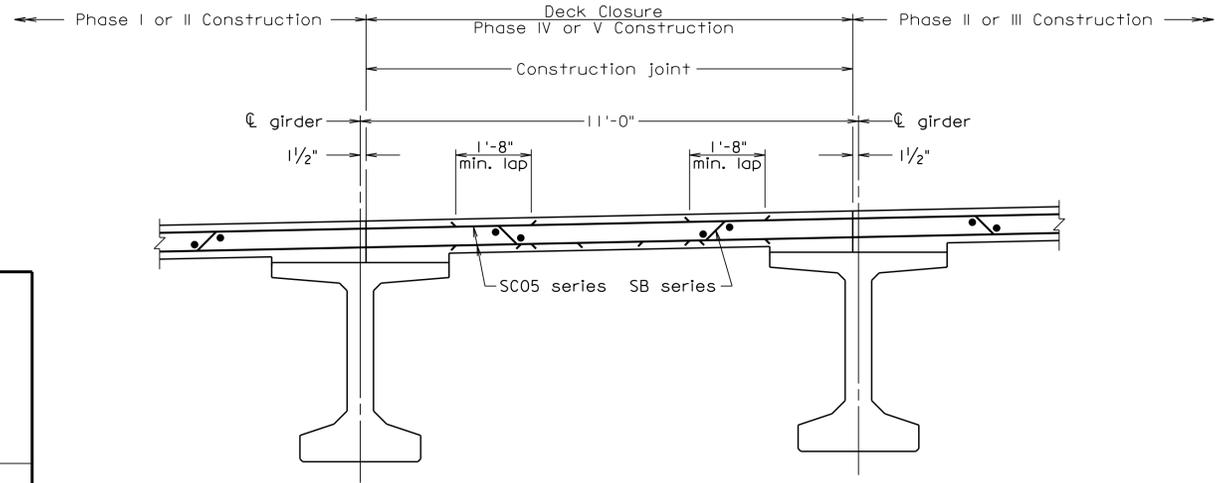
DESIGN ENHANCEMENT #11
 Eliminated Longitudinal Joints

DESIGN ENHANCEMENT #12
 Used Fully Integral Abutment with Deck Extensions

DEVELOPED SECTION ALONG CONSTR. B



TRANSVERSE SECTION



BRIDGE ENHANCEMENT DETAIL
 Scale: 1/2" = 1'-0"

PRELIMINARY PLANS
 THESE PLANS NOT TO BE USED FOR CONSTRUCTION

COMMONWEALTH OF VIRGINIA DEPARTMENT OF TRANSPORTATION			
STRUCTURE AND BRIDGE DIVISION			
DEVELOPED AND TRANSVERSE SECTIONS			
No.	Description	Date	Designed:
			Drawn:
			Checked:
Revisions			Date
			Nov. 2018
			Plan No.
			301-85
			Sheet No.
			16

b:full.tbl

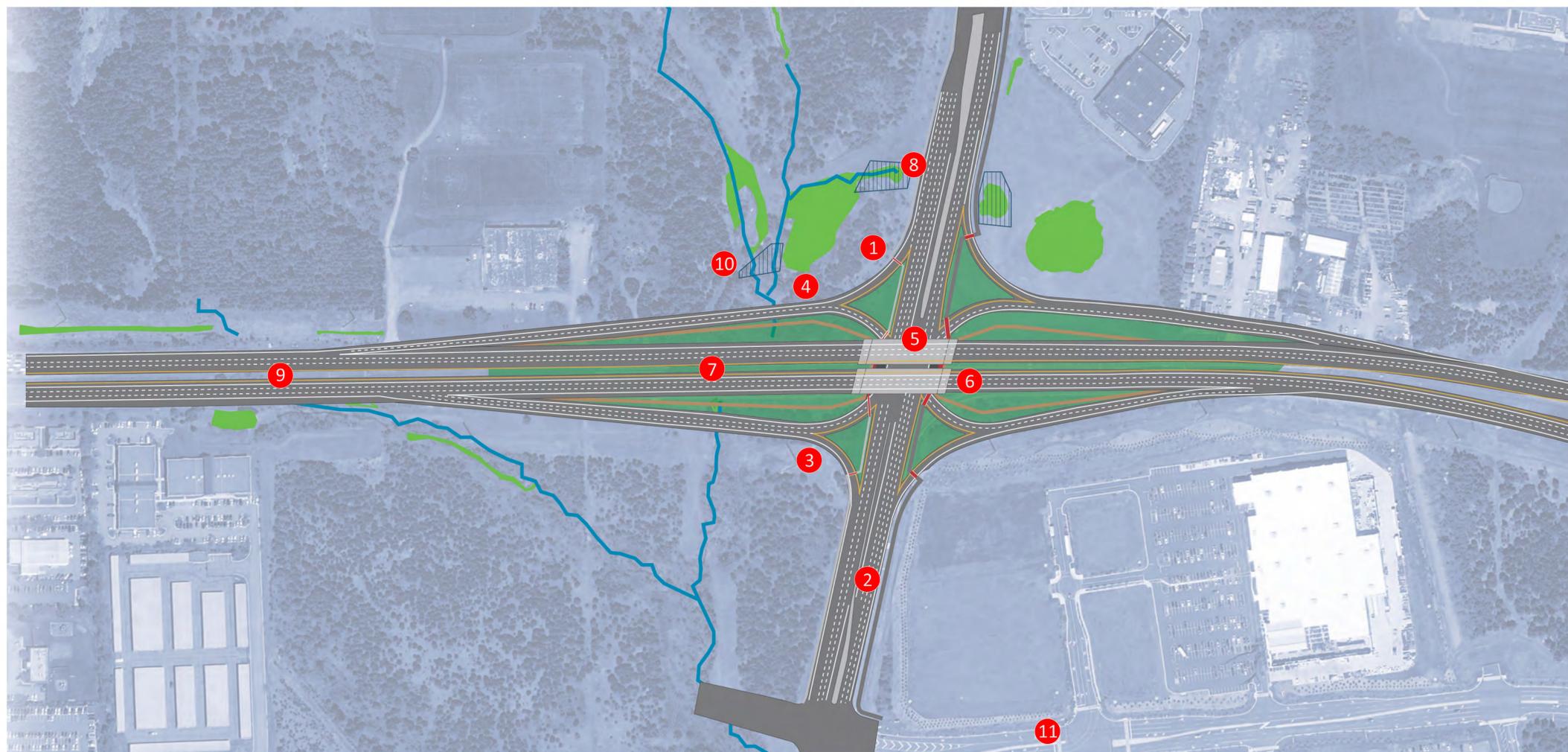
V00T PDF.plt:cfg

11/20/20 08:27:14 PM

b530 085002.dgn

REVISED	STATE	ROUTE	STATE PROJECT	SHEET NO.
	VA.	7	0007-253-109, RW-201, 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



During the proposal development, our team has developed an Alternative Technical Concept (ATC) that offers several benefits to VDOT, Town of Leesburg and other stakeholders as described on this table; However the procurement schedule simply did not allow enough time to gain prior approval from the Town Council. With VDOT's concurrence, the DB Team is prepared to present this concept as a potential Value Engineering Proposal at the Town of Leesburg Council Meeting on January 22, 2019.

Discipline	Id	Enhancement	Explanation
Roadway/ Bicycle/ Pedestrian Geometry	1	Reduces overall foot print and reduces borrow material	Construction on Battlefield Parkway could be limited to widening in lieu of a complete reconstruction. Also, the interchange ramps will be close to existing grade significantly reducing the limits of disturbance on all four quadrants of the interchange and reducing the overall borrow quantity
	2	Reduces vertical grade on Battlefield Parkway by approximately 50%	The proposed vertical grade on Battlefield Parkway reduces from 6.75% to 3.69%. This offers significant benefit to pedestrians and bicyclists along Battlefield Parkway and makes the sidewalk and shared use path more easily traversable
Right of Way	3	Reduces Right of way Take and Temporary Construction Easement on	The proposed profiles for Ramp D and Battlefield Parkway are closer to the existing ground reducing the impact on Leegate property and reduces the Right of Way Fee taking area.
	4	Reduced Right of way Take on Peterson Companies property	The proposed profiles for Ramp C and Battlefield Parkway are closer to the existing ground reducing the impact on Peterson Companies property in the northwest quadrant and reduces the Right of Way Fee taking area
Bridge	5	Reduces bridge deck area by 32%	The RFP concept requires a bridge that is 177' wide and 200' in length, a total of 40,320 sf of bridge deck. The potential VE concept requires 2 simple span bridges of 60' wide and 226' length and reduces the bridge deck to 27,120 SF resulting significant reduction in initial construction cost and future maintenance costs.
	6	Reduces potential girder hits from oversize vehicles	Truck traffic and oversize vehicles mainly use Route 7. The potential VE concept reduces the probability of girder hits from oversize vehicles.
Major Culverts	7	Provides new culvert at Sta. 1046+25 in lieu of repairs	Existing culvert crossing Route 7 at Sta. 1046+25 is constructed in 1949 and about 70 years old. RFP requires repairs to be performed. The potential VE concept provides a new culvert to the Department with a service life of 70 years resulting in significant reduction in further maintenance needs
	8	Eliminates culvert extensions on Battlefield Parkway	RFP design requires culvert extension on Battlefield Parkway because high fills. The potential VE concept reduces the limits of disturbance and eliminates the need to extend the existing culvert
	9	Concept allows for Cut and cover method in-lieu of jack and bore across Route 7	Proposed culvert across Route 7 could be constructed by the cut and cover method within our work zone with minimal impacts to traffic along Route 7. In comparison to a jack and bore under route 7 or open cut across Route 7 while maintaining traffic along Route 7 as needed for the RFP design
Environmental	10	Reduces impacts to wetlands and streams	The potential VE concept reduces the fills along Battlefield Parkway and reduces the foot print thereby reducing the wetland and stream impacts on northeast and northwest quadrants. This supports avoidance and minimization of wetland and stream impacts and reduction in required mitigation credits
Construction	11	Reduced long term detour duration by 3 months	The potential VE concept reduces the long term detour duration to 9 months which is 3 months less than the 12 month closure allowed by the RFP.

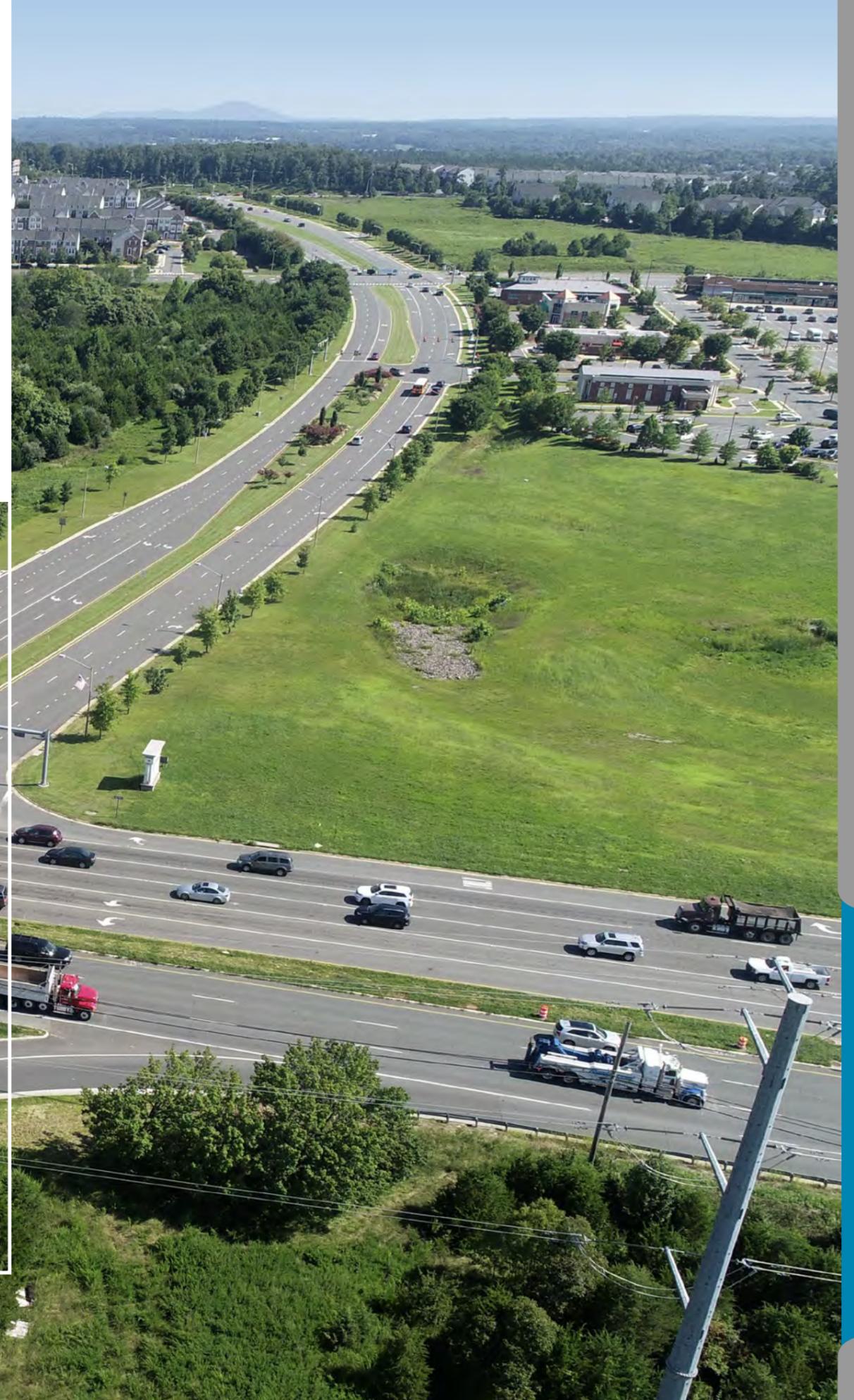


POTENTIAL VALUE ENGINEERING ENHANCEMENTS

Not To Scale	PROJECT 0007-253-109	SHEET NO. 17
--------------	-------------------------	-----------------

4.6

Proposal Schedule



Route 7 Battlefield Parkway Interchange				BTLScheduleClassic												Nov-14-18 22:04													
Activity Name	Original Duration	Start	Finish	Total Float	Qtr 1, 2019	Qtr 2, 2019	Qtr 3, 2019	Qtr 4, 2019	Qtr 1, 2020	Qtr 2, 2020	Qtr 3, 2020	Qtr 4, 2020	Qtr 1, 2021	Qtr 2, 2021	Qtr 3, 2021	Qtr 4, 2021	Qtr 1, 2022	Qtr 2, 2022											
					J	F	M	Apr	M	J	Jul	A	S	Oct	N	D	J	F	M	Apr	M	J	Jul	A	S	Oct	N	D	J
Route 7 Battlefield Parkway Interchange	749	Jan-10-19	Nov-23-21	0	▶ Nov-23-21, Route 7 Battlefield																								
General	749	Jan-10-19	Nov-23-21	0	▶ Nov-23-21, General																								
Notice of Award	0	Jan-10-19*		0	Notice of Award																								
NTP	1	Feb-22-19*	Feb-22-19	0	I NTP																								
Start Battlefield Detour	0	Sep-16-20		0	◆ Start Battlefield Detour																								
Finish Battlefield Detour	0		Jul-21-21	0	◆ Finish Battlefield Detour																								
Final Project Completion	0		Nov-23-21	0	◆ Final Project Completion																								
Preconstruction	305	Feb-23-19	Apr-26-20	6	▶ Apr-26-20, Preconstruction																								
Engineering and Design	305	Feb-23-19	Apr-26-20	6	▶ Apr-26-20, Engineering and Design																								
Scope Validation	116	Feb-23-19	Jun-18-19	8	▶ Jun-18-19, Scope Validation																								
Submit Quality Management Systems Plan (QMSP)	21	Feb-23-19	Mar-15-19	16	■ Submit Quality Management Systems Plan (QMSP)																								
Submit Geotech Exploration plan	21	Feb-23-19	Mar-15-19	2	■ Submit Geotech Exploration plan																								
Mail Letters to Property Owners	7	Feb-23-19	Mar-01-19	22	■ Mail Letters to Property Owners																								
Roadway Plan Design -30% Design	7	Feb-23-19	Mar-01-19	0	■ Roadway Plan Design -30% Design																								
Hydraulic Plan Design - 30% Design	7	Feb-23-19	Mar-01-19	0	■ Hydraulic Plan Design - 30% Design																								
Bridge Plans - 30% design	7	Feb-23-19	Mar-01-19	0	■ Bridge Plans - 30% design																								
Validate Survey	45	Mar-02-19	Apr-15-19	22	■ Validate Survey																								
Develop and Submit 30% Plans for VDOT and Town's Review	7	Mar-02-19	Mar-08-19	0	■ Develop and Submit 30% Plans for VDOT and Town's Review																								
Right of Way - Title Reports	30	Mar-09-19	Apr-07-19	8	■ Right of Way - Title Reports																								
Final Noise Abatement Data Report	60	Mar-09-19	May-07-19	0	■ Final Noise Abatement Data Report																								
Geotechnical Exploration and Testing	45	Mar-16-19	Apr-29-19	8	■ Geotechnical Exploration and Testing																								
30% Design Comment Resolution Meeting	7	Mar-16-19	Mar-22-19	16	■ 30% Design Comment Resolution Meeting																								
Geotechnical Engineering Report	30	Mar-16-19	Apr-14-19	2	■ Geotechnical Engineering Report																								
60% Plan Design (Roadway, H&H, Structures, TCD)	30	Mar-23-19	Apr-21-19	16	■ 60% Plan Design (Roadway, H&H, Structures, TCD)																								
Hydrologic / Hydraulic Analysis / Major Str design	30	Mar-23-19	Apr-21-19	16	■ Hydrologic / Hydraulic Analysis / Major Str design																								
GER Review and Comment Resolution	21	Apr-15-19	May-05-19	2	■ GER Review and Comment Resolution																								
Develop and Submit 60% Plans for VDOT and Town's Review	14	May-08-19	May-21-19	0	■ Develop and Submit 60% Plans for VDOT and Town's Review																								
VDOT Review Period	21	May-22-19	Jun-11-19	6	■ VDOT Review Period																								
FHWA Review Period	21	May-22-19	Jun-11-19	6	■ FHWA Review Period																								
Town of Leesburg Review Period	21	May-22-19	Jun-11-19	6	■ Town of Leesburg Review Period																								
60% Design Comment Resolution Meeting	7	Jun-12-19	Jun-18-19	6	■ 60% Design Comment Resolution Meeting																								
Design Approval from VDOT MILESTONE	0		Jun-18-19	8	◆ Design Approval from VDOT MILESTONE																								
Scope Validation Period - End Date MILESTONE	0		Jun-18-19	8	◆ Scope Validation Period - End Date MILESTONE																								
Right of Way	199	Apr-08-19	Jan-09-20	0	▶ Jan-09-20, Right of Way																								
Develop Exhibits for Limited Access	21	Apr-08-19	May-06-19	6	■ Develop Exhibits for Limited Access																								
CTB Approval Meeting for Limited Access	1	May-15-19*	May-15-19	0	I CTB Approval Meeting for Limited Access																								
Develop and Submit Right of Way Plan Sheets	21	May-22-19	Jun-11-19	0	■ Develop and Submit Right of Way Plan Sheets																								
VDOT Review period	21	Jun-12-19	Jul-02-19	0	■ VDOT Review period																								
ROW Plans Comment Resolution	21	Jul-03-19	Jul-23-19	0	■ ROW Plans Comment Resolution																								
Right of Way Plan Approval	21	Jul-24-19	Aug-13-19	24	■ Right of Way Plan Approval																								
Right of Way Appraisals	45	Jul-24-19	Sep-06-19	0	■ Right of Way Appraisals																								
VDOT Review and Comment Resolution - Appraisals	28	Sep-07-19	Oct-04-19	0	■ VDOT Review and Comment Resolution - Appraisals																								
Final Right of Way Authorization and NTP to Acquire RW	7	Oct-05-19	Oct-11-19	0	■ Final Right of Way Authorization and NTP to Acquire RW																								
Acquire Right of Way - Offers, Negotiation and Closing	90	Oct-12-19	Jan-09-20	0	■ Acquire Right of Way - Offers, Negotiation and Closing																								
Utility Relocation Design & Construction	223	Jun-19-19	Apr-26-20	6	▶ Apr-26-20, Utility Relocation Design & Construction																								
Develop and Submit Utility Relocation Plans	21	Jun-19-19	Jul-09-19	8	■ Develop and Submit Utility Relocation Plans																								

█ Actual Work
 █ Critical Remaining Work
 ▼ Summary
█ Remaining Work
 ◆ Milestone

Route 7 Battlefield Parkway Interchange - REVISED				BTLScheduleClassic												Nov-14-18 22:04																
Activity Name	Original Duration	Start	Finish	Total Float	Qtr 1, 2019		Qtr 2, 2019		Qtr 3, 2019		Qtr 4, 2019		Qtr 1, 2020		Qtr 2, 2020		Qtr 3, 2020		Qtr 4, 2020		Qtr 1, 2021		Qtr 2, 2021		Qtr 3, 2021		Qtr 4, 2021		Qtr 1, 2022		Qtr 2, 2022	
					J	F	M	Apr	M	J	Jul	A	S	Oct	N	D	J	F	M	Apr	M	J	Jul	A	S	Oct	N	D	J	F	M	Apr
Va Stormwater Mgt Program (VSMP) Const Permit	60	Nov-05-19	Jan-03-20	6																												
Develop and Submit Final plans	28	Nov-05-19	Dec-02-19	20																												
VDOT and Town of Leesburg Final Review	21	Dec-03-19	Dec-23-19	20																												
Close All Comments and Final Resolution	14	Dec-24-19	Jan-06-20	20																												
Obtain Environmental Permits MILESTONE	0		Jan-03-20	7																												
Environmental Reevaluation	30	Jan-04-20	Feb-02-20	7																												
Submit Released for Construction (RFC) plans	14	Jan-07-20	Jan-21-20	19																												
Final Notice to Commence Construction	14	Feb-03-20	Feb-16-20	7																												
Construction	563	Sep-27-19	Nov-23-21	0																												
Phase 1 - Ramp Construction and RT 7 Modifications	253	Sep-27-19	Sep-15-20	0																												
Route 7 West Tie-In	46	Sep-27-19	Nov-29-19	10																												
RT7-WestLimit: MOT Setup STA2017-2034	5	Sep-27-19	Oct-03-19	10																												
RT7-WestLimit: E&S Controls STA2017-2034	6	Oct-04-19	Oct-11-19	10																												
RT7-WestLimit: Storm Drain STA2017-2034	14	Oct-15-19	Nov-01-19	10																												
RT7-WestLimit: Widening STA2017-2034	6	Nov-04-19	Nov-12-19	10																												
RT7-WestLimit: Curb&Gutter STA2017-2034	9	Nov-13-19	Nov-25-19	10																												
RT7-WestLimit: Overlay STA2017-2034	3	Nov-26-19	Nov-29-19	10																												
Route 7 Central Widening	114	Dec-02-19	May-07-20	46																												
RT7-Widening: MOT Setup STA2034-2065	10	Dec-02-19	Dec-13-19	68																												
RT7-Widening: E&S Controls STA2034-2065	12	Dec-16-19	Jan-02-20	68																												
RT7-Widening: Storm Drain STA2034-2065	28	Jan-03-20	Feb-12-20	68																												
RT7-Widening: Widen GAB STA2034-2065	12	Feb-13-20	Mar-02-20	68																												
RT7-Widening: Curb&Gutter STA2034-2065	18	Mar-03-20	Mar-26-20	68																												
RT7-Widening: Overlay STA2034-2065	6	Apr-30-20	May-07-20	44																												
Route 7 East Tie-In	45	May-08-20	Jul-09-20	45																												
RT7-EastLimit: MOT Setup STA2065-2080	5	May-08-20	May-14-20	44																												
RT7-EastLimit: E&S Controls STA2065-2080	6	May-15-20	May-22-20	44																												
RT7-EastLimit: Storm Drain STA2065-2080	14	May-26-20	Jun-12-20	44																												
RT7-EastLimit: Widening STA2065-2080	6	Jun-15-20	Jun-22-20	44																												
RT7-EastLimit: Curb&Gutter STA2065-2080	9	Jun-23-20	Jul-06-20	44																												
RT7-EastLimit: Overlay STA2065-2080	3	Jul-07-20	Jul-09-20	44																												
Extend 6x6 Culvert North Side	44	Feb-18-20	Apr-17-20	11																												
S2 North-Box: Install Phase Line Shoring	3	Feb-18-20	Feb-20-20	4																												
S2 North-Box: Setup Maintenance of Streamflow	5	Feb-21-20	Feb-27-20	4																												
S2 North-Box: Excavate / Undercut for Footing	3	Feb-28-20	Mar-03-20	4																												
S2 North-Box: F/P/S Footing	12	Mar-04-20	Mar-19-20	4																												
S2 North-Box: Set Precast Units	3	Mar-20-20	Mar-24-20	4																												
S2 North-Box: F/P/S Closure at Ends	6	Mar-25-20	Apr-01-20	4																												
S2 North-Box: F/P/S Head Wall / Wing Walls	6	Apr-02-20	Apr-09-20	4																												
S2 North-Box: Backfill Box and Place Rip Rap	3	Apr-10-20	Apr-14-20	11																												
S2 North-Box: Demolish Existing Culvert	3	Apr-15-20	Apr-17-20	11																												
Extend 6x6 Culvert South Side	43	Apr-10-20	Jun-10-20	4																												
S2 South-Box: Install Phase Line Shoring	3	Apr-10-20	Apr-14-20	4																												
S2 South-Box: Setup Maintenance of Streamflow	5	Apr-15-20	Apr-21-20	4																												
S2 South-Box: Excavate / Undercut for Footing	3	Apr-22-20	Apr-24-20	4																												
S2 South-Box: F/P/S Footing	11	Apr-27-20	May-11-20	4																												
S2 South-Box: Set Precast Units	3	May-12-20	May-14-20	4																												

█ Actual Work
 █ Critical Remaining Work
 ▶ Summary
█ Remaining Work
 ◆ Milestone

Route 7 Battlefield Parkway Interchange - REVISED					BTLScheduleClassic												Nov-14-18 22:04															
Activity Name	Original Duration	Start	Finish	Total Float	Qtr 1, 2019		Qtr 2, 2019		Qtr 3, 2019		Qtr 4, 2019		Qtr 1, 2020		Qtr 2, 2020		Qtr 3, 2020		Qtr 4, 2020		Qtr 1, 2021		Qtr 2, 2021		Qtr 3, 2021		Qtr 4, 2021		Qtr 1, 2022		Qtr 2, 2022	
					J	F	M	Apr	M	J	Jul	A	S	Oct	N	D	J	F	M	Apr	M	J	Jul	A	S	Oct	N	D	J	F	M	Apr
S2 South-Box: F/P/S Closure at Ends	6	May-15-20	May-22-20	4																												
S2 South-Box: F/P/S Head Wall / Wing Walls	6	May-26-20	Jun-02-20	4																												
S2 South-Box: Backfill Box and Place Rip Rap	3	Jun-03-20	Jun-05-20	4																												
S2 South-Box: Demolish Existing Culvert	3	Jun-08-20	Jun-10-20	4																												
Route 7 Jack and Bores	81	Jan-06-20	Apr-29-20	44																												
JB-48: Excavate for Jacking Pit	3	Jan-06-20	Jan-08-20	44																												
JB-48: Excavate for Receiving Pit	3	Jan-09-20	Jan-13-20	44																												
JB-48: Jack Double 48" Pipe	20	Jan-14-20	Feb-11-20	44																												
JB-48: Tie In Drainage	5	Feb-12-20	Feb-19-20	44																												
JB-48: Complete Headwalls	7	Feb-20-20	Feb-28-20	44																												
JB-48: Backfill Headwalls	4	Mar-02-20	Mar-05-20	44																												
JB-72: Excavate for Jacking Pit	4	Mar-06-20	Mar-11-20	44																												
JB-72:Excavate for Receiving Pit	6	Mar-12-20	Mar-19-20	44																												
JB-72: Jack 72" Pipe	15	Mar-20-20	Apr-09-20	44																												
JB-72: Tie In Drainage	4	Apr-10-20	Apr-15-20	44																												
JB-72: Complete Headwalls	7	Apr-16-20	Apr-24-20	44																												
JB-72: Backfill Headwalls	3	Apr-27-20	Apr-29-20	44																												
Keystone Drive	49	Jan-10-20	Mar-18-20	6																												
Keystone: Clear / Grub /Perimeter E&S Controls	5	Jan-10-20	Jan-16-20	19																												
Keystone: SWM Swales & Ponds	2	Jan-17-20	Jan-21-20	19																												
Keystone: Strip Topsoil	2	Jan-22-20	Jan-23-20	19																												
Keystone: Place Borrow	7	Jan-24-20	Feb-03-20	19																												
Keystone: Storm Drain	5	Feb-04-20	Feb-10-20	19																												
Keystone: Underdrain	2	Feb-11-20	Feb-12-20	19																												
Keystone: GAB	2	Feb-13-20	Feb-14-20	19																												
Keystone: Respread Topsoil	2	Feb-18-20	Feb-19-20	19																												
Keystone: Curb and Gutter	4	Feb-20-20	Feb-25-20	19																												
Keystone: Paving	3	Mar-16-20	Mar-18-20	6																												
West Access Road	53	Jan-10-20	Mar-26-20	0																												
WestAccess: Preliminary MOT	5	Jan-10-20	Jan-16-20	0																												
WestAccess: Clear / Grub /Perimeter E&S Controls	9	Jan-17-20	Jan-30-20	0																												
WestAccess: SWM Swales & Ponds	5	Jan-31-20	Feb-06-20	0																												
WestAccess: Strip Topsoil	2	Feb-07-20	Feb-10-20	0																												
WestAccess: Place Borrow	9	Feb-11-20	Feb-24-20	0																												
WestAccess: Storm Drain	6	Feb-25-20	Mar-03-20	0																												
WestAccess: Underdrain	4	Mar-04-20	Mar-09-20	0																												
WestAccess: GAB	4	Mar-10-20	Mar-13-20	0																												
WestAccess: Paving	2	Mar-16-20	Mar-17-20	0																												
WestAccess: Respread Topsoil	4	Mar-18-20	Mar-23-20	0																												
WestAccess: Guardrail or Temporary Barrier	3	Mar-24-20	Mar-26-20	0																												
Construct Ramps B and C (North Side)	90	Mar-27-20	Jul-30-20	0																												
RT7-WB Temp: Preliminary MOT	5	Mar-27-20	Apr-02-20	0																												
RT7-WB Temp: Install Temporary Barrier	2	Apr-03-20	Apr-06-20	0																												
RT7-WB Temp: Clear / Grub /Perimeter E&S Controls	5	Apr-07-20	Apr-13-20	0																												
RT7-WB Temp: SWM Swales & Ponds	10	Apr-14-20	Apr-27-20	0																												
RT7-WB Temp: Strip Topsoil	5	Apr-28-20	May-04-20	0																												
RT7-WB Temp: Place Borrow	26	May-05-20	Jun-10-20	0																												

█ Actual Work
 █ Critical Remaining Work
 ▼ Summary
█ Remaining Work
 ◆ Milestone

