

STATEMENT OF QUALIFICATIONS

I-81 WIDENING MM 221 TO MM 225 DESIGN-BUILD

AUGUSTA COUNTY, VIRGINIA



State Project No.: 0081-007-013, B638, B639, B640, B641, B642, C501, D602, D603, P101, R201
Federal Project No.: NHPP-081-2(329)
Contract ID Number: C00116269DB116



SUBMITTED ELECTRONICALLY
AUGUST 17, 2022



SECTION 3.2

Letter of Submittal

August 17, 2022

Joseph A. Clarke, PE, DBIA
Alternative Project Delivery Division
Virginia Department of Transportation
1401 East Broad Street
Richmond, VA 23219



**RE: Statement of Qualifications for I-81 Widening MM 221 to MM 225 in Augusta County, Virginia
State Project No.: 0081-007-013, B638, B639, B640, B641, B642, C501, D602, D603, P101, R201
Federal Project No.: NHPP-081-2(329), Contract ID Number: C00116269DB116**

Mr. Clarke:

Branch Civil, Inc. (Branch), as the Offeror, is pleased to submit to the Virginia Department of Transportation (VDOT) our response to the Request for Qualifications (RFQ) dated August 9, 2022 (Addendum 1) for the I-81 Widening MM 221 to MM 225 (I-81 Project or Project).

Branch is partnering with **Whitman Requardt & Associates, LLP (WRA)** as the team's Lead Designer. Branch and WRA have a highly successful history of delivering challenging D-B projects, including: I-95 Express Lanes Southern Terminus Extension in Stafford County, VA, winner of an ACEC 2019 Merit Award; I-64 Widening Exits 200 to 205 in Henrico and New Kent County, VA, winner of an HCCA 2020 Infrastructure Award; and I-95 Safety Improvements at Route 3, winner of an HCCA 2018 Safety and Infrastructure Award. To furnish a product that will exceed VDOT's design and construction expectations, WRA is teaming with dedicated, major subconsultant **Rummel Klepper & Kahl, LLP (RK&K)**. We provide an experienced team that has a proven track record of partnering with VDOT to deliver projects on-time, on-budget, and similar in size and scope to the I-81 Project.

3.2.1, Offeror Information: The full legal name and address of the Offeror is as follows: Branch Civil, Inc., 3635 Peters Creek Road, Roanoke, VA 24019.

3.2.2, Offeror's Primary Contact: Donald E. Bryson, Pursuit Manager; Address: 3635 Peters Creek Road, Roanoke, VA 24019; Email: donald.bryson@branchcivil.com; Phone: 704.572.1684; Fax: 540.982.4216.

3.2.3, Principal Officer for the Offeror: Brian Evans, Senior Vice President; Address: 3635 Peters Creek Road, Roanoke, VA 24019; Email: brian.evans@branchcivil.com; Phone: 540.982.1678; Fax: 540.982.4216.

3.2.4, Structure: Branch is structured as a Corporation, will be the legal entity, and have financial responsibility for the performance of the work. There are no liability limitations, and Branch will provide single, 100% performance and payment bonds.

3.2.5, Lead Contractor/Designer: Branch is the Lead Contractor for the Project, and WRA the Lead Designer.

3.2.6, Affiliates and Subsidiary Companies: The full legal names and addresses of all affiliated and/or subsidiary companies of the Offeror are provided on the Department's provided form in *Appendix 3.2.6*.

3.2.7, Debarment Forms: Signed Certification Regarding Debarment Forms for Primary and Lower Tiered Covered Transactions are provided in *Appendix 3.2.7*.

3.2.8, VDOT Prequalification: Branch's prequalification number is B319 and our status is Active; evidence of this is provided in *Appendix 3.2.8*.

3.2.9, Surety: *Appendix 3.2.9* contains a surety letter from our bonding company confirming their willingness to provide any and all bonds for this project.

3.2.10, Virginia State Corporation Commission (SCC) and Department of Professional and Occupational Regulation (DPOR): *Appendix 3.2.10* contains Virginia SCC and DPOR information for all team members.

3.2.11, DBE Participation Goal: Our team is committed to achieving the Department's six percent (6%) DBE participation goal for the entire value of the Contract.

Our team brings experience, innovation, quality, and attention to detail in every aspect of Project delivery. We provide the resources, experience, and commitment necessary to achieve VDOT's goals for this Project. On behalf of our team, we thank VDOT for the opportunity to submit this SOQ. We look forward to partnering with VDOT to deliver another successful Project.

Sincerely,

Branch Civil, Inc.

Brian Evans, Senior Vice President

SECTION 3.3

Offeror's Team Structure

3.3 OFFEROR'S TEAM STRUCTURE

The Offeror and Lead Contractor, **Branch Civil, Inc. (Branch)**, will execute the design-build (D-B) contract with VDOT. Branch will have full financial responsibility for the Project, including providing performance and payment bonds and required insurance. Branch has *successfully delivered 17 D-B contracts totaling more than \$800 million and over \$1 billion in D-B-B work* and comes to VDOT with the hands-on experience and highly qualified personnel required to execute design and construction and while mitigating Project risks. The team we have assembled for this Project is demonstrated in **FIGURE 3.3-1**.

Branch has partnered with **Whitman Requardt & Associates, LLP (WRA)** as the Lead Designer. Firm-wide, WRA has delivered more than 70 alternative delivery projects valued over \$11B for federal, state and local government entities and private clients. This includes 18 D-B projects in Virginia valued at more than \$566M. *WRA has a successful relationship with Branch from the design of I-95 Express Lanes Southern Terminus Extension (STE), I-64 Widening Exits 200 to 205, I-95 at Route 3 Safety Improvements, and Route 58 Lover's Leap D-B Projects.* WRA holds annual VDOT contracts for permitting and noise analysis, L&D, Structure and Bridge, and Traffic Engineering.

Rummel, Klepper & Kahl, LLP (RK&K) will serve as a major, dedicated design subconsultant to WRA for support on all design activities. RK&K brings an impressive resume of *91 firm-wide alternative delivery projects with a value of more than \$23B*. This includes assisting 31 owners in eight states and DC. Like this Project, 64 of these were delivered through the D-B method, including the \$58M US 13/158 widening D-B Project in North Carolina with Branch as Lead Contractor. RK&K's experience includes more than 500 projects or assignments and successfully delivering more than \$3.4B in D-B projects in Virginia. This includes I-64 Widening and Route 623 Interchange Improvements, I-64 Widening High Rise Bridge, and the Route 29 Solutions project, on which WRA was a subconsultant. *RK&K has extensive experience along*

FIGURE 3.3-1 | Overview of Team Members

FIRM NAME	ROLE
Branch Civil, Inc.	Lead Contractor and Offeror
Whitman, Requardt & Associates, LLP	Lead Designer
Rummel Klepper & Kahl, LLP	Major/Dedicated Subconsultant for All Design Services
Volkert, Inc.	Quality Assurance
ECS Mid-Atlantic, LLC	Quality Assurance Testing & Laboratory Services
On Point Transportation PR, LLC (DBE, SWaM)	Public Relations
H&B Surveying & Mapping, LLC (DBE, SWaM)	Surveying

the I-81 corridor, including many project designs, studies, safety improvements, and construction inspection projects. An example includes providing design services on the I-81 New River Bridge Replacement at Exit 105 as a subconsultant to WRA.

3.3.1 KEY PERSONNEL

Our Key Personnel, provided in **FIGURE 3.3-2**, are highly qualified and capable professionals with local knowledge and substantial experience in Virginia D-B delivery and transportation projects. Each individual was selected because of their extensive experience designing, constructing, and administering D-B projects. Brief introductions of each follow and Key Personnel Forms are provided in *Appendix 3.3.1*.

FIGURE 3.3-2 | Key Personnel

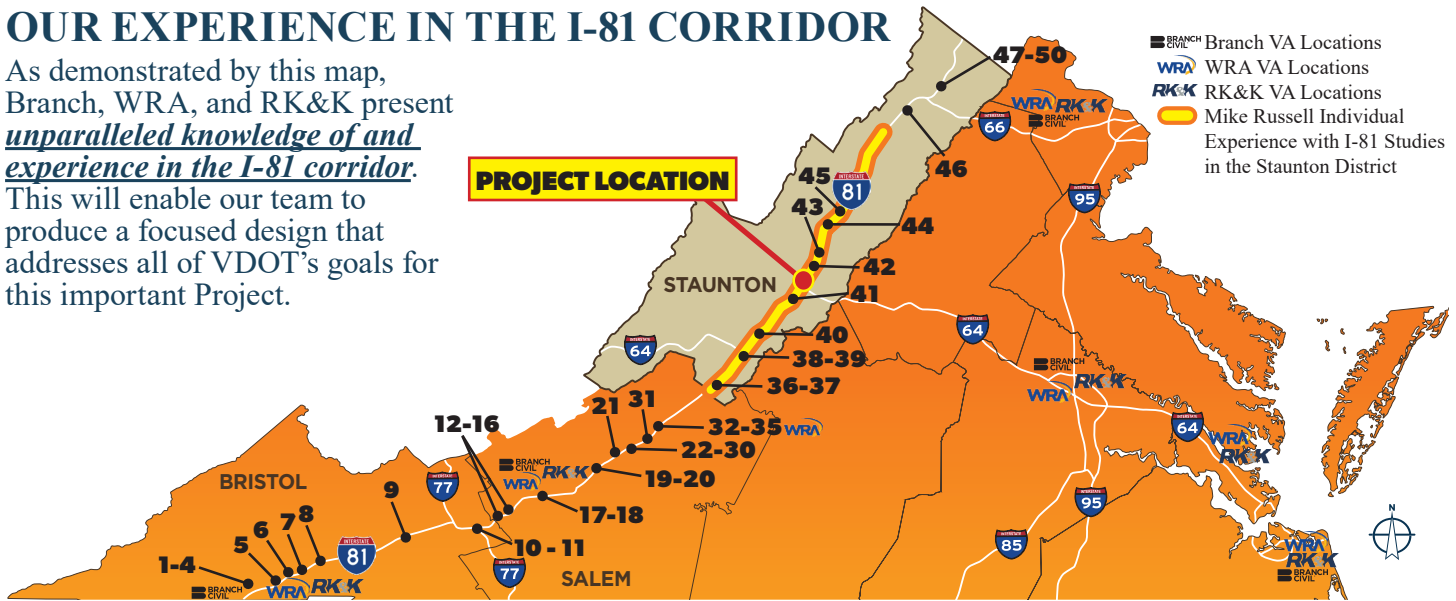
<p>.1 DESIGN-BUILD PROJECT MANAGER Jim Kreider, PE (Branch) 16 Years of Experience</p>	<p>.2 ENTRUSTED ENGINEER IN CHARGE Yisehak Shata, PE (Branch) 21 Years of Experience</p>	<p>.3 QUALITY ASSURANCE MANAGER Ben Lineberry, PE (Volkert) 31 Years of Experience</p>	<p>.4 DESIGN MANAGER Mike Russell, PE, DBIA (WRA) 33 Years of Experience</p>	<p>.5 CONSTRUCTION MANAGER Greg Suttle (Branch) 35 Years of Experience</p>
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ALL MEMBERS OF OUR TEAM HAVE EXTENSIVE EXPERIENCE, INCLUDING:

- VDOT D-B PROJECTS
- INTERSTATE WIDENING
- COMPLEX MOT

OUR EXPERIENCE IN THE I-81 CORRIDOR

As demonstrated by this map, Branch, WRA, and RK&K present unparalleled knowledge of and experience in the I-81 corridor. This will enable our team to produce a focused design that addresses all of VDOT's goals for this important Project.



PROJECT LEGEND

- | | |
|---|---|
| <ul style="list-style-type: none"> 1. I-81 Halls Bottom Bridge Replacement D-B ■ 2. Old Dominion Bridge over I-81 Rehabilitation ■ 3. I-81 MM 8.1-9.7 Southbound Widening ■ 4. Exit 14 Interchange Reconstruction ■ ■ 5. I-81 Bridges over Route 794 Pre-Scoping ■ 6. Exit 19 Northbound Deceleration Extension ■ 7. I-81 Truck Climbing Lane QA/QC ■ 8. Permanent Variable Messaging Signs Districtwide CEI ■ 9. Atkins Bridge Replacement D-B-B ■ 10. Exit 84 Southbound Deceleration Extension ■ 11. Route 619 over I-81 Improvements at Exit 84 ■ 12. 1998 Study Salem District ■ 13. Exit 105-109 Truck Lane Restriction Feasibility Eval. ■ 14. Exit 105 Improvements & New River Bridge Repl. ■ ■ 15. Exit 109 Reconstruction D-B-B ■ 16. Exit 109 Safety Operations Study & Concept Plan ■ 17. Exit 118 Park & Ride ■ 18. Exit 118C Safety Operations Study & Concept Plan ■ 19. Permanent Variable Message Signs Districtwide CEI ■ 20. Various Asphalt Plant Mix Schedules & CEI Services ■ 21. GIS Locating & Visual Condition Insp. of Structures ■ 22. Exit 140 Park & Ride ■ 23. Exit 141-143 Widening D-B-B ■ 24. Superelevation Correction & Shoulder Improvements ■ 25. Exit 143 to 150 Route 11 Signal Optimization ■ 26. Exit 150 Widening ■ 27. Exit 150 Safety & Operations Study ■ | <ul style="list-style-type: none"> 28. Exit 150 Improvements D-B-B ■ 29. MOT Design for Bridges over Tinker Creek & NSR ■ 30. MOT Design for Bridges over US 220 ■ 31. GIS Locating & Visual Condition Inspec. Structures ■ 32. MOT Design for Bridges over Route 625 ■ 33. MOT Design for Bridges over the James River ■ 34. MOT Design for Bridge over Route 43/CSX Railroad ■ 35. Mainline Safety Improvement ■ 36. Bridge over Buffalo Creek ■ 37. Buffalo Creek Bridges & Climbing Lane ■ 38. Bridge over Maury River D-B-B ■ 39. Bridge over Maury River CEI ■ 40. Truck Climbing Lanes CEI Services ■ 41. Auxiliary Lane Exit 221-Exit 220 Southbound ■ 42. Permanent Variable Message Signs Districtwide CEI ■ 43. Various Asphalt Plant Mix Schedules CEI ■ 44. Truck Climbing Lanes Weyers Cave ■ 45. Exit 243 Interchange Reconstruction Improvements ■ 46. 1998 Study ■ 47. Environmental Document for Exit 307 ■ 48. Exit 313 Study for Interchange Improvements/Alternate Design ■ ■ 49. Route 17 Interchange Ramp Improvements CEI ■ 50. Exit 313 Interchange Improvements Final Design ■ |
|---|---|
- Branch ■ WRA ■ RK&K

Design-Build Project Manager (DBPM) | Jim Kreider, PE (Branch): Jim has managed D-B projects throughout the eastern US for *over 16 years* and has overseen a diverse range of complex projects, including those on busy interstate highways. He is skilled at leading design and construction teams, coordinating utilities to mitigate risk, and managing the public outreach efforts on D-B projects. Through his work as the DBPM on the I-95 Express Lanes Fredericksburg Extension

Design-Build Project Manager Jim Kreider, PE and Entrusted Engineer in Charge Yisehak Shata, PE are currently working together on the I-95 Express Lanes FedEx D-B. They have an established, problem-solving relationship that will deliver efficiencies to this Project.

(FredEx) D-B in Stafford County, Virginia, Jim is also well versed in managing high volume maintenance of traffic (MOT), including working adjacent to live traffic and median construction.

Entrusted Engineer in Charge (EIC) | Yisehak Shata, PE (Branch): Yisehak, a registered Professional Engineer in the Commonwealth of Virginia, has *21 years of multidisciplinary experience*. He is serving as the D-B Coordinator (*alongside DBPM Jim Kreider, PE*) on the I-95 Express Lanes FredEx D-B Project, where he is integrated with the design team to provide oversight and monitor the design schedule. Yisehak thoroughly understands VDOT's D-B Contract requirements and will ensure that our team delivers a safe, constructible, and functional Project to VDOT.

Quality Assurance Manager (QAM) | Ben Lineberry, PE (Volkert): Ben has *over 31 years of progressive experience* managing the design and construction of heavy civil infrastructure projects for VDOT. He has performed as the QAM for major D-B projects involving interstates, bridges, and structures, focusing on ensuring that all work and materials, testing, and sampling are performed in conformance with Approved for Construction plans, specifications, and contract requirements. As a former Area Construction Engineer (ACE) and Resident Engineer for VDOT's Staunton District, Ben managed a complex, multi-layered construction program valued at more than \$200M.

Design Manager (DM) | Michael (Mike) Russell, PE, DBIA (WRA): Mike has led design teams on a wide variety of transportation projects. He has successfully managed the development of D-B-B projects, developing RFP Conceptual Plans and Technical Requirements, and the on-time delivery of D-B projects. Mike has *33 years of experience designing and managing major transportation projects for VDOT*. He was the DM for two I-81 D-B projects and the I-64 Widening Exits 200 to 205 in Henrico and New Kent Counties (with Branch). He also spent 14 years serving VDOT in various roles, including the District Engineer of VDOT's Bristol District and the PE Manager in the Salem District..

Construction Manager (CM) | Greg Suttle (Branch): Greg has *over 35 years of transportation construction experience* and has overseen multiple complex roadway projects in high-volume interstate corridors, including median roadway and bridge construction. He is skilled at performing constructability reviews to save clients time and money on D-B projects while ensuring safety and compliance. Greg has the following certifications, which he will maintain throughout the construction of the Project: Virginia DEQ Responsible Land Disturber, and VDOT Erosion and Sediment Control Contractor Certification. Greg is currently working as the CM on the Balls Ford Road Widening Project in Prince William County, ending in May 2023.

VALUE ADDED POSITIONS

Our team is *exceeding the RFQ requirements* by committing the following Value Added positions:

Traffic Management Task Force (TMTF): This group will be critical to minimizing disruptions of traffic. CM **Greg Suttle** and TMP/MOT Task Lead **Jim Durbin, PE** will facilitate the TMTF, which will also include members from the design and construction teams. These individuals will oversee regular meetings to review the MOT and optimize traffic safety and efficiency. VDOT and other key stakeholders will also be invited to participate in TMTF meetings. The TMTF's goal will be to *minimize delays to the traveling public, reduce disruptions to adjacent projects and businesses, and maximize safety throughout construction*.

Railroad Coordination Manager (RCM): Bob Jackson, a former CSX Transportation employee, will serve as our team's RCM. He has *more than 48 years of experience* and has coordinated and/or managed many railroad agreements on projects throughout Virginia, including those for the Buckingham Branch Railroad (BBRR). Bob provides an in-depth understanding of securing construction agreements, right of entry agreements (pre-construction and construction), utility agreements (including agreements for drainage pipelines, when required), and roadway agreements. This experience and knowledge will help ensure that schedule delays are not encountered.

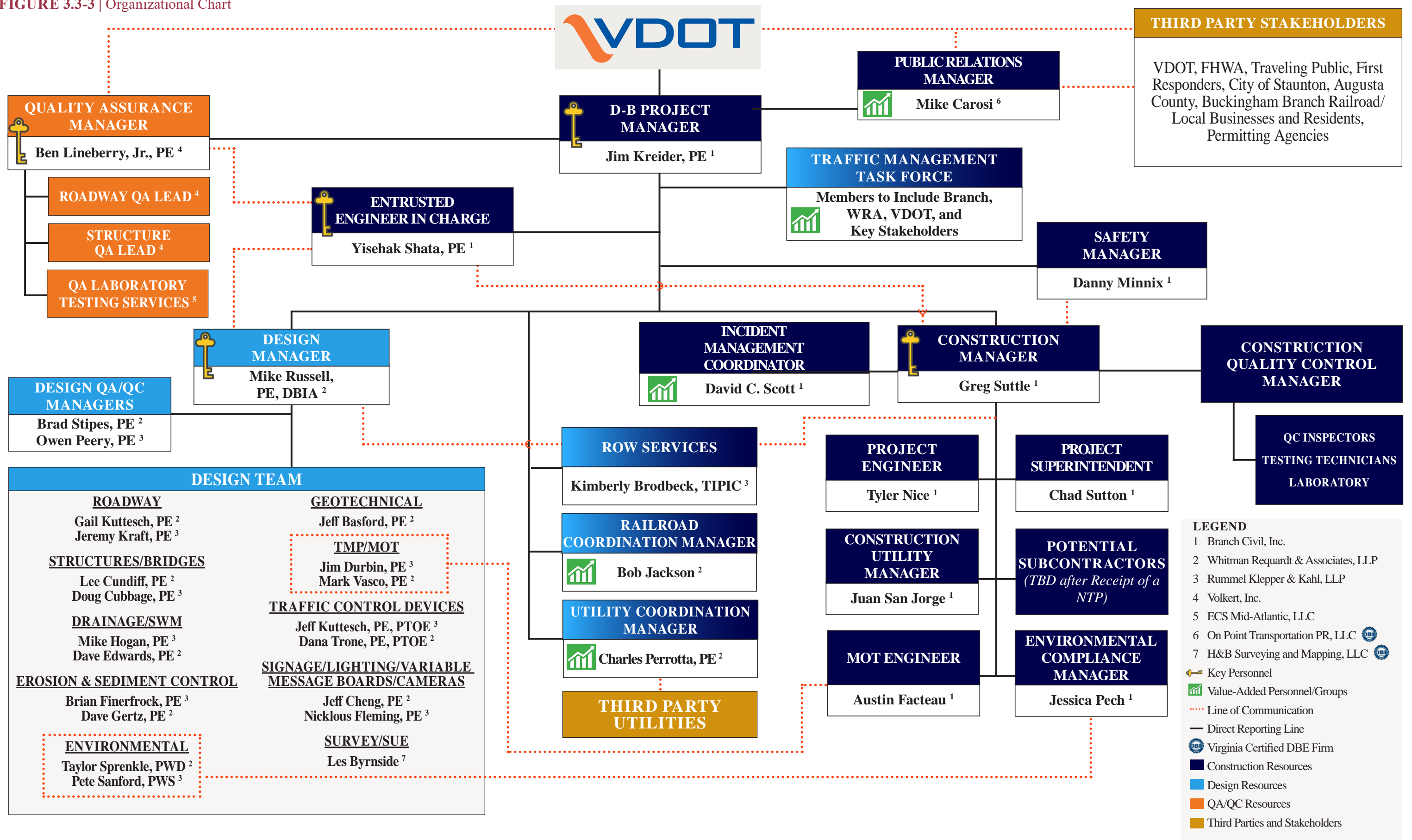
Incident Management Coordinator (IMC): The importance of keeping traffic moving safely through the construction work zone is of crucial significance. **David C. Scott** will serve as the team's dedicated IMC. David will report directly to the CM and respond to all incidents within the Project corridor. David will *provide onsite communications during an incident and real-time information to the VDOT Traffic Operations Center (TOC) and City departments so that current information will always be available to first responders*. He will also maintain constant communication with contractors on adjacent projects.

Utility Coordination Manager (UCM): With *over 13 years of utility design experience*, **Charles Perrotta, PE** will report to the DBPM and lead our in-house efforts to manage utility relocations as an integral part of our D-B program. His experience and close relationships with multiple utility owners enable him to thoroughly understand the relocation process, risks, costs, schedule, and interaction with other Project disciplines. Charles will provide full integration of utilities into the Project scope and schedule. Charles is working with Branch coordinating utilities on the Route 58 Lover's Leap D-B.

3.3.2 ORGANIZATIONAL CHART NARRATIVE

Our Organizational Chart, provided in **FIGURE 3.3-3** on the next page, outlines the structure of our team.

FIGURE 3.3-3 | Organizational Chart



Solid lines represent the primary reporting relationships. Dotted lines represent communication relationships between major Project disciplines and participants.

Our overall structure has been created to specifically address the Project's scope, the anticipated schedule for completion, the risks involved in meeting Project objectives, and to facilitate issue resolution at the lowest possible level. The following narrative describes our team's functional relationships and communications.

DBPM, Jim Kreider, PE: Jim will have complete authority over all aspects of the team's responsibilities and be the primary point of contact with VDOT after the award of the Project. He will be responsible for overall contract management and coordinating and integrating all Project disciplines. Jim will lead coordination efforts with third-party stakeholders. He will work with VDOT to coordinate public outreach efforts and meetings and answer Project inquiries. Jim's interaction throughout the Contract will include technical work group (TWG), weekly design, monthly VDOT progress, and construction meetings to discuss how the team will build the Project. His interaction with the QAM will be continuous to ensure the Project complies with the Contract documents.

EIC, Yisehak Shata, PE: Yisehak will ensure that all engineering work is integrated and delivers a safe, functional Project. He will communicate regularly with VDOT, report directly to the DBPM, and have direct lines of communication with the DM, CM, and QAM. Yisehak will provide the necessary expertise and experience to ensure that complex engineering decisions are made by a professional engineer licensed in Virginia and that each engineer has demonstrated experience working with other disciplines involved in the design. He will be *assigned to the Project full-time* and actively coordinate all engineering decisions from Notice to Proceed through Final Acceptance.

QAM, Ben Lineberry, PE: Ben will report directly to the DBPM and be completely independent of the construction operations and QC inspections. He will ensure the Project complies with the Contract Documents and environmental permits. He will be *on the Project site full-time for the duration of construction operations* and manage all aspects of the quality assurance (QA) program and direct QA inspections by the Lead QA inspectors and independent QA testing technicians. Ben will have the autonomy to report findings directly to VDOT in addition to the DBPM. If work does not comply with the Contract Documents, he will have the authority to halt or suspend work unilaterally.

DM, Mike Russell, PE, DBIA: Mike will report to the DBPM and manage all design activities and personnel to ensure the design conforms with the Contract Documents. He will also establish and oversee the design QA/QC program for all pertinent disciplines involved in the design of the Project, including review of design, working

plans, shop drawings, specifications, and constructability, as outlined in VDOT's *Minimum Requirements for Quality Control and Quality Assurance on D-B and PPTA Projects*.

CM, Greg Suttle: Greg will report to the DBPM and manage all aspects of construction and the QC process. Before construction, Greg will facilitate constructability reviews for design, work closely with the UCM to plan relocations, coordinate with the ROW Manager to prioritize and schedule acquisitions and work together with the RCM to ensure that railroad agencies are aware of all aspects of construction. He will be on the Project site full-time for the duration of construction operations, update the Project Schedule, and coordinate with the QC Manager and Superintendent to ensure that construction materials and activities are in accordance with the Contract Documents.

DESIGN & CONSTRUCTION COORDINATION

Our structure integrates the design, construction, QA/QC, ROW, utility, permitting, safety, third party coordination, and public relations disciplines into a united, cohesive team effort from the onset of contract award through delivery. Regular team meetings will promote issue discussion and resolution both internally and externally. Open, frequent communications promote collaboration, enabling our team to expedite delivery and minimize non-conformance issues. Our team will collaborate from design through delivery and utilize the methods demonstrated in **FIGURE 3.3-4**.

FIGURE 3.3-4 | Team Coordination Methods



- SharePoint®, Procore®, MS Teams®, and Bluebeam Revu® for real-time sharing and tracking of information between the design and construction teams, such as plan reviews, RFIs, action items, and file transfers.
- ProjectWise® for live sharing and distribution of calculations, evaluations, specifications, and plans.
- PlanGrid® will be used by the construction team for live sharing of inspection reports with VDOT.
- Task force meetings with design and construction staff to focus on design, constructability, and schedule.
- Weekly design team meetings to coordinate the design across all design disciplines and team members.
- Interdisciplinary reviews to provide cross checks between disciplines and contractor prior to submittals.
- Over the shoulder reviews to provide input and advice from VDOT and subject matter experts.

SECTION 3.4

Experience of the
Offeror's Team

3.4 EXPERIENCE OF THE OFFEROR'S TEAM

As demonstrated below, our team has successfully delivered some of the most challenging roadway and bridge projects in the southeast and mid-Atlantic. **We have a proven history of partnering with clients to provide exceptional results when faced with technical, environmental, and stakeholder challenges.** As a result, we deliver high-quality projects safely, on time, and significantly lower prices than our competitors. We bring valuable lessons from each of these projects and an experienced team of local D-B experts who understand VDOT's goals for this Project.

PROJECT	VALUE OF PROJECT	FIRMS INVOLVED	MATCH TO RFQ SCOPE OF SERVICES													
			ROADWAY	SURVEY	STRUCTURES	ENVIRONMENTAL	GEOTECHNICAL	DRAINAGE/E&S/SC/SWM	MOT/TMP	ROW ACQUISITION	UTILITIES	PUBLIC INVOLVEMENT	SIGNAGE/LIGHTING	QA/QC	RAILROAD COORD.	
I-95 Express Lanes STE D-B, Stafford County, VA	\$37M	Branch WRA	■	■	■	■	■	■	■	■	■	■	■	■	■	■
I-81 Widening MM 141-143 D-B-B, Roanoke, VA	\$29M	Branch	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Route 58 Lovers Leap D-B, Patrick County, VA	\$300M	Branch WRA	■	■	■	■	■	■	■	■	■	■	■	■	■	■
I-64 Widening Exits 200 to 205 D-B Henrico and New Kent County, VA	\$48M	Branch WRA	■	■	■	■	■	■	■	■	■	■	■	■	■	■
U-2519AA/AB I-295 Fayetteville Outer Loop D-B, Cumberland & Robeson County, NC	\$235M	Branch	■	■	■	■	■	■	■	■	■	■	■	■	■	■
I-95 Safety Improvements at Route 3 D-B, Fredericksburg, VA	\$18M	Branch WRA	■	■	■	■	■	■	■	■	■	■	■	■	■	■
I-95 Express Lanes FredEx D-B, Stafford County, VA	\$400M	Branch	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Military Highway CFI D-B, Norfolk, VA	\$62M	Branch	■	■	■	■	■	■	■	■	■	■	■	■	■	■
I-81 over Route 808, Halls Bottom Road and Sinking Creek D-B, Washington County, VA	\$11M	WRA	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Route 636 PPTA, Augusta County, VA	\$15M	Branch WRA	■	■	■	■	■	■	■	■	■	■	■	■	■	■
I-81 over Route 11, NSR, and Middle Fork Holston River D-B, Smyth County, VA	\$30M	WRA	■	■	■	■	■	■	■	■	■	■	■	■	■	■
I-81 Bridge Replacement over Maury River D-B-B, Rockbridge, VA	\$19M	WRA	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Route 29 Solutions D-B, Charlottesville/ Albemarle County, VA	\$116M	WRA RK&K	■	■	■	■	■	■	■	■	■	■	■	■	■	■
R-2507A US 13/158 Widening and Improvements D-B, Hertford and Gates County, NC	\$58M	Branch RK&K	■	■	■	■	■	■	■	■	■	■	■	■	■	■

3.4.1 WORK HISTORY FORMS

Work history forms for the Contractor and Lead Designer are provided in *Appendix.3.4.1*.

SECTION 3.5

Project Risks

3.5 PROJECT RISKS

Our team's unique qualifications allowed us to determine this Project's three most relevant risks. First, by completing the I-81 MM 141-143 D-B-B Project, which received the full incentive for early completion from VDOT, Branch has an in-depth understanding of the I-81 corridor. Furthermore, both WRA and RK&K performed detailed, formal risk analyses of the Project's scope, site characteristics, travel patterns, and crash history during the design pursuit to determine its issues. By leveraging our knowledge of the I-81 Project corridor, and experience on multiple interstates and roadway improvement projects throughout Virginia, we have determined that the following are the most critical risks that will require further exploration. Each is equally critical and, if not adequately mitigated, could negatively impact schedule, cost, quality, safety, and/or public perception.

RISK 1: MAINTENANCE OF TRAFFIC

RISK IDENTIFICATION AND WHY IT'S CRITICAL

Interstate capacity improvements typically feature traffic traveling at high speeds adjacent to the work zone. They always involve a risk for ensuring a safe working environment and traffic movement through the work zone. Changes in traffic patterns, speeds, and construction access points (especially to the median of I-81) must be identified and thoroughly mitigated.

Providing a work zone that facilitates safe and efficient mobility through the corridor is the goal of any MOT Plan. Maintaining the schedule and a positive public perception of the project is paramount. This corridor serves numerous regional residents and is the primary route between the northeast and the southeastern United States. Users of this facility include commercial traffic, tourists, and daily commuters. Without a properly executed Transportation Management Plan (TMP) comprised of a vigorous MOT Plan, Incident Management Plan (IMP), and Communications Plan, safety and mobility will be substantially impacted throughout the corridor and is, therefore, a critical risk.

IMPACTS ON THE PROJECT

A significant impact of this risk is on the safety of workers and the traveling public. Secondary effects include public perception of the Project and the disruption of commerce and economic health of the region due to the temporary congestion related to work zone constraints (narrowed lanes and shoulders, decreased merge areas, and work zone speed limit reductions). A final risk impact is incident management within a constrained corridor environment; this can occur even in the safest work zones.

If not properly managed and mitigated, these impacts could result in adverse schedule impacts that compromise the Project's success from both VDOT's and the team's perspectives. The likelihood and severity of these impacts are compounded by driver distraction and commuter fatigue on this heavily traveled roadway. Construction activities introduce an often-unexpected component for the drivers to manage. Other consequences can include lower productivity due to the inability to get materials and workers to and from the work zone and delays caused by congestion.

The conscientious design of, and construction activities within, the work zone must enhance the safety of motorists and on-site construction workers. Additionally, if mobility through the corridor is not maintained or if safety is perceived to be compromised, the schedule will be negatively impacted by a public that will demand changes in the traffic patterns and available lanes, causing redesign and/or significant changes to the TMP. Key considerations our team has identified regarding the MOT for this segment of I-81 include:

- Heavy commuter traffic in the Project corridor.
- Traffic from numerous colleges and universities and along the I-81 corridor.
- High crash frequency and severity.
- High recurring and incident-related delays.
- The I-81/I-64 interchange (of regional importance).
- High truck volumes exacerbated by numerous nearby commercial and industrial facilities.
- Excessive travel speeds.
- Overall traffic volumes, ramp spacing, and merge/diverge areas.

Substantial commercial truck traffic exists in the entire Project corridor, and efficient movement along I-81 is critical to the delivery of goods throughout the Commonwealth and the region. A properly designed work zone must provide space for trucks to move through the work zone safely and the longer distances needed for their acceleration and deceleration. Vehicles entering and leaving the work zones from the interstate, primary, or secondary roads will slow traffic affecting the entire flow of the roadway.

Maintaining access and providing adequate space for merging traffic will be critical to traffic flow's overall safety and efficiency. Long-distance commercial traffic and recreational users pass through this segment in large numbers. This traffic may not be as aware of changing traffic patterns during phased construction, which introduces safety concerns due to drivers being unaware of a shift in roadway alignment or other work zone activities.

RISK MITIGATION STRATEGIES

Our team will apply vast interstate design, construction experience, and lessons learned from other interstate roadway widening projects to provide safe and efficient

mobility through the Project corridor. This experience includes the following projects:

- I-95 Express Lanes STE D-B
- I-64 Widening from Exit 200 to 205 D-B
- I-81 Bridge Replacement over Halls Bottom Road
- I-81 Bridge Replacement Project over Route 11, Norfolk Southern Railroad, and the South Fork Holston River
- I-81 New River Bridge Replacement
- I-64 Widening and Route 623 Interchange D-B
- I-64 Widening and High Rise Bridge D-B
- I-81 Exit 14 Reconstruction

Transportation Management Plan

Every successful project has a TMP tailored to its unique characteristics. Our Project-specific TMP approach will include the following elements.

Maintenance of Traffic Plan

The phasing of construction will be integral to developing an effective MOT Plan. Our team will develop a sequence of the construction plan to minimize the number of traffic shifts necessary to construct the roadway widening, with careful attention to separating the work zone from travel lanes. Our MOT Plan will incorporate outside shoulder strengthening and signage to safely shift traffic away from the median and to coordinate with construction. This action will maintain efficient traffic flow, allowing construction traffic access to the work zone. Interchange ramp access would function as it does today. This approach will involve appropriate barriers, signage, striping, and advanced warning devices. In addition to these conventional elements, our team proposes incorporating the following items.

Smart Work Zone (SWZ) Technology

Technological advances give our industry the tools to appropriately manage complex traffic through work zones. SWZs have proven to be very efficient and cost-effective at managing the dynamic conditions of highly congested work zones faster than ever thought possible. Traffic cameras, sensors, Bluetooth, and cellular probes can detect traffic changes and backups in real-time, allowing adjustments to be made in real-time. We feel that VDOT should consider this technology and approach for this, and other I-81 projects, in the coming years. **FIGURE 3.5-1** illustrates the benefits and applications associated with today’s advanced SWZs. **WRA and RK&K are two of the region’s most well-qualified engineering firms.** Both have extensive experience in developing and implementing SWZ technology, including:

- The I-895 Bridge Replacement Project in Baltimore.
- The I-95 Rehabilitation Project in Delaware.
- I-40 Widening SWZ in North Carolina.
- Automated Speed Enforcement Program in Maryland.

Our team has proven leaders in leveraging technology and traffic engineering expertise to create safer and more efficient work zones. This expertise, combined with a detailed IMP described later in this section, can

FIGURE 3.5-1 | SWZ Benefits and Applications



help to minimize the congestion associated with typical work zone slowdowns and severe incident delays.

SWZ applications for this Project will be evaluated following FHWA’s *Work Intelligent Transportation Systems Implementation Guide*. One particularly effective SWZ application is queue/merge warning, which provides greater work zone awareness and reduces rear-end crashes. In this application, a series of traffic sensors and portable changeable message signs (PCMS) are located where typical slowdowns occur on the approach to the work zone or where lane closures are typically implemented. Sensors can identify when work zone slowdowns occur and activate warning messages (e.g., “Slow Traffic 2 Miles Ahead”) on upstream PCMSs. As the sensors detect increasing queues, messages can automatically adjust to reflect a modified distance (e.g., “One Mile Ahead”). The same sensors and PCMSs can provide warning for work zone-related lane closures occurring during off-peak travel times to smooth lane reduction merges, reduce aggressive driving (e.g., last-second merging), and improve work zone safety.

As an additional part of a potential SWZ strategy, a detailed Construction Access Plan detailing entrance and exit points within the work zone will be developed to ensure that these access points are in areas of high visibility and have adequate sight distance. These entry/exit points will be maintained and coordinated with adjacent projects to minimize driver confusion. They would be incorporated into an overall SWZ utilizing sensors and PCMS to alert drivers about vehicles entering and exiting the work zone.

All work entry/exit points on the I-81 Project will be in high-visibility areas to ensure the safety of the traveling public and workers. **FIGURE 3.5-2** demonstrates how our team used effective entry/exit points on the highly successful I-95 Express Lanes STE D-B. Other measures that can be taken to improve traffic management and response include the installation of temporary CCTVs, traffic detection, and signal communications. These would be particularly beneficial for monitoring traffic signal operations and implementing signal timing modifications as motorists look to avoid the Project work zone. To convey traffic during incidents, we will work with VDOT to leverage new traffic signal technologies, such as Automated Traffic Signal Performance Metrics (ATSPM). ATSPMs provide improved monitoring of conditions along parallel arterials and proactive management of project corridors.

Communications Plan

In addition to establishing a thorough Communications Plan throughout construction, our team will take additional steps to educate the public about the Project further. The first TMTF meeting will be conducted following the Contract award. This will be an initial partnering meeting with VDOT, third-party stakeholders, and the team to review Project requirements and discuss traffic issues related to construction. From this initial meeting, we will develop a checklist of responsibilities and timelines for achieving mutually agreeable activities/goals for a successful TMP. Additional public outreach activities will include:

- Performing informational meetings to inform the public of Project activities and solicit Project feedback to incorporate into our TMP.
- Facilitating “Pardon Our Dust” meetings to inform the public of construction activities.
- Establishing a Public Communication Plan to maintain a constant connection with the public.
- Working with first responders to obtain their input on our TMP.

This Project will require extensive coordination and integration between the team, lead designer, VDOT, stakeholders, and adjacent projects. The team's PRM, **Mike Carosi** (OPT), will lead a robust public outreach program. OPT can utilize the following innovative strategies to deliver Project awareness and communications effectively. Each can significantly expand audience reach by identifying motorists and commuters passing through the work zone and delivering tailored communications.

- **Online Geo-Fence Digital Display:** This method can target motorists who pass through a defined corridor and will allow the team to capture mobile device IDs for display ad delivery to mobile browsers and apps. It also follows the mobile device to a home IP address to continue to target and deliver ads via multiple platforms: including tablets and home computers.

FIGURE 3.5-2 | Safe Project Entry and Exit Points



Our team is highly experienced in ensuring safe and effective entry/exit points on projects, such as the ones on the highly successful I-95 Express Lanes Southern Terminus Extension D-B, shown above. This interstate roadway widening/improvement took place in the heavily traveled I-95 corridor and was faced with many issues, including working alongside high volumes of moving traffic. This project was **completed nine months ahead of schedule** with an exemplary safety record, and received the 2019 ACEC-VA *Merit Award*.

- **Geo-Target Paid Social Media:** This method can target a defined radius to project corridor(s) and deliver awareness through social media ads, driving engagement, public participation, and input using social media platforms.

OPT has implemented these approaches in similar highly traveled corridors for VDOT, including the Improve I-95 Decide Before the Divide campaign, Route 9 Roundabouts Traffic Calming Project in Loudoun County, the Military Highway Continuous Flow Intersection (CFI) in Norfolk, and the I-264/I-64 Pavement Rehabilitation D-B in Norfolk/Virginia Beach.

Incident Management Plan

Clearing incidents safely and quickly depends on developing coordinated, multi-agency operations supported by integrated communications. Our team will prepare a comprehensive **Incident Management Plan (IMP)**, as we have done on several recent similar VDOT projects, including the I-64 Widening Exits 200-205, I-95 Express Lanes STE, and I-95 Express Lanes FredEx D-B Projects. The IMP will be further expanded upon to build on the capabilities of a fully robust SWZ.

The IMP will be developed **based on our extensive local knowledge of this segment of I-81 and understanding of available alternate routes**. The IMP will provide proactive measures to identify and locate incidents rapidly, quickly respond to them, clear those incidents, and implement preplanned detours in the event of a major incident. The IMP will leverage existing elements that VDOT has

invested in along the corridor, including Safety Service Patrol (SSP), CCTV cameras, and signal communication upgrades along the parallel routes.

The IMP will be led by our **Value-Added Incident Management Coordinator (IMC), David C. Scott**. David has the experience and training in safety and work zone management it will take to make this Project a success. David will provide on-site communications during an incident, providing real-time information to the VDOT Traffic Operations Center (TOC) so that real-time information can be relayed to the SSP, Virginia State Police, local first responders, and incident coordinators. The IMC will monitor real-time data, including VA 511 (VDOT CCTV cameras), Google Maps, and Waze, to rapidly identify and respond to incidents. All field crews will be provided detailed instructions to contact the IMC should they observe an incident.

We will coordinate with wrecker services to ensure rapid response times to incident sites to quickly move disabled vehicles from the roadway. Activities may include temporarily relocating a vehicle to the shoulder to allow traffic flow to commence immediately and then scheduling a specific time to remove the vehicle from the Project site entirely. Existing emergency crossovers will be maintained to enable law enforcement and other first responders to reach incident sites rapidly. SWZ applications could provide email or text notifications of numerous data points to those involved with monitoring and responding to work zone incidents. The work zone-specific traffic data will allow for further analysis and refinement of work zone operations. Emergency pull-offs will be provided throughout the work zone to allow motorists to safely exit the traffic stream in the event of an incident. Areas will also offer areas for wrecker services to remove vehicles and for law enforcement to perform post-incident activities.

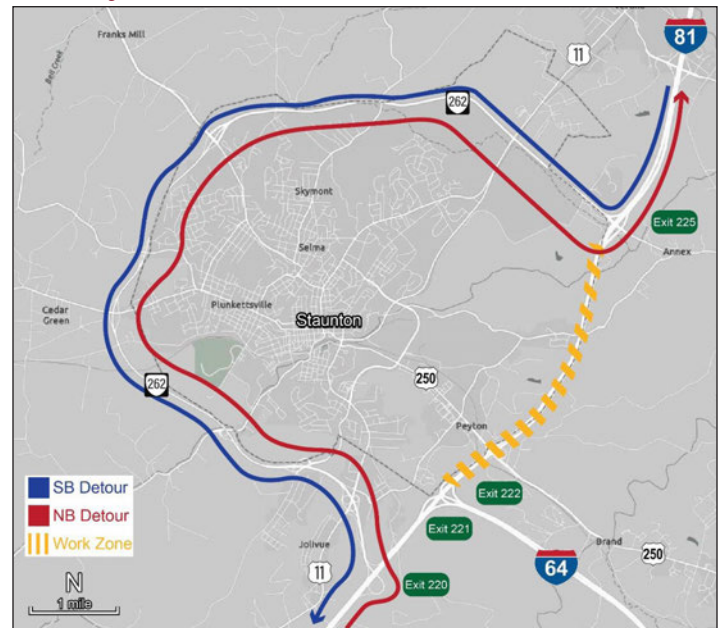
Detour Routes

The IMP will include fully detailed, actionable plans for implementing detours from I-81 to alternate routes that circumvent traffic safely and efficiently around the impacted roadway segment. Working closely with VDOT and the local jurisdictions, we will establish detour plans for major incidents in each direction between each mainline exit. These plans will include specific dynamic messaging signs (DMSs), static signing messages and placement, and utilize incident management timing plans, to maximize the throughput along alternate routes. **FIGURE 3.5-3** depicts a potential off-site detour routing to consider, as Route 262 is currently a variable two-lane and four-lane circumferential arterial highway with direct I-81 interchange access at both Exit 220 and Exit 225.

ROLE OF VDOT AND OTHER AGENCIES

Our team anticipates that VDOT and other agencies' roles will not exceed what is typically expected: a partner and collaborator in the D-B process. Although we

FIGURE 3.5-3 | Potential Detour Route in the Case of a Major Incident



anticipate no significant role from other agencies, we will be proactive in ensuring their input is considered.

RISK 2: REHABILITATING AND WIDENING BRIDGES THAT ARE OVER 50 YEARS OLD

RISK IDENTIFICATION AND WHY IT'S CRITICAL

A part of this Project's goal is to widen the existing superstructures and either replace the superstructure or complete a deck replacement on the existing structure. Work will include not only the widening and the appropriate pier seat/abutment modifications and concrete repairs, including corrosion mitigation, but analysis to ensure that the existing elements can meet the AASHTO codes with the modified loading conditions. Determining the scope of bridge work poses a significant risk to cost, schedule, and long-term performance of the bridge structures.

The scope of rehabilitation versus replacement is a risk with many of the bridges in the heavily traveled I-81 corridor, as they were completed over 50 years ago and are at or nearing the end of their original design service life. These bridges have been exposed to detrimental environmental conditions throughout their service life, the most significant being road salts. All current bridges have joints, and all that requires widening are rolled beams with cover plates. The bridges over Lewis Creek, which are prestressed concrete beams, are an exception. Due to the goals of VDOT's Structures and Bridges Division and the RFQ, a particular risk is the existing bridge structures and the substructure capacities due to their material condition and loading capacities with the proposed work to eliminate all joints, which will change the loading conditions that the original substructure units were designed for and exposed to. These structures were

initially designed to ASD codes compared to the current LRFD codes.

IMPACTS ON THE PROJECT

The following impacts may be realized if proper and continuous mitigation strategies are not implemented during the construction of the Project.

Sequence of Construction

Based on the RFQ, the Project scope appears to widen I-81 primarily to the median. To accommodate this, traffic needs to be shifted outside to allow temporary traffic barriers along the median. Still, the structures cannot be widened in a single phase; a Project goal is to replace the existing decks at a minimum. This will require at least two phases of construction. While phasing for widening with deck replacement and widening with superstructure replacement would be similar, the location of the construction joint and duration of MOT will vary. If the entire structure were to be replaced, the substructure geometry would likely not be replaced in the same footprint and would have to be shifted. The scope of rehabilitation will impact the MOT utilized and the schedule.

Schedule

The Project's current schedule provides for four years of Project length. This is adequate time to design, permit, and construct this Project if the bridges are widened with deck replacement or superstructure replacement. If substructure conditions or capacities were to warrant a complete bridge replacement schedule, design, permitting, and construction would all be extended.

Project Costs

The Project estimate listed in the RFQ appears to be adequate for bridge widening. However, there will be cost impacts if we must replace the existing structures. This includes demolishing the existing structures and the new structures' widths/lengths being larger than if the existing bridges were widened. There may also be added costs due to any additional environmental mitigation and ones due to acceleration to construct the Project within the allotted time. All other costs could impact the available budget.

Railroad Coordination

The impacts on the BBRR will vary appreciably depending on the final scope of rehabilitation/widening. For example, superstructure replacement will require more crane activity adjacent to or on BBRR property than deck replacement and widening as existing girders need to be removed. More girders would have to be set if the entire structure were replaced. More significant activity, including increased excavation, demolition of existing substructure units, and installation of more proposed substructure units, would be required.

Permitting Delays

The scope of work can impact the Project's permitting. The most significant potential impact for an increase in the scope of work to complete bridge replacement would be anticipated to be the bridges over Lewis Creek, as



Above Photos: Looking west along Augusta Woods Drive below I-81 SB, showing BBRR ROW to the right and the existing retaining wall structure to the left (*top*). The pier on this bridges provides an example of substructure condition, configuration, and partial length cover plates (*bottom*).

the excavation and work activity adjacent to the creek will increase appreciably.

RISK MITIGATION STRATEGIES

Our team has vast relevant experience in design and construction, having worked on many VDOT bridge projects. ***We have the expertise and know-how of working on existing bridges to extend their lifespan.*** This includes joint elimination and using newer material products to reduce the potential for long-term issues. ***WRA has evaluated existing conditions for over 350 projects.*** We will draw on this knowledge to review what is required for these bridges from a design perspective. Our experience and knowledge of construction techniques will be used to conduct constructability reviews for the means and methods to rehabilitate/widen the bridges.

We will review the existing elements to determine how the substructure and superstructure can be economically rehabilitated and strengthened compared to complete structure replacement. This experience will give VDOT confidence that rehabilitating the existing structures can be accommodated cost-effectively and ultimately provide a long-term, low-maintenance service life.

Design Mitigation Strategies

Our bridge designers have performed over 375 bridge design and rehabilitation projects in Virginia, including over a dozen in the Staunton District, including the major rehabilitations and bridge replacements on I-81 and I-64.

This knowledge will enable our bridge engineers to employ the following design mitigation strategies:

- **Superstructure Design:** If determined appropriate, we will perform a Finite Element Method model to determine thermal effects/boundary condition changes from joint elimination to include creep/shrinkage on existing and proposed prestressed beams. The evaluation will consist of the interaction of the behavior of proposed beams with existing beams. We will evaluate the condition of the current superstructure elements, including section loss, cracking, etc. The analysis will determine the remaining fatigue life on the existing steel rolled beams with partial length cover plates to determine if they have sufficient fatigue life remaining to be reused.
- **Load Rating:** Our team will evaluate the required strengthening if the existing beams cannot have a rating greater than 1.0.
- **Bearings:** All bearings will be evaluated and designed to provide a long service life and properly distribute and relieve the load on the entire structure, including the existing and widened portion where existing beams/girders are used and joints are eliminated.
- **Material Condition:** Our team will supplement any available material evaluation of the existing elements to remain, including chloride testing, half-cell potential, compressive, freeze-thaw, carbonization, etc. Test results will determine the extent of mitigation necessary, such as zinc anodes, partial deck removal, and/or chloride extraction, to extend the life of the in-situ bridge elements that will remain.

Construction Mitigation Strategies

Branch has successfully rehabilitated many bridges like these structures, including widenings, deck replacements, superstructure replacements, and complete bridge replacements, including those on the I-64 Widening Exits 200 to 205 D-B Project. In all cases, the design plans have been combined with sound construction methods to safely perform the work, minimizing impacts to the public and providing a final quality product.

- **Deck Demolition:** For the prestressed beams over Lewis Creek, our experience indicates that removing an existing concrete deck from a prestressed beam has an inherent risk of beam damage. In some cases, this risk will be mitigated by replacing the superstructure. This risk will be considered with the existing beam condition and capacity when evaluating the rehabilitation option.
- **MOT:** To maintain a safe and cost-effective project, it is essential to sufficiently separate the work from the public. Evaluation of construction methods to include such aspects as access, equipment locations/swing radii, and shoring will ensure that the project is developed in a constructable manner. All aspects of MOT, including construction entrances and delivery and removal of significant elements, are crucial,

particularly on an interstate project where access to the median is gained from the left lanes.

ROLE OF VDOT AND OTHER AGENCIES

VDOT's role will not exceed that of a typical D-B project. It will include coordinating and reviewing findings and submittals and approving appropriate Design Exceptions or Design Waivers. We would also rely on VDOT to provide any available information and previous design/testing reports for the Project's bridges.

RISK 3: SUBSURFACE CONDITIONS

RISK IDENTIFICATION AND WHY IT'S CRITICAL

It is critical to identify the subsurface conditions. Incorrectly classifying the characteristics of the soil, pavement, and rock that exist within and are brought into the work zone poses a significant risk to the Project's success. Understanding what to look for when performing the subsurface investigation and conducting material testing is critical to properly characterizing the materials below the ground and pavement surface and characterizing the material placed to create the proposed ground surface.

FIGURE 3.5-4 provides a geologic map showing karst-prone and predominant shale formations in the Project corridor. Critical aspects of the subsurface that require proper classification are pavements inclusive of both the bound asphalt and the unbound aggregate base, subsurface stratigraphy including identification of karst

FIGURE 3.5-4 | Geologic Map of the Project Corridor

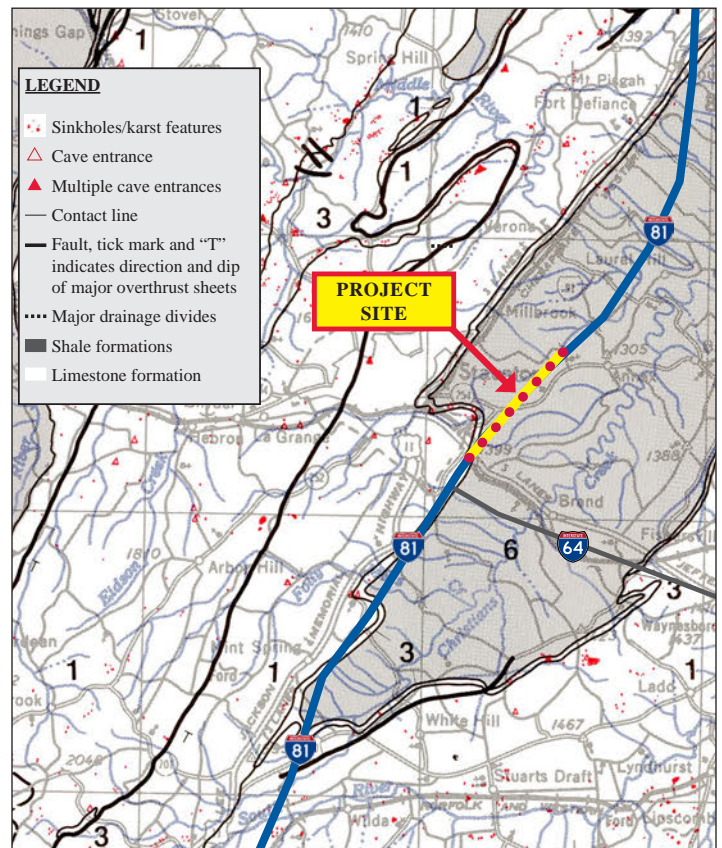
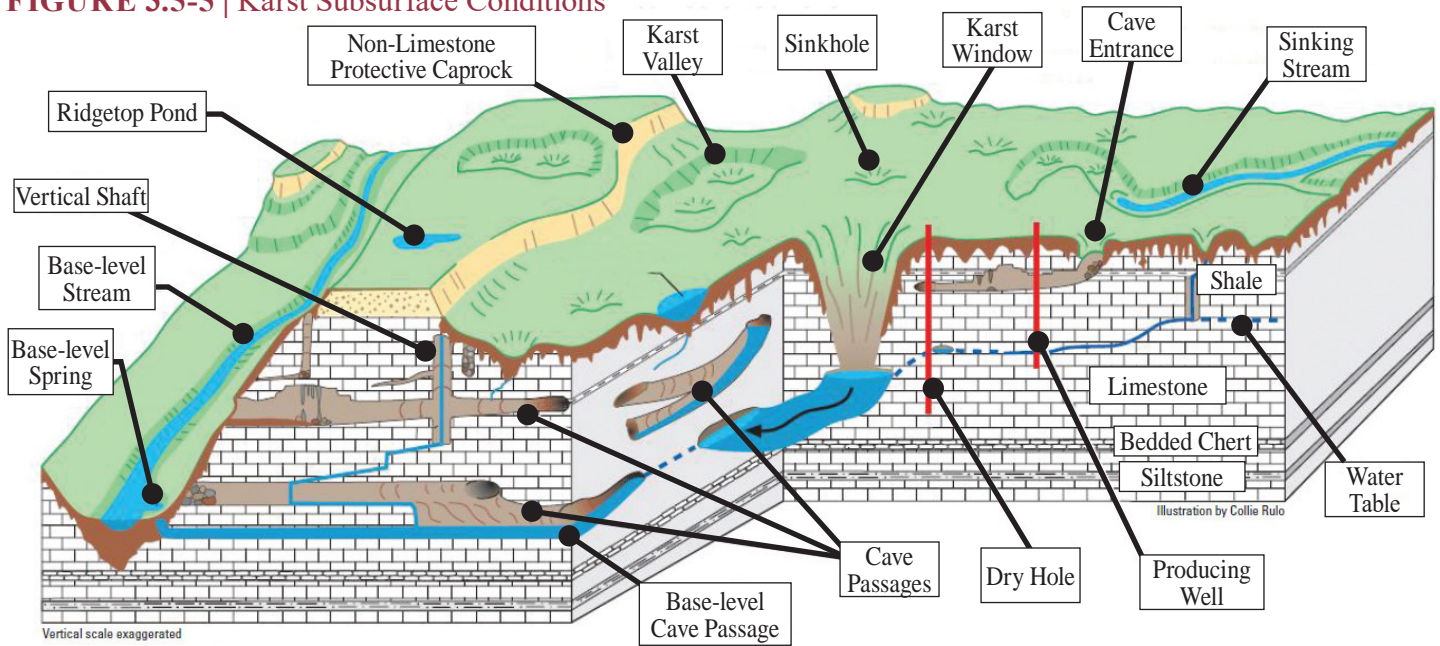


FIGURE 3.5-5 | Karst Subsurface Conditions



features such as solution cavities, and materials, whether it be soil or rock fill. If these aspects are mischaracterized, the geotechnical recommendations related to the use of existing pavements, the ability of the ground to support the proposed embankments and structure, and the settlement characteristics of the proposed embankments would be flawed.

IMPACTS ON THE PROJECT

If materials below the existing ground or material brought on to the site are not characterized properly, pavement performance, slopes, and structures may not perform as planned.

Pavement

The Project includes using the shoulder; therefore, it is critical to characterize the material thickness and strengths below the existing shoulders. If the technique used to measure the thickness or the moduli over-predicts these values, the relying pavement design would over predict the pavements capacity to support traffic resulting in premature failure of the pavement and increased maintenance through the corridor. If the classification underestimated thickness or moduli significantly, the recommendation might be to demolish and reconstruct a shoulder. This will add high costs and unnecessary additional phases of work. These ramifications apply to the situation where shoulders are used for temporary traffic and for cases where the shoulder is converted to a mainline lane.

Subsurface Stratigraphy and Karst

FIGURE 3.5-5 provides a cross section of typical karst subsurface conditions. Embankments, bridges, and stormwater structures will be extended over ground sections not previously investigated or categorized. Understanding the subsurface stratigraphy is critical in

developing recommendations and plans to ensure these structures perform satisfactorily and not be subject to settlement or large deformations. If the subsurface exploration does not correctly identify solution cavities, the proposed work could settle or collapse under the weight of the proposed construction. If these types of features are not characterized through the subsurface exploration and no remedial measures are put into place to stabilize, there is a two-fold risk: (1) the feature is later identified in construction, resulting in cost and time delays; or, (2) the feature is not determined until after construction, resulting in a collapse, road closures, and potential injuries to the traveling public.

Unsuitable Embankment and Non-Durable Shale Fill

The proposed roadwork requires expansion of the roadway embankments, which entails importing soil from borrow areas and placing them on the slopes of the existing embankments. It is not only critical to characterize the consistency and strength of the existing



Above Photo: This region is known to be underlain by shale formations that tend to weather rapidly once excavated, which could be problematic if not identified.

embankment slopes but characterizing the material at the proposed borrow areas is crucial in constructing a stable embankment.

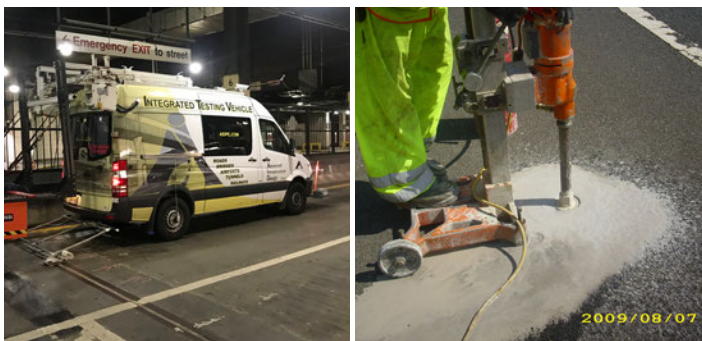
This region is known to be underlain by shale formations that tend to weather rapidly once excavated. The weathering essentially is rock transitioning into the soil. This weathering could be problematic if not identified because rock fill is typically compacted much differently than soil. If a rock fill converts to the soil after the compaction process is complete, the embankment will settle and lose stability. This would manifest in depressions or loss of proper cross slope in the pavement to the development of landslide in the side slopes.

RISK MITIGATION STRATEGIES

Pavement

We will balance various mitigation strategies to ensure a quality Project and provide an efficient design while maintaining the desired construction schedule. Mitigation strategies that we may utilize include:

- Performing an air-launched GPR survey to measure asphalt and stone thickness.
- Performing falling weight deflectometer (FWD) testing at 250-foot intervals to assess the degraded strength of the asphalt, stone, and subgrade soils.
- Obtaining pavement cores for calibrating the GPR and providing a back-check on the structural number derived from the FWD survey by rating the degradation seen in the core.
- Performing visual examination of current shoulder conditions to identify lengths for partial and full depth patching

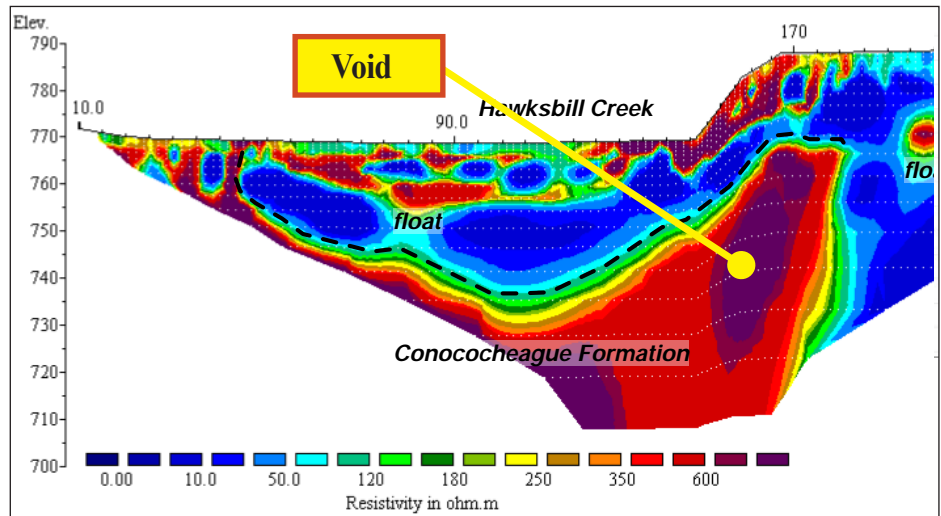


Above: Air-launched GPR to measure pavement thickness (left), and coring to ground truth GPR and FWD surveys (right).

Subsurface Stratigraphy and Karst

In areas where karst formations could significantly impact the Project, our team will utilize geophysical survey techniques and tighter borehole density to identify these

FIGURE 3.5-6 | Plot of Resistivity Survey Line



features. We will first conduct a resistivity survey where ideally, the lines will run across the strike of the bedding. As demonstrated in **FIGURE 3.5-6**, the results are plotted onto the Project plans, and a soil boring location plan is generated. Rock coring will be included for borings in areas of the bridge or suspect areas identified by the resistivity survey.

Unsuitable Embankment and Non-Durable Shale Fill
Most of the fill for the project is anticipated to be borrowed from off-site. Because of this, the following will be incorporated into the Final Design:

- Soil borings with rock coring will be performed in the borrow sites.
- If shale bedrock is encountered, test pits will be performed to obtain a sufficient sample size for durability assessments.
- Perform *ASTM D4644 Standard Method for Slake Durability of Shales and other Weak Rocks* on samples.
- Guidance provided in the *Staunton District Soil Parameters for Non-Critical Slopes* will be followed such that samples with less than 60% durability values will not be incorporated into the project as rock fill.
- Special provisions will be implemented if it is necessary to incorporate rock material with less than 60% durability. These will require the construction of test embankments and pulverization measures to place the material in an appropriate density to retain its settlement and strength performance requirements.

ROLE OF VDOT AND OTHER AGENCIES

VDOT's role in mitigating this risk is minimal. We will rely on VDOT to provide any available information and previous geotechnical testing reports, subsurface exploration data, and pavement condition assessments for the Project corridor in the RFP package. We do not anticipate involvement from other agencies.

APPENDICES

APPENDIX 3.1.2

SOQ Checklist and Contents

ATTACHMENT 3.1.2

Project: I-81 Widening MM 221 to MM 225

State Project No.: 0081-007-013

STATEMENT OF QUALIFICATIONS CHECKLIST AND CONTENTS

Offerors shall furnish a copy of this Statement of Qualifications (SOQ) Checklist, with the page references added, with the Statement of Qualifications.

Statement of Qualifications Component	Form (if any)	RFQ Cross reference	Included within 15-page limit?	SOQ Page Reference
Statement of Qualifications Checklist and Contents	Attachment 3.1.2	Section 3.1.2	no	Appendix 3.1.2
Acknowledgement of RFQ, Revision and/or Addenda	Attachment 2.10 (Form C-78-RFQ)	Section 2.10	no	Appendix 2.10
Letter of Submittal (on Offeror's letterhead)				Page 1
Authorized Representative's signature	NA	Section 3.2.1	yes	Page 1
Offeror's Point of Contact information	NA	Section 3.2.2	yes	Page 1
Principal Officer information	NA	Section 3.2.3	yes	Page 1
Offeror's Corporate Structure	NA	Section 3.2.4	yes	Page 1
Identity of Lead Contractor and Lead Designer	NA	Section 3.2.5	yes	Page 1
Affiliated/subsidiary companies	Attachment 3.2.6	Section 3.2.6	no	Appendix 3.2.6
Debarment forms	Attachment 3.2.7(a) Attachment 3.2.7(b)	Section 3.2.7	no	Appendix 3.2.7
Offeror's VDOT prequalification evidence	NA	Section 3.2.8	no	Appendix 3.2.8
Evidence of obtaining bonding	NA	Section 3.2.9	no	Appendix 3.2.9

ATTACHMENT 3.1.2

Project: I-81 Widening MM 221 to MM 225

State Project No.: 0081-007-013

STATEMENT OF QUALIFICATIONS CHECKLIST AND CONTENTS

Statement of Qualifications Component	Form (if any)	RFQ Cross reference	Included within 15- page limit?	SOQ Page Reference
SCC and DPOR registration documentation (Appendix)	Attachment 3.2.10	Section 3.2.10	no	Appendix 3.2.10
Full size copies of SCC Registration	NA	Section 3.2.10.1	no	Appendix 3.2.10
Full size copies of DPOR Registration (Offices)	NA	Section 3.2.10.2	no	Appendix 3.2.10
Full size copies of DPOR Registration (Key Personnel)	NA	Section 3.2.10.3	no	Appendix 3.2.10
Full size copies of DPOR Registration (Non-APELSCIDLA)	NA	Section 3.2.10.4	no	Appendix 3.2.10
DBE statement within Letter of Submittal confirming Offeror is committed to achieving the 6% DBE goal	NA	Section 3.2.11	yes	Page 1
Offeror's Team Structure				Pages 2-6
Identity of and qualifications of Key Personnel	NA	Section 3.3.1	yes	Pages 2-4
Key Personnel Resume – DB Project Manager	Attachment 3.3.1	Section 3.3.1.1	no	Appendix 3.3.1.1
Key Personnel Resume – Entrusted Engineer in Charge	Attachment 3.3.1	Section 3.3.1.2	no	Appendix 3.3.1.2
Key Personnel Resume – Quality Assurance Manager	Attachment 3.3.1	Section 3.3.1.3	no	Appendix 3.3.1.3
Key Personnel Resume – Design Manager	Attachment 3.3.1	Section 3.3.1.4	no	Appendix 3.3.1.4
Key Personnel Resume – Construction Manager	Attachment 3.3.1	Section 3.3.1.5	no	Appendix 3.3.1.5
Organizational chart	NA	Section 3.3.2	yes	Page 5
Organizational chart narrative	NA	Section 3.3.2	yes	Pages 4-6

ATTACHMENT 3.1.2

Project: I-81 Widening MM 221 to MM 225

State Project No.: 0081-007-013

STATEMENT OF QUALIFICATIONS CHECKLIST AND CONTENTS

Statement of Qualifications Component	Form (if any)	RFQ Cross reference	Included within 15- page limit?	SOQ Page Reference
Experience of Offeror's Team				Page 7
Lead Contractor Work History Form	Attachment 3.4.1(a)	Section 3.4	no	Appendix 3.4.1(a)
Lead Designer Work History Form	Attachment 3.4.1(b)	Section 3.4	no	Appendix 3.4.1(b)
Project Risk				
Identify and discuss three critical risks for the Project	NA	Section 3.5.1	yes	Pages 8-15

APPENDIX 2.10

**Attachment 2.10 - Acknowledgement of RFQ,
Revision and/or Addenda**

ATTACHMENT 2.10**COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION**

PROJECT: I-81 Widening MM 221 to MM 225
CONTRACT ID: C00116269DB116
PROJECT NO.: 0081-007-013

ACKNOWLEDGEMENT OF RFQ, REVISION AND/OR ADDENDA

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

By signing this Attachment 2.10, the Offeror acknowledges receipt of the RFQ and/or following revisions and/or addenda to the RFQ for the above designated project which were issued under cover letter(s) of the date(s) shown hereon:

1. Cover letter of RFQ – July 1, 2022
(Date)
2. Cover letter of Addendum No. 1 – August 9, 2022
(Date)
3. Cover letter of _____
(Date)



SIGNATURE

Brian Evans

PRINTED NAME

August 17, 2022

DATE

Senior Vice President
Branch Civil, Inc.

TITLE

APPENDIX 3.2.6
List of Affiliated and/or Subsidiary Companies

ATTACHMENT 3.2.6

Project: I-81 Widening MM 221 to MM 225

State Project No. 0081-007-013

Affiliated and Subsidiary Companies of the Offeror

Offerors shall complete the table and include the addresses of affiliates or subsidiary companies as applicable. By completing this table, Offerors certify that all affiliated and subsidiary companies of the Offeror are listed.

The Offeror does not have any affiliated or subsidiary companies.

Affiliated and/ or subsidiary companies of the Offeror are listed below.

Relationship with Offeror (Affiliate or Subsidiary)	Full Legal Name	Address
Affiliate (parent company)	The Branch Group, Inc.	3635 Peters Creek Road, Roanoke, VA 24019
Affiliate	Branch & Associates, Inc.	PO BOX 40051, Roanoke, VA 24022
Affiliate	Branch Builds, Inc.	3635 Peters Creel Road, Roanoke, VA 24019
Affiliate	Hopkins Lacy, Inc.	3635 Peters Creek Road, Roanoke, VA 24019
Affiliate	Balfour Beatty Infrastructure, Inc./E.V. Williams, Inc. JV	430 Eastwood Road, Wilmington, NC 28403
Affiliate	Corman-E.V. Williams, a Joint Venture	12001 Guilford Road, Annapolis Junction, MD 20701
Affiliate	Flatiron Branch, a Joint Venture	385 Interlocken Crescent, Suite 900, Broomfield, CO 80021
Affiliate	Flatiron Branch II, a Joint Venture	385 Interlocken Crescent, Suite 900, Broomfield, CO 80021
Affiliate	Branch Flatiron, a Joint Venture	442 Rutherford Avenue SE, Roanoke, VA 24016
Affiliate	Corman-Branch, a Joint Venture	442 Rutherford Avenue SE, Roanoke, VA 24016
Affiliate	Branch-Orders Joint Venture	442 Rutherford Avenue SE, Roanoke, VA 24016
Affiliate	Branch-Sloan Joint Venture	442 Rutherford Avenue SE, Roanoke, VA 24016
Affiliate	LA Lacy, Inc,	442 Rutherford Avenue SE, Roanoke, VA 24016
Affiliate	G.J. Hopkins, Inc,	442 Rutherford Avenue SE, Roanoke, VA 24016

APPENDIX 3.2.7

Primary and Lower Tier Debarment Forms

**Signed Primary Debarment
Branch Civil, Inc.**

ATTACHMENT 3.2.7(a)

**CERTIFICATION REGARDING DEBARMENT
PRIMARY COVERED TRANSACTIONS**

Project: I-81 Widening MM 221 to MM 225
Project No.: 0081-007-013

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.

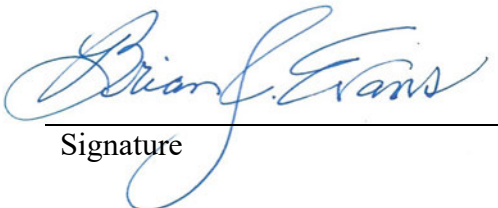
b) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under 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

August 17, 2022
Date

Senior Vice President
Title

Branch Civil, Inc.

Name of Firm

**Signed Lower Tier Debarment
Whitman, Requardt & Associates, LLP**

ATTACHMENT 3.2.7(b)

**CERTIFICATION REGARDING DEBARMENT
LOWER TIER COVERED TRANSACTIONS**

Project: I-81 Widening MM 221 to MM 225
Project No.: 0081-007-013

- 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.



8/17/2022

Vice President

Signature

Date

Title

Whitman, Requardt & Associates, LLP

Name of Firm

ATTACHMENT 3.2.7(b)

CERTIFICATION REGARDING DEBARMENT
LOWER TIER COVERED TRANSACTIONS

Project: I-81 Widening MM 221 to MM 225

Project No.: 0081-007-013

- 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.



7-21-2022

Partner

Signature

Date

Title

Rummel, Klepper & Kahl, LLP (RK&K)

Name of Firm

**Signed Lower Tier Debarment
Volkert, Inc.**

ATTACHMENT 3.2.7(b)


**CERTIFICATION REGARDING DEBARMENT
LOWER TIER COVERED TRANSACTIONS**

Project: I-81 Widening MM 221 to MM 225

Project No.: 0081-007-013

- 1) The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.
- 2) Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

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

	<u>8/17/22</u>	<u>Senior Vice President</u>
Signature	Date	Title

Volkert, Inc.
Name of Firm

Signed Lower Tier Debarment
ECS Mid-Atlantic, LLC

ATTACHMENT 3.2.7(b)

CERTIFICATION REGARDING DEBARMENT
LOWER TIER COVERED TRANSACTIONS

Project: I-81 Widening MM 221 to MM 225
Project No.: 0081-007-013

- 1) The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.
- 2) Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

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


Signature _____ Date 8/8/22 Title Office Manager
DAVID P. HUGGINS

ECS Mid-Atlantic LLC 4004 Hunterstand Ct. Charlottesville VA
Name of Firm _____ 22911

**Signed Lower Tier Debarment
On Point Transportation PR LLC**

ATTACHMENT 3.2.7(b)

**CERTIFICATION REGARDING DEBARMENT
LOWER TIER COVERED TRANSACTIONS**

Project: I-81 Widening MM 221 to MM 225

Project No.: 0081-007-013

- 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.



07/25/22

President

Signature

Date

Title

On Point Transportation PR

Name of Firm

**Signed Lower Tier Debarment
H&B Surveying & Mapping, LLC**

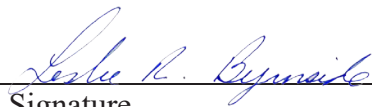
ATTACHMENT 3.2.7(b)

**CERTIFICATION REGARDING DEBARMENT
LOWER TIER COVERED TRANSACTIONS**

Project: I-81 Widening MM 221 to MM 225
Project No.: 0081-007-013

- 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

July 21, 2022

Date

Vice President

Title

H & B Surveying and Mapping, LLC

Name of Firm

APPENDIX 3.2.8
Offeror's VDOT Prequalification Certificate



**Department's List of Prequalified Vendors
Includes All Qualified Levels As Of 7/6/2022**

- B -

Vendor ID: B1164

Vendor Name: BRACT RETAINING WALLS AND EXCAVATING LLC

Prequal Level: Prequalified

Prequal Exp: 02/28/2023

-- PREQ Address --

P.O. BOX 2099

ASHLAND, VA 23005

Phone: (804)798-5097

Fax: (804)798-5098

Work Classes (Listed But Not Limited To)

006 - PORTLAND CEMENT CONCRETE PAVING

056 - MASONRY CONSTRUCTION

101 - EXCAVATING

Bus. Contact: MCCULLOUGH, AARON MICHAEL

Email: AARON@BRACTWALLS.COM

-- DBE Information --

DBE Type: N/A

DBE Contact: N/A

Vendor ID: B319

Vendor Name: BRANCH CIVIL, INC.

Prequal Level: Prequalified

Prequal Exp: 02/28/2023

-- PREQ Address --

P. O. BOX 40004

ROANOKE, VA 24022-0004

Phone: (540)982-1678

Fax: (540)982-4217

Work Classes (Listed But Not Limited To)

002 - GRADING

003 - MAJOR STRUCTURES

045 - UNDERGROUND UTILITIES

Bus. Contact: COLBERT, MICHAEL ANDREW

Email: BCIESTIMATING@BRANCHCIVIL.COM

-- DBE Information --

DBE Type: N/A

DBE Contact: N/A

APPENDIX 3.2.9

Surety Letter



August 17, 2022

Joseph A. Clarke, PE, DBIA
Alternative Project Delivery Division
Virginia Department of Transportation
1401 East Broad Street
Richmond, VA 23219

Re: Branch Civil, Inc.
I-81 Widening MM 221 to MM 225, RFQ No.:C00116269DB116

Dear Sir or Madam:

It has been the privilege of American Global LLC and Federal Insurance Company and Berkshire Hathaway Specialty Insurance Company to provide surety bonds on behalf of Branch Civil, Inc., a subsidiary of The Branch Group. In our opinion, Branch Civil, Inc. remains properly financed, well equipped, and capably managed.

At the present time, Federal Insurance Company and Berkshire Hathaway Specialty Insurance Company provide a \$300,000,000.00 single project / \$1,250,000,000.00 aggregate surety program to Branch Civil, Inc.

As sureties for The Branch Group, Inc., Federal Insurance Company with A.M. Best Financial Strength Rating A++ and Financial Size Category XV, and Berkshire Hathaway Specialty Insurance Company with A.M. Best Financial Strength Rating A++ and Financial Size Category XV, are capable of obtaining a 100% Performance Bond and 100% Labor and Materials Payment Bond in the amount of the anticipated cost of construction, and said bonds will cover the Project and any warranty periods as provided for in the Contract Documents on behalf of the Contractor, in the event that such firm be the successful bidder and enter into a contract for this Project.

As always, Federal Insurance Company and Berkshire Hathaway Specialty Insurance Company reserves the right to perform normal underwriting at the time of any bond request, including, without limitation, prior review and approval of relevant contract documents, bond forms, and project financing. We assume no liability to your or any of your affiliates if for any reason we do not execute such bonds.

Very truly yours,

Federal Insurance Company
Berkshire Hathaway Specialty Insurance Company



Jaelyn Thomas, Attorney-In-Fact

ACKNOWLEDGEMENT OF SURETY COMPANY

STATE OF NEW JERSEY

COUNTY OF MORRIS

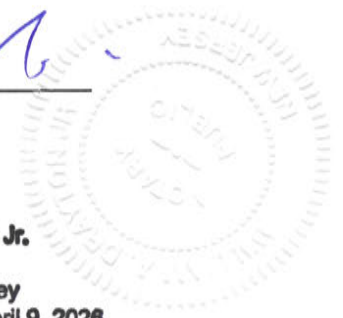
ON THE 17th DAY OF AUGUST, 2022 BEFORE ME PERSONALLY APPEARED Jaclyn Thomas TO ME KNOWN, WHO BEING BY ME DULY SWORN, DID DEPOSE AND SAY, THAT (S)HE IS THE ATTORNEY-IN-FACT OF Federal Insurance Company and Berkshire Hathaway Specialty Insurance Company, THE CORPORATIONS THAT EXECUTED THE FOREGOING INSTRUMENT, AND ACKNOWLEDGED TO ME THAT SUCH CORPORATION EXECUTED THE SAME.

IN WITNESS WHEREOF, I HAVE HEREUNTO SET MY HAND AND AFFIXED MY OFFICIAL SEAL, AT MY OFFICE IN THE ABOVE COUNTY, THE DAY AND YEAR WRITTEN ABOVE.

Notary Public



William A. Drayton Jr.
Notary Public
State of New Jersey
My commission expires April 9, 2026





Power of Attorney

Federal Insurance Company | Vigilant Insurance Company | Pacific Indemnity Company
Westchester Fire Insurance Company | ACE American Insurance Company

Know All by These Presents, that FEDERAL INSURANCE COMPANY, an Indiana corporation, VIGILANT INSURANCE COMPANY, a New York corporation, PACIFIC INDEMNITY COMPANY, a Wisconsin corporation, WESTCHESTER FIRE INSURANCE COMPANY and ACE AMERICAN INSURANCE COMPANY corporations of the Commonwealth of Pennsylvania, do each hereby constitute and appoint Thomas MacDonald, Marisol Mojica, Edward Reilly, Krystal L. Stravato, Jaclyn Thomas and Kevin T. Walsh Jr. of Whippany, New Jersey; Andrea E. Gorbort of Jericho, New York; Neil C. Donovan, and Gerard Leib of Berwyn, Pennsylvania -----

each as their true and lawful Attorney-in-Fact to execute under such designation in their names and to affix their corporate seals to and deliver for and on their behalf as surety thereon or otherwise, bonds and undertakings and other writings obligatory in the nature thereof (other than bail bonds) given or executed in the course of business, and any instruments amending or altering the same, and consents to the modification or alteration of any instrument referred to in said bonds or obligations.

In Witness Whereof, said FEDERAL INSURANCE COMPANY, VIGILANT INSURANCE COMPANY, PACIFIC INDEMNITY COMPANY, WESTCHESTER FIRE INSURANCE COMPANY and ACE AMERICAN INSURANCE COMPANY have each executed and attested these presents and affixed their corporate seals on this 6th day of April, 2022.

Dawn M. Chloros

Dawn M. Chloros, Assistant Secretary

Stephen M. Haney

Stephen M. Haney, Vice President



STATE OF NEW JERSEY
County of Hunterdon ss.

On this 6th day of April, 2022 before me, a Notary Public of New Jersey, personally came Dawn M. Chloros and Stephen M. Haney, to me known to be Assistant Secretary and Vice President, respectively, of FEDERAL INSURANCE COMPANY, VIGILANT INSURANCE COMPANY, PACIFIC INDEMNITY COMPANY, WESTCHESTER FIRE INSURANCE COMPANY and ACE AMERICAN INSURANCE COMPANY, the companies which executed the foregoing Power of Attorney, and the said Dawn M. Chloros and Stephen M. Haney, being by me duly sworn, severally and each for herself and himself did depose and say that they are Assistant Secretary and Vice President, respectively, of FEDERAL INSURANCE COMPANY, VIGILANT INSURANCE COMPANY, PACIFIC INDEMNITY COMPANY, WESTCHESTER FIRE INSURANCE COMPANY and ACE AMERICAN INSURANCE COMPANY and know the corporate seals thereof, that the seals affixed to the foregoing Power of Attorney are such corporate seals and were thereto affixed by authority of said Companies; and that their signatures as such officers were duly affixed and subscribed by like authority.

Notarial Seal



KATHERINE J. ADELAAR
NOTARY PUBLIC OF NEW JERSEY
No. 2316685
Commission Expires July 16, 2024

[Signature]
Notary Public

CERTIFICATION

Resolutions adopted by the Boards of Directors of FEDERAL INSURANCE COMPANY, VIGILANT INSURANCE COMPANY, and PACIFIC INDEMNITY COMPANY on August 30, 2016; WESTCHESTER FIRE INSURANCE COMPANY on December 11, 2006; and ACE AMERICAN INSURANCE COMPANY on March 20, 2009:

"RESOLVED, that the following authorizations relate to the execution, for and on behalf of the Company, of bonds, undertakings, recognizances, contracts and other written commitments of the Company entered into in the ordinary course of business (each a "Written Commitment"):

- (1) Each of the Chairman, the President and the Vice Presidents of the Company is hereby authorized to execute any Written Commitment for and on behalf of the Company, under the seal of the Company or otherwise.
(2) Each duly appointed attorney-in-fact of the Company is hereby authorized to execute any Written Commitment for and on behalf of the Company, under the seal of the Company or otherwise, to the extent that such action is authorized by the grant of powers provided for in such person's written appointment as such attorney-in-fact.
(3) Each of the Chairman, the President and the Vice Presidents of the Company is hereby authorized, for and on behalf of the Company, to appoint in writing any person the attorney-in-fact of the Company with full power and authority to execute, for and on behalf of the Company, under the seal of the Company or otherwise, such Written Commitments of the Company as may be specified in such written appointment, which specification may be by general type or class of Written Commitments or by specification of one or more particular Written Commitments.
(4) Each of the Chairman, the President and the Vice Presidents of the Company is hereby authorized, for and on behalf of the Company, to delegate in writing to any other officer of the Company the authority to execute, for and on behalf of the Company, under the Company's seal or otherwise, such Written Commitments of the Company as are specified in such written delegation, which specification may be by general type or class of Written Commitments or by specification of one or more particular Written Commitments.
(5) The signature of any officer or other person executing any Written Commitment or appointment or delegation pursuant to this Resolution, and the seal of the Company, may be affixed by facsimile on such Written Commitment or written appointment or delegation.

FURTHER RESOLVED, that the foregoing Resolution shall not be deemed to be an exclusive statement of the powers and authority of officers, employees and other persons to act for and on behalf of the Company, and such Resolution shall not limit or otherwise affect the exercise of any such power or authority otherwise validly granted or vested."

I, Dawn M. Chloros, Assistant Secretary of FEDERAL INSURANCE COMPANY, VIGILANT INSURANCE COMPANY, PACIFIC INDEMNITY COMPANY, WESTCHESTER FIRE INSURANCE COMPANY and ACE AMERICAN INSURANCE COMPANY (the "Companies") do hereby certify that

- (i) the foregoing Resolutions adopted by the Board of Directors of the Companies are true, correct and in full force and effect,
(ii) the foregoing Power of Attorney is true, correct and in full force and effect.

Given under my hand and seals of said Companies at Whitehouse Station, NJ, this August 17, 2022



Dawn M. Chloros

Dawn M. Chloros, Assistant Secretary

IN THE EVENT YOU WISH TO VERIFY THE AUTHENTICITY OF THIS BOND OR NOTIFY US OF ANY OTHER MATTER, PLEASE CONTACT US AT:
Telephone (908) 903- 3493 Fax (908) 903- 3656 e-mail: surety@chubb.com

Power Of Attorney

**BERKSHIRE HATHAWAY SPECIALTY INSURANCE COMPANY
NATIONAL INDEMNITY COMPANY / NATIONAL LIABILITY & FIRE INSURANCE COMPANY**

Know all men by these presents, that **BERKSHIRE HATHAWAY SPECIALTY INSURANCE COMPANY**, a corporation existing under and by virtue of the laws of the State of Nebraska and having an office at One Lincoln Street, 23rd Floor, Boston, Massachusetts 02111, **NATIONAL INDEMNITY COMPANY**, a corporation existing under and by virtue of the laws of the State of Nebraska and having an office at 3024 Harney Street, Omaha, Nebraska 68131 and **NATIONAL LIABILITY & FIRE INSURANCE COMPANY**, a corporation existing under and by virtue of the laws of the State of Connecticut and having an office at 100 First Stamford Place, Stamford, Connecticut 06902 (hereinafter collectively the "Companies"), pursuant to and by the authority granted as set forth herein, do hereby name, constitute and appoint: **Jaclyn Thomas, Kevin T. Walsh, Jr., Thomas MacDonald, Krystal L. Stravato, 100 South Jefferson Road, Suite 101, of the city of Whippany, State of New Jersey**, their true and lawful attorney(s)-in-fact to make, execute, seal, acknowledge, and deliver, for and on their behalf as surety and as their act and deed, any and all undertakings, bonds, or other such writings obligatory in the nature thereof, in pursuance of these presents, the execution of which shall be as binding upon the Companies as if it has been duly signed and executed by their regularly elected officers in their own proper persons. **This authority for the Attorney-in-Fact shall be limited to the execution of the attached bond(s) or other such writings obligatory in the nature thereof.**

In witness whereof, this Power of Attorney has been subscribed by an authorized officer of the Companies, and the corporate seals of the Companies have been affixed hereto this date of December 20, 2018. This Power of Attorney is made and executed pursuant to and by authority of the Bylaws, Resolutions of the Board of Directors, and other Authorizations of **BERKSHIRE HATHAWAY SPECIALTY INSURANCE COMPANY, NATIONAL INDEMNITY COMPANY** and **NATIONAL LIABILITY & FIRE INSURANCE COMPANY**, which are in full force and effect, each reading as appears on the back page of this Power of Attorney, respectively. **The following signature by an authorized officer of the Company may be a facsimile, which shall be deemed the equivalent of and constitute the written signature of such officer of the Company for all purposes regarding this Power of Attorney, including satisfaction of any signature requirements on any and all undertakings, bonds, or other such writings obligatory in the nature thereof, to which this Power of Attorney applies.**

BERKSHIRE HATHAWAY SPECIALTY INSURANCE COMPANY,

By: _____
David Fields, Executive Vice President



**NATIONAL INDEMNITY COMPANY,
NATIONAL LIABILITY & FIRE INSURANCE COMPANY,**

By: _____
David Fields, Vice President

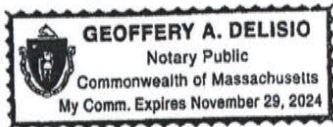


NOTARY

State of Massachusetts, County of Suffolk, ss:

On this 20th day of December, 2018, before me appeared David Fields, Executive Vice President of **BERKSHIRE HATHAWAY SPECIALTY INSURANCE COMPANY** and Vice President of **NATIONAL INDEMNITY COMPANY** and **NATIONAL LIABILITY & FIRE INSURANCE COMPANY**, who being duly sworn, says that his capacity is as designated above for such Companies; that he knows the corporate seals of the Companies; that the seals affixed to the foregoing instrument are such corporate seals; that they were affixed by order of the board of directors or other governing body of said Companies pursuant to its Bylaws, Resolutions and other Authorizations, and that he signed said instrument in that capacity of said Companies.

[Notary Seal]



Notary Public

I, Ralph Tortorella, the undersigned, Officer of **BERKSHIRE HATHAWAY SPECIALTY INSURANCE COMPANY, NATIONAL INDEMNITY COMPANY** and **NATIONAL LIABILITY & FIRE INSURANCE COMPANY**, do hereby certify that the above and foregoing is a true and correct copy of the Power of Attorney executed by said Companies which is in full force and effect and has not been revoked. IN TESTIMONY WHEREOF, see hereunto affixed the seals of said Companies this August 17, 2022.



Officer

To verify the authenticity of this Power of Attorney please contact us at: BHSISurety Department, Berkshire Hathaway Specialty Insurance Company, One Lincoln Street, 23rd Floor Boston, MA 02111 | (770) 625-2516 or by email at Jermiler.Porter@bhspecialty.com. THIS POWER OF ATTORNEY IS VOID IF ALTERED. To notify us of a claim please contact us on our 24-hour toll free number at (855) 453-9675, via email at claimsnotice@bhspecialty.com, via fax to (617) 507-8259, or via mail.

BERKSHIRE HATHAWAY SPECIALTY INSURANCE COMPANY (BYLAWS)

ARTICLE V.

CORPORATE ACTIONS

....

EXECUTION OF DOCUMENTS:

....

Section 6.(b) The President, any Vice President or the Secretary, shall have the power and authority:

- (1) To appoint Attorneys-in-fact, and to authorize them to execute on behalf of the Company bonds and other undertakings, and
- (2) To remove at any time any such Attorney-in-fact and revoke the authority given him.

NATIONAL INDEMNITY COMPANY (BY-LAWS)

Section 4. Officers, Agents, and Employees:

A. The officers shall be a President, one or more Vice Presidents, a Secretary, one or more Assistant Secretaries, a Treasurer, and one or more Assistant Treasurers none of whom shall be required to be shareholders or Directors and each of whom shall be elected annually by the Board of Directors at each annual meeting to serve a term of office of one year or until a successor has been elected and qualified, may serve successive terms of office, may be removed from office at any time for or without cause by a vote of a majority of the Board of Directors, and shall have such powers and rights and be charged with such duties and obligations as usually are vested in and pertain to such office or as may be directed from time to time by the Board of Directors; and the Board of Directors or the officers may from time to time appoint, discharge, engage, or remove such agents and employees as may be appropriate, convenient, or necessary to the affairs and business of the corporation.

NATIONAL INDEMNITY COMPANY (BOARD RESOLUTION ADOPTED AUGUST 6, 2014)

RESOLVED, That the President, any Vice President or the Secretary, shall have the power and authority to (1) appoint Attorneys-in-fact, and to authorize them to execute on behalf of this Company bonds and other undertakings and (2) remove at any time any such Attorney-in-fact and revoke the authority given.

NATIONAL LIABILITY & FIRE INSURANCE COMPANY (BY-LAWS)

ARTICLE IV

Officers

Section 1. Officers, Agents and Employees:

A. The officers shall be a president, one or more vice presidents, one or more assistant vice presidents, a secretary, one or more assistant secretaries, a treasurer, and one or more assistant treasurers, none of whom shall be required to be shareholders or directors, and each of whom shall be elected annually by the board of directors at each annual meeting to serve a term of office of one year or until a successor has been elected and qualified, may serve successive terms of office, may be removed from office at any time for or without cause by a vote of a majority of the board of directors. The president and secretary shall be different individuals. Election or appointment of an officer or agent shall not create contract rights. The officers of the Corporation shall have such powers and rights and be charged with such duties and obligations as usually are vested in and pertain to such office or as may be directed from time to time by the board of directors; and the board of directors or the officers may from time to time appoint, discharge, engage, or remove such agents and employees as may be appropriate, convenient, or necessary to the affairs and business of the Corporation.

NATIONAL LIABILITY & FIRE INSURANCE COMPANY (BOARD RESOLUTION ADOPTED AUGUST 6, 2014)

RESOLVED, That the President, any Vice President or the Secretary, shall have the power and authority to (1) appoint Attorneys-in-fact, and to authorize them to execute on behalf of this Company bonds and other undertakings and (2) remove at any time any such Attorney-in-fact and revoke the authority given.

FEDERAL INSURANCE COMPANY
STATEMENT OF ASSETS, LIABILITIES AND SURPLUS TO POLICYHOLDERS

Statutory Basis
 December 31, 2021
 (in thousands)

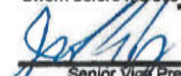
ASSETS		LIABILITIES AND SURPLUS TO POLICYHOLDERS	
Cash and Short Term Investments	\$ (587,306)	Outstanding Losses and Loss Expenses	\$ 8,701,383
United States Government, State and Municipal Bonds	4,271,534	Reinsurance Payable on Losses and Expenses	1,484,198
Other Bonds	5,994,873	Unearned Premiums	2,400,711
Stocks	675,588	Ceded Reinsurance Premiums Payable	366,332
Other Invested Assets	<u>1,647,712</u>	Other Liabilities	<u>498,472</u>
TOTAL INVESTMENTS	<u>12,022,201</u>	TOTAL LIABILITIES	<u>13,451,094</u>
Investments in Affiliates:		Capital Stock	20,980
Great Northern Ins. Co.	414,638	Paid-In Surplus	2,711,474
Vigilant Ins. Co.	354,698	Unassigned Funds	<u>1,903,522</u>
Chubb Indemnity Ins. Co.	183,242	SURPLUS TO POLICYHOLDERS	<u>4,635,976</u>
Chubb National Ins. Co.	190,801		
Other Affiliates	116,373		
Premiums Receivable	1,726,853		
Other Assets	<u>3,078,466</u>		
 		TOTAL LIABILITIES AND SURPLUS	<u>\$ 18,087,070</u>
TOTAL ADMITTED ASSETS	<u>\$ 18,087,070</u>		

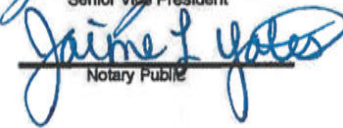
Investments are valued in accordance with requirements of the National Association of Insurance Commissioners. At December 31, 2021, investments with a carrying value of \$509,085,162 were deposited with government authorities as required by law.

STATE OF PENNSYLVANIA
 COUNTY OF PHILADELPHIA

John Taylor, being duly sworn, says that he is Senior Vice President of Federal Insurance Company and that to the best of his knowledge and belief the foregoing is a true and correct statement of the said Company's financial condition as of the 31 st day of December, 2021.

Sworn before me this March 16, 2022


 Senior Vice President


 Notary Public

September 19, 2023
 My commission expires

Commonwealth of Pennsylvania - Notary Seal
 Jaime L. Yates, Notary Public
 Philadelphia County
 My commission expires September 19, 2023
 Commission number 1357070
 Member, Pennsylvania Association of Notaries



BERKSHIRE HATHAWAY SPECIALTY INSURANCE COMPANY

1314 Douglas Street, Suite 1400, Omaha, Nebraska 68102-1944

ADMITTED ASSETS*

	<u>12/31/2021</u>	<u>12/31/2020</u>	<u>12/31/2019</u>
Total invested assets	\$ 6,504,184,299	\$ 5,475,240,588	\$ 5,172,183,338
Premium & agent balances (n)	552,510,359	603,615,506	368,086,012
All other assets	142,765,038	157,897,676	127,524,677
Admitted Assets	\$ 7,199,459,696	\$ 6,236,753,770	\$ 5,667,794,027

LIABILITIES & SURPLUS*

	<u>12/31/2021</u>	<u>12/31/2020</u>	<u>12/31/2019</u>
Loss & loss exp. unpaid	\$ 1,142,116,028	\$ 921,923,948	\$ 634,745,558
Unearned premiums	484,660,143	372,836,160	314,117,549
All other liabilities	1,163,007,684	1,054,922,210	744,738,458
Total Liabilities	2,789,783,855	2,349,682,318	1,693,601,565
Total Policyholders' Surplus	4,409,675,842	3,887,071,452	3,974,192,463
Total Liabilities & Surplus	\$ 7,199,459,697	\$ 6,236,753,770	\$ 5,667,794,028

* Assets, liabilities and surplus are presented on a Statutory Accounting Basis as promulgated by the NAIC and/or the laws of the company's domiciliary state.



APPENDIX 3.2.10

SCC and DPOR Information

SCC AND DPOR INFORMATION TABLE

ATTACHMENT 3.2.10

Project: I-81 Widening MM 221 to MM 225

State Project No.: 0081-007-013

SCC and DPOR Information

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

SCC & DPOR INFORMATION FOR BUSINESSES (RFQ Sections 3.2.10.1 and 3.2.10.2)							
Business Name	SCC Information (3.2.10.1)			DPOR Information (3.2.10.2)			
	SCC Number	SCC Type of Corporation	SCC Status	DPOR Registered Address	DPOR Registration Type	DPOR Registration Number	DPOR Expiration Date
Branch Civil, Inc.	02956183	Corporation	Active	442 Rutherford Ave Roanoke, VA 24016	Class A Contractor	2701029434	2023-03-31
Whitman, Requardt & Associates, LLP	K0003824	Limited Liability Partnership	Active	9030 Stony Point Pkwy, Suite 220, Richmond, VA 23235	Business Entity Branch Office	0411000133	2024-02-29
				1700 Kraft Drive, Suite 1200 Blacksburg, VA 24060	Business Entity Branch Office	0411000608	2024-02-29
				2700 Fair Lakes Circle, Suite 300 Fairfax, VA 22033	Business Entity Branch Office	0411000134	2024-02-29
				1320 Central Park Boulevard, Suite 200 Fredericksburg, VA 22401	Business Entity Branch Office	0411000861	2024-02-29
				1705 Enterprise Drive, Suite 100 Lynchburg, VA 24502	Business Entity Branch Office	0411000774	2024-02-29
				11870 Merchants Walk, Suite 100 Newport News, VA 23606	Business Entity Branch Office	0411000244	2024-02-29

ATTACHMENT 3.2.10

Project: I-81 Widening MM 221 to MM 225

State Project No.: 0081-007-013

SCC and DPOR Information

Whitman, Requardt & Associates, LLP	K0003824	Limited Liability Partnership	Active	5701 Cleveland Street, Suite 620 Virginia Beach, VA 23462	Business Entity Branch Office	0411000908	2024-02-29
				100 5th Street, Suite L-2000 Bristol, TN 37620	Business Entity Branch Office	0411001228	2024-02-29
Rummel, Klepper & Kahl, LLP	K0004178	Limited Liability Partnership	Active	2100 E. Cary Street, Suite 309, Richmond, VA 23223	Business Entity Branch Office	0411000271	2024-02-29
Volkert, Inc.	F1366592	Stock Corporation	Active	6225 Brandon Ave. Suite 540, Springfield, VA 22150	Business Entity	0407002610	2023-12-31
ECS Mid-Atlantic, LLC	S1208216	Limited Liability Company	Active	4004 Hunterstand CT, STE 102, Charlottesville, VA 22911	Business Entity Branch Office	0411000662	2024-02-29
OnPoint Transportation PR	S7190905	Limited Liability Company	Active	N/A – Public Relations Firm			
H&B Surveying and Mapping, LLC	S290560-4	Limited Liability Company	Active	614 Moorefield Park Drive Richmond, VA 23236	Business Entity	0407005432	2023-12-31
				2105 Electric Road Suite 103 Roanoke, VA 24018	Business Entity Branch Office	0411001268	2024-02-29

ATTACHMENT 3.2.10

Project: I-81 Widening MM 221 to MM 225

State Project No.: 0081-007-013

SCC and DPOR Information

DPOR INFORMATION FOR INDIVIDUALS (RFQ Sections 3.2.10.3 and 3.2.10.4)						
Business Name	Individual's Name	Office Location Where Professional Services will be Provided (City/State)	Individual's DPOR Address	DPOR Type	DPOR Registration Number	DPOR Expiration Date
Branch Civil, Inc.	James Austin Kreider, PE	Manassas, VA and Roanoke, VA	Bristow, VA 20136	Professional Engineer	0402050080	2024-06-30
Branch Civil, Inc.	Yisehak Ukumo Shata, PE	Roanoke, VA	Stafford, VA 22556	Professional Engineer	0402056115	2022-08-31
Volkert, Inc.	Ben Harry Lineberry, Jr., PE	Springfield, VA	Springfield, VA 22150	Professional Engineer	0402032576	2024-04-30
Whitman, Requardt & Associates, LLP	Michael A. Russell, PE, DBIA	Bristol, TN	Abingdon, VA 24211	Professional Engineer	0402024814	2024-02-29
Whitman, Requardt & Associates, LLP	Taylor Sprenkle, PWD	Richmond, VA	Richmond, VA 23227	Professional Wetland Delineator	3402000097	2022-09-30

FULL SIZE SCC AND DPOR
SUPPORTING REGISTRATION/
LICENSE DOCUMENTATION

Commonwealth OF Virginia



State Corporation Commission

CERTIFICATE OF GOOD STANDING

I Certify the Following from the Records of the Commission:

That Branch Civil, Inc. is duly incorporated under the law of the Commonwealth of Virginia;

That the date of its incorporation is November 25, 1986;

That the period of its duration is perpetual; and

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

Nothing more is hereby certified.



*Signed and Sealed at Richmond on this Date:
January 16, 2017*

Joel H. Peck
Joel H. Peck, Clerk of the Commission

SCC System Printout: Branch

Entity Information

Entity Name: Branch Civil, Inc.

Entity ID: 02956183

Entity Type: Stock Corporation

Entity Status: **Active**

Series LLC: N/A

Reason for Status: Active and In Good Standing

Formation Date: 11/25/1986

Status Date: 12/14/2021

VA Qualification Date: 11/25/1986

Period of Duration: Perpetual

Industry Code: 0 - General

Annual Report Due Date: N/A

Jurisdiction: VA

Charter Fee: \$0.00

Registration Fee Due Date: Not Required

Registered Agent Information

RA Type: Entity

Locality: HENRICO COUNTY

RA Qualification: BUSINESS ENTITY THAT IS AUTHORIZED TO
TRANSACT BUSINESS IN VIRGINIA

Name: C T CORPORATION SYSTEM

Registered Office Address: 4701 Cox Rd Ste 285, Glen Allen, VA, 23060 - 6808,
USA

DPOR License Lookup License Number 2701029434

License Details

Name	BRANCH CIVIL INC
License Number	2701029434
License Description	Contractor
Firm Type	Corporation
Rank ¹	Class A
Address	442 RUTHERFORD AVE, ROANOKE, VA 24016 *
Specialties²	Highway / Heavy (H/H)
Initial Certification Date	1987-03-12
Expiration Date	2023-03-31

- 1 Refer to the Statutory Definitions (<http://law.lis.virginia.gov/vacode/title54.1/chapter11/section54.1-1100/>) for descriptions of the rank or class of license (A, B, or C) that determines the monetary limits on contracts/projects.
- 2 Refer to the Classification Definitions (<http://lis.virginia.gov/cgi-bin/legp604.exe?000+reg+18VAC50-22-20>) and Specialty Definitions (<http://lis.virginia.gov/cgi-bin/legp604.exe?000+reg+18VAC50-22-30>) for detailed definitions of these classifications and specialties.

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DPOR License Lookup build 1,452 (built 2021-09-14 01:36:33).

** Branch recently moved into a new office, which is located at 3635 Peters Creek Road, Roanoke, VA. Updates have been submitted to DPOR for processing and are currently pending.*

DPOR License Lookup License Number 0402050080

License Details

Name	KREIDER, JAMES AUSTIN
License Number	0402050080
License Description	Professional Engineer License
Rank	Professional Engineer
Address	BRISTOW, VA 20136
Initial Certification Date	2012-06-07
Expiration Date	2024-06-30

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DPOR License Lookup build 1,452 (built 2021-09-14 01:36:33).

DPOR License Lookup License Number 0402056115

License Details

Name	SHATA, YISEHAK UKUMO
License Number	0402056115
License Description	Professional Engineer License
Rank	Professional Engineer
Address	STAFFORD, VA 22556
Initial Certification Date	2018-08-28
Expiration Date	2022-08-31

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DPOR License Lookup build 1,452 (built 2021-09-14 01:36:33).

Commonwealth of Virginia



State Corporation Commission

CERTIFICATE OF FACT

I Certify the Following from the Records of the Commission:

On August 10, 2000, Whitman, Requardt & Associates, LLP, a Maryland partnership, filed in the Clerk's Office of the Commission a statement of registration as a foreign registered limited liability partnership.

As of the date below, this statement of registration is in effect.

Nothing more is hereby certified



*Signed and Sealed at Richmond on this Date:
August 9, 2018*

Joel H. Peck
Joel H. Peck, Clerk of the Commission

SCC System Printout: WRA

Entity Information

Entity Name: WHITMAN, REQUARDT & ASSOCIATES, LLP

Entity ID: K0003824

Entity Type: General Partnership

Entity Status: **Active**

Series LLC: N/A

Reason for Status: GP - LLP Status Only

Formation Date: 08/10/2000

Status Date: 08/10/2000

VA Qualification Date: 08/10/2000

Period of Duration: N/A

Industry Code: 0 - General

Annual Continuation Report Due Date: N/A

Jurisdiction: N/A

Charter Fee: N/A

LLP Status: Yes

Registration Fee Due Date: Not Required

Registered Agent Information

RA Type: Entity

Locality: RICHMOND CITY

RA Qualification: BUSINESS ENTITY THAT IS AUTHORIZED TO
TRANSACT BUSINESS IN VIRGINIA

Name: CORPORATION SERVICE COMPANY

Registered Office Address: 100 Shockoe Slip Fl 2, Richmond, VA, 23219 -
4100, USA

DPOR License Lookup License Number 0411000133

License Details

Name	WHITMAN REQUARDT AND ASSOCIATES
License Number	0411000133
License Description	Business Entity Branch Office Registration
Rank	Business Entity Branch Office
Address	9030 STONY POINT PKWY STE 220, RICHMOND, VA 23235
Initial Certification Date	1996-11-12
Expiration Date	2024-02-29

Related Licenses ¹

License Number	License Holder Name	License Type	Relation Type	License Expiry
0402026613	MADDOX, JOHN PATRICK	Professional Engineer License	Engineering	2024-01-31
0402023410	SELI, DANIEL JOSEPH	Professional Engineer License	Engineering	2024-06-30

Showing 1 to 2 of 2 entries

DPOR License Lookup License Number 0411000608

License Details

Name	WHITMAN REQUARDT & ASSOCIATES LLP
License Number	0411000608
License Description	Business Entity Branch Office Registration
Rank	Business Entity Branch Office
Address	1700 KRAFT DRIVE SUITE 1200, BLACKSBURG, VA 24060
Initial Certification Date	2009-07-20
Expiration Date	2024-02-29

Related Licenses ¹

License Number	License Holder Name	License Type	Relation Type	License Expiry
0402026425	STIPES, BRADFORD JAY	Professional Engineer License	Engineering	2023-10-31

Showing 1 to 1 of 1 entries

DPOR License Lookup License Number 0411000134

License Details

Name	WHITMAN REQUARDT AND ASSOCIATES
License Number	0411000134
License Description	Business Entity Branch Office Registration
Business Type	Corporation
Rank	Business Entity Branch Office
Address	12700 FAIR LAKES CIR #300, FAIRFAX, VA 22033
Initial Certification Date	1996-11-12
Expiration Date	2024-02-29

Related Licenses ¹

License Number	License Holder Name	License Type	Relation Type	License Expiry
0402038189	DONOVAN, ERIN P	Professional Engineer License	Engineering	2023-03-31
0402039368	WESTMAN, DEAN CHARLES	Professional Engineer License	Engineering	2023-11-30
0402032360	FALLIN, KEVIN WILLIAM	Professional Engineer License	Engineering	2023-01-31

Showing 1 to 3 of 3 entries

DPOR License Lookup License Number 0411000861

License Details

Name	WHITMAN, REQUARDT AND ASSOCIATES LLP
License Number	0411000861
License Description	Business Entity Branch Office Registration
Rank	Business Entity Branch Office
Address	1320 CENTRAL PARK BLVD SUITE 224, FREDERICKSBURG, VA 22401
Initial Certification Date	2011-08-25
Expiration Date	2024-02-29

Related Licenses ¹

License Number	License Holder Name	License Type	Relation Type	License Expiry
0402051494	COLEMAN, LEONARD KEELON DESHAE	Professional Engineer License	Engineering	2023-05-31

Showing 1 to 1 of 1 entries

DPOR License Lookup License Number 0411000774

License Details

Name	WHITMAN REQUARDT AND ASSOCIATES LLP
License Number	0411000774
License Description	Business Entity Branch Office Registration
Rank	Business Entity Branch Office
Address	1705 ENTERPRISE DR STE 100, LYNCHBURG, VA 24502
Initial Certification Date	2010-11-15
Expiration Date	2024-02-29

Related Licenses ¹

License Number	License Holder Name	License Type	Relation Type	License Expiry
0402054489	HILL, RODNEY EUGENE	Professional Engineer License	Engineering	2023-02-28
0402035154	HENSCHEL, BRIAN ANDREW	Professional Engineer License	Engineering	2023-01-31

Showing 1 to 2 of 2 entries

DPOR License Lookup License Number 0411000244

License Details

Name	WHITMAN REQUARDT & ASSOCIATES LLP
License Number	0411000244
License Description	Business Entity Branch Office Registration
Business Type	Partnership
Rank	Business Entity Branch Office
Address	11870 MERCHANTS WALK STE 100, NEWPORT NEWS, VA 23606
Initial Certification Date	2000-08-15
Expiration Date	2024-02-29

Related Licenses ¹

License Number	License Holder Name	License Type	Relation Type	License Expiry
0402011862	LANDRUM, J A	Professional Engineer License	Engineering	2023-08-31

Showing 1 to 1 of 1 entries

DPOR License Lookup License Number 0411000908

License Details

Name	WHITMAN, REQUARDT AND ASSOCIATES LLP
License Number	0411000908
License Description	Business Entity Branch Office Registration
Rank	Business Entity Branch Office
Address	5701 CLEVELAND STREET SUITE 620, VIRGINIA BEACH, VA 23462
Initial Certification Date	2012-02-29
Expiration Date	2024-02-29

Related Licenses ¹

License Number	License Holder Name	License Type	Relation Type	License Expiry
0402017635	LEGG, TERRY VINCENT	Professional Engineer License	Engineering	2023-07-31

Showing 1 to 1 of 1 entries

DPOR License Lookup License Number 0411001228

License Details

Name	WHITMAN, REQUARDT AND ASSOCIATES LLP
License Number	0411001228
License Description	Business Entity Branch Office Registration
Rank	Business Entity Branch Office
Address	100 5TH ST STE L2000, BRISTOL, TN 37620
Initial Certification Date	2015-11-06
Expiration Date	2024-02-29

Related Licenses ¹

License Number	License Holder Name	License Type	Relation Type	License Expiry
0402024814	RUSSELL, MICHAELA	Professional Engineer License	Engineering	2024-02-29

Showing 1 to 1 of 1 entries

DPOR License Lookup License Number 0402024814

License Details

Name	RUSSELL, MICHAEL A
License Number	0402024814
License Description	Professional Engineer License
Rank	Professional Engineer
Address	ABINGDON, VA 24211
Initial Certification Date	1994-02-07
Expiration Date	2024-02-29

Related Licenses ¹

License Number	License Holder Name	License Type	Relation Type	License Expiry
0411001228	WHITMAN, REQUARDT AND ASSOCIATES LLP	Business Entity Branch Office Registration	Engineering	2024-02-29

Showing 1 to 1 of 1 entries

DPOR License Lookup License Number 3402000097

License Details

Name	SPRENKLE, TAYLOR SIGMUND
License Number	3402000097
License Description	Professional Wetland Delineator Certification
Rank	Professional Wetland Delineator
Address	RICHMOND, VA 23227
Initial Certification Date	2008-09-05
Expiration Date	2022-09-30

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DPOR License Lookup build 1,452 (built 2021-09-14 01:36:33).

Commonwealth of Virginia



State Corporation Commission

CERTIFICATE OF FACT

I Certify the Following from the Records of the Commission:

On September 25, 2001, a statement of registration as a foreign registered limited liability partnership was filed in the Clerk's Office of the Commission by Rummel, Klepper & Kahl, LLP, a Maryland limited liability partnership.

As of the date below, this statement of registration is in effect.

Nothing more is hereby certified.



*Signed and Sealed at Richmond on this Date:
January 12, 2016*

Joel H. Peck
Joel H. Peck, Clerk of the Commission

SCC System Printout: RK&K

Entity Information

Entity Name: RUMMEL, KLEPPER & KAHL, LLP

Entity ID: K0004178

Entity Type: General Partnership

Entity Status: **Active**

Series LLC: N/A

Reason for Status: GP - LLP Status Only

Formation Date: N/A

Status Date: 09/25/2001

VA Qualification Date: 09/25/2001

Period of Duration: N/A

Industry Code: 0 - General

Annual Continuation Report Due Date: N/A

Jurisdiction: MD

Charter Fee: N/A

LLP Status: Yes

Registration Fee Due Date: Not Required

Registered Agent Information

RA Type: Entity

Locality: HENRICO COUNTY

RA Qualification: BUSINESS ENTITY THAT IS AUTHORIZED TO
TRANSACT BUSINESS IN VIRGINIA

Name: C T CORPORATION SYSTEM

Registered Office Address: 4701 Cox Rd Ste 285, Glen Allen, VA, 23060 - 6808,
USA

DPOR License Lookup License Number 0411000271

License Details

Name	RUMMEL KLEPPER & KAHL LLP
DBA Name	RK&K
License Number	0411000271
License Description	Business Entity Branch Office Registration
Rank	Business Entity Branch Office
Address	2100 EAST CARY ST SUITE 309, RICHMOND, VA 23223
Initial Certification Date	2001-10-19
Expiration Date	2024-02-29

Related Licenses ¹

License Number	License Holder Name	License Type	Relation Type	License Expiry
0402038207	KRONISCH, MIRIAM FLO	Professional Engineer License	Engineering	2023-06-30

Showing 1 to 1 of 1 entries

Commonwealth of Virginia



State Corporation Commission

CERTIFICATE OF GOOD STANDING

I Certify the Following from the Records of the Commission:

That Volkert, Inc., a corporation incorporated under the laws of ALABAMA, is authorized to transact business in the Commonwealth of Virginia;

That the corporation obtained a certificate of authority to transact business in Virginia from the Commission on January 21, 1999; and

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

Nothing more is hereby certified.



Signed and Sealed at Richmond on this Date:

October 27, 2020

A handwritten signature in black ink, appearing to read "Bernard J. Logan".

Bernard J. Logan, Interim Clerk of the

Commission

SCC System Printout: Volkert

Entity Information

Entity Name: Volkert, Inc.
Entity ID: F1366592
Entity Type: Stock Corporation
Entity Status: **Active**
Series LLC: N/A
Reason for Status: Active and In Good Standing
Formation Date: N/A
Status Date: 02/28/2020
VA Qualification Date: 01/21/1999
Period of Duration: Perpetual
Industry Code: 0 - General
Annual Report Due Date: N/A
Jurisdiction: AL
Charter Fee: \$50.00
Registration Fee Due Date: Not Required

Registered Agent Information

RA Type: Entity
Locality: RICHMOND CITY
RA Qualification: BUSINESS ENTITY THAT IS AUTHORIZED TO
TRANSACTION BUSINESS IN VIRGINIA
Name: CORPORATION SERVICE COMPANY
Registered Office Address: 100 Shockoe Slip Fl 2, Richmond, VA, 23219 -
4100, USA

DPOR License Lookup License Number 0407002610

License Details

Name	VOLKERT INC
License Number	0407002610
License Description	Business Entity Registration
Firm Type	Corporation
Rank	Business Entity
Address	6225 BRANDON AVE STE 540, SPRINGFIELD, VA 22150
Initial Certification Date	1983-07-29
Expiration Date	2023-12-31

Related Licenses ¹

License Number	License Holder Name	License Type	Relation Type	License Expiry
0402030669	HESTER, ROBERT FRANK	Professional Engineer License	Engineering	2023-02-28
0406001168	BOEHM, OLIVER	Landscape Architect License	Landscape Architecture	2023-09-30
0402031697	WEAKLEY, KEITH PAUL	Professional Engineer License	Engineering	2024-01-31

Showing 1 to 3 of 3 entries

DPOR License Lookup License Number 0402032576

License Details

Name	LINEBERRY, BEN HARRY JR
License Number	0402032576
License Description	Professional Engineer License
Rank	Professional Engineer
Address	SPRINGFIELD, VA 22150
Initial Certification Date	1998-04-20
Expiration Date	2024-04-30

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DPOR License Lookup build 1,452 (built 2021-09-14 01:36:33).



STATE CORPORATION COMMISSION

Richmond, April 16, 2004

This is to certify that the certificate of organization of

**Engineering Consulting Services - Mid-Atlantic,
LLC**

*was this day issued and admitted to record in this office and that
the said limited liability company is authorized to transact its
business subject to all Virginia laws applicable to the company
and its business. Effective date: April 16, 2004*



State Corporation Commission

Attest:

Joel H. Beck
Clerk of the Commission

**COMMONWEALTH OF VIRGINIA
STATE CORPORATION COMMISSION**

AT RICHMOND, AUGUST 5, 2004

The State Corporation Commission has found the accompanying articles submitted on behalf of

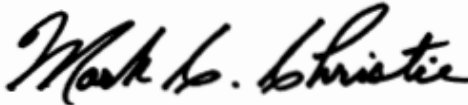
ECS - Mid-Atlantic, LLC
(formerly known as Engineering Consulting Services - Mid-Atlantic, LLC)

to comply with the requirements of law, and confirms payment of all required fees. Therefore, it is ORDERED that this

CERTIFICATE OF AMENDMENT

be issued and admitted to record with the articles of amendment in the Office of the Clerk of the Commission, effective August 5, 2004.

STATE CORPORATION COMMISSION

By 

Commissioner

04-07-21-4045
LLAACPT
CIS0436

SCC System Printout: ECS

Entity Information

Entity Name: ECS Mid-Atlantic, LLC
Entity ID: S1208216
Entity Type: Limited Liability Company
Entity Status: **Active**
Series LLC: No
Reason for Status: Active
Formation Date: 04/16/2004
Status Date: 04/16/2004
VA Qualification Date: 04/16/2004
Period of Duration: Perpetual
Industry Code: 0 - General
Annual Report Due Date: N/A
Jurisdiction: VA
Charter Fee: N/A
Registration Fee Due Date: Not Required

Registered Agent Information

RA Type: Individual
Locality: FAIRFAX COUNTY
RA Qualification: Officer or Director of a Corporation that is a
Member or Manager of the Limited Liability
Company
Name: JAMES A ECKERT
Registered Office Address: 14026 THUNDERBOLT PL STE 100, CHANTILLY, VA,
20151 - 0000, USA

DPOR License Lookup License Number 0411000662

License Details

Name	ECS-MID-ATLANTIC LLC
License Number	0411000662
License Description	Business Entity Branch Office Registration
Business Type	LLC - Limited Liability Company
Rank	Business Entity Branch Office
Address	4004 HUNTERSTAND CT STE 102, CHARLOTTESVILLE, VA 22911
Initial Certification Date	2010-05-25
Expiration Date	2024-02-29

Related Licenses ¹

License Number	License Holder Name	License Type	Relation Type	License Expiry
0402037785	GRESHAM, BENJAMIN SCOTT	Professional Engineer License	Engineering	2023-06-30

Showing 1 to 1 of 1 entries

Commonwealth of Virginia



STATE CORPORATION COMMISSION

Richmond, December 8, 2017

This is to certify that the certificate of organization of

On Point Transportation PR LLC

was this day issued and admitted to record in this office and that the said limited liability company is authorized to transact its business subject to all Virginia laws applicable to the company and its business. Effective date: December 8, 2017



State Corporation Commission

Attest:

Joel H. Beck
Clerk of the Commission

SCC System Printout: OPT

Entity Information

Entity Name: On Point Transportation PR LLC
Entity ID: S7190905
Entity Type: Limited Liability Company
Entity Status: **Active**
Series LLC: No
Reason for Status: Active
Formation Date: 12/08/2017
Status Date: 01/11/2019
VA Qualification Date: 12/08/2017
Period of Duration: Perpetual
Industry Code: 0 - General
Annual Report Due Date: N/A
Jurisdiction: VA
Charter Fee: N/A
Registration Fee Due Date: Not Required

Registered Agent Information

RA Type: Individual
Locality: CHESAPEAKE CITY
RA Qualification: Member of the Virginia State Bar
Name: CHRISTOPHER DAVIS
Registered Office Address: 555 Belaire Ave Ste 340, CHESAPEAKE, VA, 23320 -
4686, USA

Commonwealth of Virginia



STATE CORPORATION COMMISSION

Richmond, April 27, 2009

This is to certify that the certificate of organization of

H & B Surveying and Mapping, LLC

was this day issued and admitted to record in this office and that the said limited liability company is authorized to transact its business subject to all Virginia laws applicable to the company and its business. Effective date: April 27, 2009



State Corporation Commission

Attest:

Joel H. Beck
Clerk of the Commission

SCC ID: S2905604

SCC System Printout: H&B

Entity Information

Entity Name: H & B Surveying and Mapping, LLC

Entity ID: S2905604

Entity Type: Limited Liability Company

Entity Status: **Active**

Series LLC: No

Reason for Status: Active

Formation Date: 04/27/2009

Status Date: 04/27/2009

VA Qualification Date: 04/27/2009

Period of Duration: Perpetual

Industry Code: 0 - General

Annual Report Due Date: N/A

Jurisdiction: VA

Charter Fee: N/A

Registration Fee Due Date: Not Required

Registered Agent Information

RA Type: Individual

Locality: HENRICO COUNTY

RA Qualification: Member of the Virginia State Bar

Name: TIMOTHY H GUARE

Registered Office Address: TIMOTHY H GUARE PLC, 6802 PARAGON PL STE
100, HENRICO, VA, 23230 - 0000, USA

DPOR License Lookup License Number 0407005432

License Details

Name	H & B SURVEYING & MAPPING LLC
License Number	0407005432
License Description	Business Entity Registration
Rank	Business Entity
Address	614 MOOREFIELD PARK DR, RICHMOND, VA 23236
Initial Certification Date	2009-05-05
Expiration Date	2023-12-31

Related Licenses ¹

License Number	License Holder Name	License Type	Relation Type	License Expiry
0403002617	HANSON, ALISON WATSON	Land Surveyor License	Land Surveying	2024-01-31

Showing 1 to 1 of 1 entries

DPOR License Lookup License Number 0411001268

License Details

Name	H & B SURVEYING & MAPPING LLC
License Number	0411001268
License Description	Business Entity Branch Office Registration
Rank	Business Entity Branch Office
Address	2105 ELECTRIC RD SW STE 103, ROANOKE, VA 24018
Initial Certification Date	2016-03-31
Expiration Date	2024-02-29

Related Licenses ¹

License Number	License Holder Name	License Type	Relation Type	License Expiry
0403002929	NASH, JESSICA LEAH	Land Surveyor License	Land Surveying	2024-06-30

Showing 1 to 1 of 1 entries

APPENDIX 3.3.1

Key Personnel Resume Forms

APPENDIX 3.3.1.1
KEY PERSONNEL RESUME
.1 DESIGN-BUILD
PROJECT MANAGER (DBPM)



ATTACHMENT 3.3.1

KEY PERSONNEL RESUME FORM

Brief Resume of Key Personnel anticipated for the Project.
Name & Title: James (Jim) Kreider, PE Project Executive
Project Assignment: Design-Build Project Manager (DBPM)
a. Name of the Firm with which you are employed at the time of submitting SOQ.: Branch Civil, Inc. (Full Time)
b. Employment History: With this Firm <u>3</u> Years With Other Firms <u>13</u> Years Please list chronologically (most recent first) your employment history, position, general responsibilities, and duration of employment for the last fifteen (15) years. (NOTE: If you have less than 15 years of employment history, please list the history for those years you have worked. Project specific experience shall be included in Section (g) below): <u>Branch Civil, Inc., Project Executive (2019 – Present)</u> In his role as Project Executive, Jim is responsible for the management of projects and personnel to ensure that pursuits/operations maintain a high level of control and support. He directs project leads and ensures all project activities are completed on time, within budget, and in accordance with contract specifications. He ensures that projects meet corporate safety, financial and environmental objectives. Jim manages and provides the necessary resources required for the construction projects to be successful and coordinates these resources with other regions of the company, addresses project issues, communicates design progress to owners, and adheres to project schedules. Jim is responsible for all phases of project management, including planning, organizing, staffing, directing, controlling, and executing work. Project types include design-builds (D-Bs), construction of highways, bridges, and heavy civil work for state departments of transportation, federal government agencies, and private corporations. His responsibilities include scheduling and supervising manpower and equipment, owner/subcontractor/supplier contact and coordination, modification/extra work estimating, pricing and negotiation, claims management, EEO compliance and enforcement, and compliance with corporate safety regulations, including training. <u>Lane Construction Corporation, Project Manager (2006-2019)</u> Jim rapidly advanced from an engineer to a project manager during his time with Lane. His responsibilities included the management of the design, construction, quality, and contract administration on a range of projects. He provided strategic planning and execution for projects, led a team of project and construction managers, and worked with design and construction teams on innovative techniques and means and methods to execute projects. He organized and assigned equipment, personnel, and subcontractors to execute each project. He led and implemented safety initiatives, established project objectives, policies, procedures, and performance standards, set and monitored budgets, and ensured that a quality management system was maintained.
SUMMARY OF RELEVANT EXPERIENCE
<ul style="list-style-type: none"> • Over 16 years of transportation construction experience • Extensive D-B project management experience • Extensive experience working with stakeholders and public involvement • Experience in a diverse range of complex projects in crowded urban corridors, including 8 VDOT projects • In-depth understanding of the constructability and QA/QC review process • Extensive experience with interstate widening projects, including bridge rehabilitation and widening
c. Education: Name & Location of Institution(s)/Degree(s)/Year/Specialization: Pennsylvania State University, University Park, PA / 2006 / Bachelor of Science, Civil Engineering
d. Active Registration: Year First Registered/ Discipline/VA Registration #: 2012 / Professional Engineer / Virginia / #0402050080
e. Document the extent and depth of your experience and qualifications relevant to the Project. 1. <i>Note your role, responsibility, and specific job duties for each project, not those of the firm.</i> 2. <i>Note whether experience is with current firm or with other firm.</i> 3. <i>Provide beginning and end dates for each project; projects older than fifteen (15) years will not be considered for evaluation.</i> (List only three (3) relevant projects* for which you have performed a similar function. If additional projects are shown in excess of three (3), the SOQ may be rendered non-responsive. In any case, only the first three (3) projects listed will be evaluated.) * On-call contracts with multiple task orders (on multiple projects) may not be listed as a single project.

1. I-95 Express Lanes Fredericksburg Extension (FredEx) Design-Build, Stafford County, Virginia

Branch Civil, Inc., Design-Build Project Manager, 2021 - Current (Client: Transurban/VDOT)

Roles and Responsibilities: As the DBPM and primary Client liaison, Jim manages the construction of this \$400M D-B project, which extends the I-95 Express Lanes approximately 10 miles south of Route 610 (Garrisonville Road) in Stafford County to the vicinity of Route 17 (I-95 Exit 133). The project includes the construction of seven bridges, several of which impacted environmentally sensitive areas, and two reversible high-occupancy toll lanes and associated tolling gantries built in the existing median of I-95. When complete, the roadway will present a greater variety of travel options, including increased attractiveness of rideshare and transit use and a bypass option for vehicles with multiple occupants. Jim manages utility relocations and right-of-way (ROW) acquisition and integrates each with construction activities. He manages subcontractors and self-performed work, schedules crews, orders materials, ensures quality control in all aspects of construction and generates and analyzed monthly job cost status reports. He also oversees estimating, negotiates owner change order work, and prepares monthly owner reports and payment applications. Jim is actively involved in public relations, prepares and distributes notices for lane closures and major traffic shifts, and assists in the development of presentations at public meetings for residents affected by construction. He assists VDOT in responding to any concerns or issues brought up by the residents. Jim assists in scheduling QA and QC inspections by preparing two-week look-ahead schedules and holding bi-weekly construction progress meetings with VDOT and the inspection staff. He also manages the CPM schedule and prepares monthly schedule updates and narratives for submission to VDOT. *Similarities/Relevance to the I-81 Project: DBPM on a D-B project for VDOT; interstate corridor; median and outside widening; bridge and structure construction; noise barriers; ROW acquisition; ITS; MOT challenges; stakeholder and public involvement; geotechnical challenges; utility coordination and relocations; project management.*

2. I-66 Eastbound Widening Design-Build, Arlington, Virginia

The Lane Construction Corporation, Construction Manager, 2018 – 2019 (Client: VDOT)

Roles and Responsibilities: Jim was the Construction Manager on this \$85M D-B project that widened I-66 EB for approximately four miles from two to three lanes. The lane widening included both median and external widening. His responsibilities included oversight of drainage installation, noise barrier installation, utility relocation, full depth widening, MOT, support of excavation, one new pedestrian bridge, and nine bridge widenings/rehabs. He was involved in the development of the technical proposal and set up of the initial cost- and resource-loaded baseline CPM schedule. He worked with design staff to conduct extensive project pre-planning activities, including production studies, scope sheets, and crew studies. He also coordinated and communicated directly with the owner, the design team, and the Washington Metropolitan Area Transit Authority (WMATA). Jim faced numerous challenges on this project, including an aggressive schedule, multiple stakeholders, work under high-voltage power lines, and limited space for construction activities. Jim assisted Lane's DBPM in overseeing this DB project. The MOT on this urban project was critical to its successful delivery. The ability to move traffic to provide for utility relocation in a timely manner allowed for the project to be completed on time. *Similarities/Relevance to the I-81 Project: D-B project for VDOT; interstate corridor; interchange and roadway improvements; bridge widening and rehabilitation and new construction; noise barriers; railroad coordination; ITS; MOT challenges; stakeholder and public involvement; geotechnical challenges; utility coordination and relocations; project management.*

3. I-66/Route 15 Interchange Reconstruction Design-Build, Prince William County, Virginia

The Lane Construction Corporation, Construction Manager, 2015 - 2017 (Client: VDOT)

Roles and Responsibilities: Jim served as Construction Manager for this \$40M D-B project that reconstructed the I-66/RT 15 Interchange from a standard diamond interchange. The project was awarded three DBIA honors in November 2018, including the *Project of the Year Award*. The project scope of services included drainage installation, noise barrier installation, utility relocation, new pavement section on mainline and ramps, MOT, support of excavation, two semi-integral bridges, and MSE walls. Jim began working on the project several months after receipt of a Notice to Proceed to coordinate directly with the design team to create the most efficient set of design drawings. He set up the initial cost-loaded baseline CPM schedule, worked with design staff to conduct extensive project pre-planning activities, which included providing constructability reviews of all plans; and coordinated directly with the project owner on all project issues, claims, and change orders. While maintaining a presence on-site, Jim assisted Lane's DBPM in overseeing this project. *Similarities/Relevance to the I-81 Project: D-B project for VDOT; interchange and roadway improvements; bridge and structure construction; noise barriers; MOT challenges; stakeholder and public involvement; geotechnical challenges; ROW acquisition; utility coordination and relocations; project management.*

f. For Key Personnel required to be on-site full-time for the duration of construction, provide a current list of assignments, role, and the anticipated duration of each assignment.

Not applicable for this position

APPENDIX 3.3.1.2
KEY PERSONNEL RESUME
.2 ENTRUSTED ENGINEER
IN CHARGE (EIC)



ATTACHMENT 3.3.1

KEY PERSONNEL RESUME FORM

Brief Resume of Key Personnel anticipated for the Project.
Name & Title: Yisehak Shata, PE, Senior Project Manager
Project Assignment: Entrusted Engineer in Charge (EIC)
a. Name of the Firm with which you are employed at the time of submitting SOQ.: Branch Civil, Inc. (Full Time)
b. Employment History: With this Firm <u>17</u> Years With Other Firms <u>4</u> Years Please list chronologically (most recent first) your employment history, position, general responsibilities, and duration of employment for the last fifteen (15) years. (NOTE: If you have less than 15 years of employment history, please list the history for those years you have worked. Project specific experience shall be included in Section (g) below): Branch Civil, Inc., Senior Project Manager (2005 – Present) Yisehak’s general responsibilities include design management and oversight. He leads bi-weekly design meetings attended by all design discipline managers and construction staff to include discussions on schedule, owner review comments, environmental permitting as well as right-of-way (ROW) and utility relocation issues. He manages and performs plan reviews during the design phase of projects including constructability reviews, quantity take-offs, and cost estimates. He serves as the key point of contact with the Owner and leads all weekly and monthly progress meetings; communicates weekly planned activities; negotiates and discusses any issues or change orders, public coordination, and outreach; prepares and updates critical path method (CPM) schedules; sets-up project budgets; and vendor and subcontractor purchasing. He performs daily planning and weekly look-ahead schedules and subcontractor coordination and is responsible for the overall financial management of the project. Finally, he manages, trains, and develops project management staff and field personnel and assists in pursuing new opportunities for the company. He is also currently the Design-Build Coordinator on the I-95 Express Lanes Fredericksburg Extension Design-Build (D-B) in Stafford County (detailed in this resume). His previous roles while at Branch have included the following: <ul style="list-style-type: none"> • Project Manager (2012 – 2018): In this, Yisehak oversaw all phases of project management, including planning, organizing, staffing, directing, controlling, and executing work. • Project Engineer (2005 – 2012): Yisehak was jointly responsible along with the project manager and superintendent for the success of projects by measuring, reporting, and forecasting accurate cost and revenue dollars and quantities.
SUMMARY OF RELEVANT EXPERIENCE
<ul style="list-style-type: none"> • 21 years of transportation construction experience • Experience working on a challenging busy interstate project in live traffic conditions • In-depth understanding of the constructability and QA/QC review process • Design and construction integration experience on 2 VDOT projects • Registered professional engineer in Virginia • Extensive experience working with stakeholders
c. Education: Name & Location of Institution(s)/Degree(s)/Year/Specialization: The University of Maryland, College Park, Maryland / 2014 / Master of Engineering / Project Management Addis Ababa University, Ethiopia / 2001 / Bachelor of Science / Civil Engineering
d. Active Registration: Year First Registered/ Discipline/VA Registration #: 2018 / Professional Engineer / Virginia / # 0402056115, 2013 / Professional Engineer / Maryland / # 44858
e. Document the extent and depth of your experience and qualifications relevant to the Project. <ol style="list-style-type: none"> 1. <i>Note your role, responsibility, and specific job duties for each project, not those of the firm.</i> 2. <i>Note whether experience is with current firm or with other firm.</i> 3. <i>Provide beginning and end dates for each project; projects older than fifteen (15) years will not be considered for evaluation.</i> <p>(List only three (3) relevant projects* for which you have performed a similar function. If additional projects are shown in excess of three (3), the SOQ may be rendered non-responsive. In any case, only the first three (3) projects listed will be evaluated.)</p> <p>* On-call contracts with multiple task orders (on multiple projects) may not be listed as a single project.</p>
1. I-95 Express Lanes Fredericksburg Extension (FredEx) Design Build, Stafford County, VA Branch Civil, Design-Build Coordinator, 2019 - Current (Client: Transurban/VDOT) Roles and Responsibilities: This \$400M D-B project extends the I-95 Express Lanes approximately 10 miles south of Route 610 (Garrisonville Road) in Stafford County to the vicinity of Route 17 (I-95 Exit 133). The scope of services includes seven bridges, several of which impacted environmentally sensitive areas, and two reversible high-occupancy toll (HOT) lanes and associated tolling gantries built in the existing median of I-95. Yisehak <i>works as a direct report to</i>

DBPM Jim Kreider, PE, and is responsible for constant coordination with the design team to confirm that all engineering work was fully integrated into a single, effective working design. He closely monitors and manages the design progress, maintains an action log of critical items, and ensures team focus to address critical issues and ensure design compliance with the D-B Contract, including non-standard VDOT contract provisions. He makes field adjustments and confirms that changes are incorporated into the design when necessary. He facilitates weekly management team meetings with Transurban/95 Express, LLC (the Concessionaire), VDOT, and the Joint Venture Leadership Team to discuss, track, and resolve issues, including contract compliance, coordination with VDOT on adjacent projects, potential change orders, safety issues, and the progress of project milestones. He facilitates coordination with the operations team by performing constructability reviews and providing critical input to develop plans during the design process. He also provides oversight during construction for design changes that are required. ***Similarities/Relevance to the I-81 Project: D-B project with VDOT oversight; interstate corridor; median and outside widening; bridge and structure construction; noise barriers; ROW acquisition; ITS; MOT challenges; stakeholder and public involvement; geotechnical challenges; utility coordination and relocations; project management.***

2. I-95 Express Lanes Southern Terminus Extension Design-Build, Stafford County, VA

Branch Civil, Design-Build Coordinator, 2016 – 2018 (Client: VDOT)

Roles and Responsibilities: This \$37M D-B project extended the existing express lanes (ELs) further south to alleviate congestion challenges at the previous merge point and entry in Stafford County. Approximately 2.2 miles of a reversible lane was constructed starting at the beginning of the current southern end of the I-95 ELs (located north of Garrisonville Road) and included the development of new northbound (NB) and southbound (SB) ramps between the ELs and the general purpose (GP) lanes. Other elements included extensive maintenance of traffic (MOT) in a busy interstate corridor, mass grading, erosion control, drainage, and environmental/permitting. Yisehak worked alongside the lead designer, WRA, to monitor and manage the design progress to ensure that constructability was built into every aspect of the design. He maintained an action log of critical items and ensured team focus to address critical issues. He managed design compliance with the D-B Contract, including non-standard VDOT contract provisions. He provided key management, supervision, subcontractor negotiation/coordination, administration, materials control, procurement, safety, and environmental compliance management, cost accounting, and scheduling. He was jointly responsible for the overall project and managed construction to ensure materials used, and work performed met contract requirements and egress/ingress of construction materials and equipment. Yisehak also played a key role in public and stakeholder involvement. He attended public meetings to ensure that the public was aware of the project's benefits, kept them aware of changes in the traffic pattern, and maintained an open and collaborative relationship. This highly successful project was completed ahead of schedule with a flawless safety record and was the winner of an ACEC-VA 2019 Merit Award. ***Similarities/Relevance to the I-81 Project: D-B project for VDOT with WRA as the Lead Designer; MOT in an interstate corridor; median roadway widening; TMP and traffic control; stakeholder and public involvement; geotechnical; utility coordination and relocations; ITS; noise barriers; QA/QC; CEI; project management.***

3.I-95 Safety Improvements at Route 3 Design-Build, Fredericksburg, VA

Branch Civil, Design-Build Project Manager, 2017 - 2019 (Client: VDOT)

Roles and Responsibilities: This \$18M D-B project modified on- and off-ramps at the interchange of Route 3 and I-95 to reduce vehicle merging and weaving that led to many crashes, injuries, and congestion to traffic on the interstate and local roadways. The project corridor contained an intersection/interchange with the highest daily traffic in the area: 150,000 ADT on I-95, and 84,000 ADT on Route 3. Yisehak managed the discipline leads throughout the D-B process, including design, environmental permitting and compliance, utility coordination, ROW acquisition, QA/QC, and construction. Yisehak was responsible for communication and coordination with VDOT, City of Fredericksburg, permitting agencies, impacted property owners, adjacent developers, and other stakeholders. Given the location of the project and the high daily traffic volume, the overall schedule of the project was the team's largest hurdle. To meet VDOT's aggressive schedule, Yisehak worked in coordination with the lead designer, WRA, to develop a creative approach to permitting by limiting the footprint of land disturbance and developing a separate package for utilities. The team started an Early Works Package earlier than the baseline schedule, which helped gain 45 days of an earlier start to the construction phase. Because of the team's dedication to schedule acceleration, the roadway was delivered one month earlier than the contract completion date with an exemplary safety record. The project was the winner of an HCCA 2018 Safety & Infrastructure Award. ***Similarities/Relevance to the I-81 Project: D-B project with WRA as the Lead Designer; interchange and roadway improvements; MOT in a busy urban corridor; ITS; stakeholder and public involvement; geotechnical challenges; utility coordination and relocations; noise barriers; ROW acquisition; QA/QC; CEI; project management.***

f. For Key Personnel required to be on-site full-time for the duration of construction, provide a current list of assignments, role, and the anticipated duration of each assignment.

I-95 Express Lanes FredEx D-B, Design Integration Manager. Assignment Duration/End: April 2023; Yisehak will be available at the time of contract execution for the I-81 Project.

APPENDIX 3.3.1.3
KEY PERSONNEL RESUME
.3 QUALITY ASSURANCE
MANAGER (QAM)



ATTACHMENT 3.3.1

KEY PERSONNEL RESUME FORM

Brief Resume of Key Personnel anticipated for the Project.		
Name & Title: Ben Harry Lineberry, PE, Regional Project Manager/Resident Engineer		
Project Assignment: Quality Assurance Manager (QAM)		
a. Name of the Firm with which you are employed at the time of submitting SOQ.:		
Volkert, Inc. (Full Time)		
b. Employment History: With this Firm 13 Years With Other Firms 18 Years Please list chronologically (most recent first) your employment history, position, general responsibilities, and duration of employment for the last fifteen (15) years. (NOTE: If you have less than 15 years of employment history, please list the history for those years you have worked. Project specific experience shall be included in Section (g) below):		
<u>Volkert, Inc., Regional Project Manager/Resident Engineer (2014 – Present)</u> Responsible for construction management and inspection services in the mid-Atlantic region, including performing quality assurance management (QAM) services for design-build (D-B) projects; construction inspection; materials, schedule, cost, risk, and document management services; and personnel management, training, and performance.		
<u>Volkert, Inc., Regional Construction Manager (2009 – 2014)</u> Responsible for management of construction inspection projects for VDOT, DDOT, and local governments/agencies in Virginia, Maryland, and the District of Columbia.		
<u>Virginia Department of Transportation (VDOT), Area Construction Engineer (2004 – 2009)</u> Responsible for a district-wide construction program (\$200M+) including a wide range of projects related to interstates, highways, structures, drainage, and maintenance in six counties.		
SUMMARY OF RELEVANT EXPERIENCE		
<ul style="list-style-type: none"> D-B professional with 31 years of experience QAM services on interstate roadway improvement projects with bridges and structures 	<ul style="list-style-type: none"> Expert knowledge of VDOT’s QA/QC requirements as outlined in <i>VDOT’s Minimum requirements for QC and QA on D-B and PPTA Projects</i> 	<ul style="list-style-type: none"> Experience developing, implementing, and enforcing a QA/QC Plan Registered Professional Engineer in the Commonwealth of Virginia
c. Education: Name & Location of Institution(s)/Degree(s)/Year/Specialization:		
Virginia Polytechnic & State University, Blacksburg, VA / Bachelor of Science / 1990 / Civil Engineering		
d. Active Registration: Year First Registered/ Discipline/VA Registration #:		
1998 / Professional Engineer / VA #032576		
e. Document the extent and depth of your experience and qualifications relevant to the Project.		
<ol style="list-style-type: none"> Note your role, responsibility, and specific job duties for each project, not those of the firm. Note whether experience is with current firm or with other firm. Provide beginning and end dates for each project; projects older than fifteen (15) years will not be considered for evaluation. 		
(List only three (3) relevant projects* for which you have performed a similar function. If additional projects are shown in excess of three (3), the SOQ may be rendered non-responsive. In any case, only the first three (3) projects listed will be evaluated.)		
* On-call contracts with multiple task orders (on multiple projects) may not be listed as a single project.		
1. I-64 Southside Widening and High Rise Bridge, Phase I Design-Build, Chesapeake, VA		
Volkert, Inc., Quality Assurance Manager, 2019 – 2022 (Client: VDOT)		
Roles and Responsibilities: This \$430M D-B project widens eight miles of I-64 from four to six lanes and adds a high occupancy toll lane (HOT) in each direction, as well as a part-time shoulder express lane. It also includes a new fixed-span high-rise bridge (HRB), approximately 6300 LF long, with 2800 LF over the Elizabeth River consisting of long-span concrete beams and steel girders. Construction activities have included the installation of 120 66-inch hollow cylindrical piles to support ten HRB piers in the river. The remaining 26 piers and abutments on the HRB are supported by 36-inch, 24-inch, and 18-inch solid, square piles. Hollow steel pipe piles driven into the ground support the six small bridge widenings. 80,000 LF of sound walls along the eight miles of roadway improvements include some that are transparent on the HRB. Other improvements consist of the replacement and realignment of the Great Bridge Boulevard Bridge and over 40,000 LF of storm drainage and 39 BMP facilities. Ben developed and is implementing the D-B QA/QC Plan. He works with the D-B Project Manager (DBPM) and QC Manager to develop the project’s inspection and testing plans for each “approved for construction” (AFC) phase. He provides full-time, daily on-site oversight of the construction quality program with a team of 12 inspectors to verify quality workmanship, adherence to the frequency of material testing requirements, and the contract, specifications, and special provisions. He works closely with field engineers and		

the lead construction managers to develop and review work plans for specific construction tasks and confirms the quality component is incorporated into every plan. Verifies all project documentation is completed correctly and on time; monitors compliance with the Quality Management Plan's (QMPs) provisions for tracking and correcting non-conforming work. Verifies the identification of noncompliance issues and monitoring of corrective actions and addresses all aspects of QA inspection/materials testing. He maintains the materials notebook detailing all materials used are approved and acceptable. Environmental compliance has been a notable challenge given the construction of bridges and eight miles of roadway over the Elizabeth River and through adjacent salt marshes and wetlands with highly erodible sandy soil. With 86,000 vehicles per day, maintenance of traffic (MOT) is a high priority, with close oversight and proper planning to assure the work is performed safely for both the traveling public and the contractors. ***Similarities/Relevance to the I-81 Project: QAM role on a D-B project for VDOT, with Branch as a team member; interstate corridor widening; interchange and roadway improvements; bridge and structure construction; MOT challenges; project management; geotechnical challenges.***

2. I-495 Northern Section Shoulder Lane Use Design-Build, Fairfax County, Virginia

Volkert, Inc., Quality Assurance Manager, 2014 – 2015 (Client: VDOT)

Roles and Responsibilities: This \$16M D-B project included the installation of lane control signals, a shoulder lane monitoring system, CCTV cameras and DMSs, and an ITS architecture to connect to existing VDOT infrastructure and ATMS. The project also included roadway widening, pavement joint repairs, pier protection upgrades at overpasses, barrier modifications, drainage upgrades, sign installation, pavement marking placement, and implementation of a Type C Transportation Management Plan (TMP) to maintain traffic for more than 100,000 motorists per day. Responsibilities: Ben led QA management, inspection, and testing services during the design and construction of the shoulder-lane control system to regulate the use of a 1.8-mile segment of high-volume, high-speed interstate. Ben conducted constructability review and managed QA inspection and testing services, including preparation of the QA/QC Plan, staff coordination/performance, QA inspection and materials testing, timely resolution of noncompliant work and materials, and accurate and up-to-date documentation in compliance with VDOT and FHWA requirements. Coordinated with the VDOT PM and staff and with OIA/OVST inspectors. He resolved challenges, including increasing the superelevation up to one foot across five lanes, often one lane at a time due to nighttime work restrictions. A challenge encountered during construction was a softer subgrade in some shoulder areas than indicated in the bridging documents. Ben resolved the issue by recommending using geotextile to reinforce the soil. ***Similarities/Relevance to the I-81 Project: QAM role on a D-B project for VDOT; interstate corridor; interchange and roadway improvements; bridge and structure upgrades; MOT challenges; ITS; geotechnical challenges; project management.***

3. Middle Ground Boulevard Extension Design-Build, Newport News, Virginia

Volkert, Inc., Quality Assurance Manager, 2012 – 2015 (Client: VDOT)

Roles and Responsibilities: This \$40M project included a new four-lane roadway, a bridge over the CSX Railroad, a sidewalk, a shared-use path, enhanced landscaping and streetlights, an additional turn lane, signal modifications, and traffic control installations. The project also included the installation of 5,100 LF of sanitary force main including 2,770 LF of 36-inch diameter DIP and 2,278 LF of water main. Ben managed QA inspection and testing services, verifying that all work was in conformance with the Approved for Construction Plans and Specifications. He managed staff coordination and performance of QA personnel, including preparation of the QA/QC Plan, managed timely resolution of noncompliant work and materials, and accurate and up-to-date documentation. He coordinated with the D-B contractor, VDOT staff, and key stakeholders. Ben worked with the contractor and QC team to anticipate and resolve field issues before the schedule and budget were affected and to resolve nonconforming materials and construction work in the most efficient and cost-effective manner. For example, facilitated the approval of aggregate material that had not been previously tested at the storage yard so that the work could stay on track. ***Similarities/Relevance to the I-81 Project: QAM role on a D-B project for VDOT; railroad coordination; interchange and roadway improvements; bridge and structure construction; MOT challenges; project management.***

f. For Key Personnel required to be on-site full-time for the duration of construction, provide a current list of assignments, role, and the anticipated duration of each assignment.

I-64 Southside Widening & High Rise Bridge, Phase I, Design-Build, Chesapeake, VA, VDOT; Anticipated completion, December 2022.

APPENDIX 3.3.1.4
KEY PERSONNEL RESUME
.4 DESIGN MANAGER (DM)



ATTACHMENT 3.3.1

KEY PERSONNEL RESUME FORM

Brief Resume of Key Personnel anticipated for the Project.		
Name & Title: Michael (Mike) Russell, PE, DBIA, Vice President		
Project Assignment: Design Manager (DM)		
a. Name of the Firm with which you are employed at the time of submitting SOQ.: Whitman, Requardt & Associates, LLP (Full Time)		
b. Employment History: With this Firm <u>7</u> Years With Other Firms <u>26</u> Years Please list chronologically (most recent first) your employment history, position, general responsibilities, and duration of employment for the last fifteen (15) years. (NOTE: If you have less than 15 years of employment history, please list the history for those years you have worked. Project specific experience shall be included in Section (g) below):		
<u>Whitman, Requardt & Associates, LLP (WRA), Vice President (2014 – Present)</u> Mike is primarily responsible for managing transportation projects in central and western Virginia. He serves as a DM on design-build (D-B) projects and project manager on interstate and other transportation projects in the region.		
<u>Virginia Department of Transportation (VDOT), District Administrator (2011 – 2014)</u> Mike provided executive leadership and direction to the Department’s 623 employees in the 12-county Bristol District, including 87 miles of I-81. He served as an extension of the Commissioner’s Office with direct oversight of a six-year construction program valued at over \$500M and annual maintenance and operation budget averaging \$170M per year. He maintained a high level of involvement in the oversight and design of key projects in the District, providing design guidance and construction claim resolution. He worked proactively with staff to resolve design and construction issues to ensure the advancement of the District’s Construction and Maintenance programs. Major highlights of the construction program were the \$2.8B Coalfields Expressway and Corridor Q projects.		
<u>VDOT, PE Manager (2007 – 2011)</u> Mike was responsible for preliminary engineering, planning, and investment management and led the Salem District’s Preliminary Engineering staff, including Location & Design, Environmental, and Right-of-Way Sections. He was responsible for engineering functions to ensure compliance with all state and federal transportation and environmental standards and policies and led several projects on I-81 during this timeframe. In addition to the P.E. Manager role, Mike led the District’s Planning & Investment Management staff, including those in the Land Use, Land Development, Planning, and Programming areas.		
SUMMARY OF RELEVANT EXPERIENCE		
<ul style="list-style-type: none"> • 33 years of progressive engineering experience • Extensive knowledge of VDOT policies and procedures • Unique understanding of VDOT’s Maintenance needs post construction 	<ul style="list-style-type: none"> • Interstate roadway and bridge widening experience • Extensive experience with the I-81 corridor including the original 81 corridor studies • Management of multiple engineering disciplines and teams 	<ul style="list-style-type: none"> • Excellent problem-solving and leadership abilities • Extensive D-B experience on interstate projects
c. Education: Name & Location of Institution(s)/Degree(s)/Year/Specialization: Virginia Polytechnic Institute and State University, Blacksburg, Virginia / Bachelor of Science / 1989 / Civil Engineering		
d. Active Registration: Year First Registered/ Discipline/VA Registration #: 1994 / Professional Engineer / Virginia / #0402024814 2016 Designated Design-Build Professional (DBIA) / National Registration / #175396		
e. Document the extent and depth of your experience and qualifications relevant to the Project. 1. <i>Note your role, responsibility, and specific job duties for each project, not those of the firm.</i> 2. <i>Note whether experience is with current firm or with other firm.</i> 3. <i>Provide beginning and end dates for each project; projects older than fifteen (15) years will not be considered for evaluation.</i>		

(List only three (3) relevant projects* for which you have performed a similar function. If additional projects are shown in excess of three (3), the SOQ may be rendered non-responsive. In any case, only the first three (3) projects listed will be evaluated.)

* On-call contracts with multiple task orders (on multiple projects) may not be listed as a single project.

1. I-64 Widening Exits 200 to 205 Design-Build, Henrico and New Kent County, Virginia

WRA, Design Manager, 2017 - 2019 (Client: VDOT)

Roles and Responsibilities: Mike was responsible for the roadway design and coordination of all design disciplines for this \$48M VDOT D-B project, which included 4.5 miles of improvements to the existing I-64, widening and rehabilitation of the existing two-lane bridges over the Chickahominy River with three-lane bridges in each direction. The I-64 bridges are approximately 263' long, utilized concrete beams, and were supported by concrete piles. I-64 was widened to the median in order to provide additional capacity from I-295 to the Bottoms Bridge exit. A very detailed MOT plan and TMP were required as part of the project and were delivered as an advanced work package to facilitate the initial construction operations and advance the schedule for the project. Mike continued providing oversight and coordination for all design elements and management of subconsultants while the project was under construction.

Similarities/Relevance to the I-81 Project: *DM role on a D-B project for VDOT with Branch as the Prime Contractor; MOT in an interstate corridor; median roadway widening; bridge and structure construction; box culverts; noise barriers; stakeholder and public involvement; environmental/permitting; geotechnical challenges; utility coordination and relocations; QA/QC; CEI; project management.*

2. Route 58 Lover's Leap PPTA/Design-Build, Patrick County, Virginia

WRA, Design Project Executive, 2020 - Current (Client: VDOT)

Roles and Responsibilities: This challenging \$300M project that constructs improvements to the US Route 58 Corridor from Stuart to Hillsville. This 7.4-mile project presents many challenges, including the construction of retaining walls, drainage structures, two truck escape ramps, and numerous environmental impacts, including more than five miles of streams. As Project Executive, Mike works directly with Branch as the Lead Contractor and WRA's Design Manager to deliver a design that exceeds VDOT's requirements. The project routinely had over 40 engineers, surveyors, environmental scientists, and designers working to deliver the project in three main segments. Mike guided corporate resources from ten WRA offices throughout the mid-Atlantic region and provided overall contract management of the design efforts. **Similarities/Relevance to the I-81 Project:** *D-B project for VDOT with Branch as the Prime Contractor; MOT; structure construction; hydraulics; environmental/permitting; geotechnical challenges; utility coordination and relocations; QA/QC.*

3. I-81 Bridge Replacement over Route 11 Middle Fork Holston River, and Norfolk Southern Railroad, Smyth County, Virginia

WRA, Design Manager, 2016 - 2018 (Client: VDOT)

Roles and Responsibilities: Mike was responsible for all design elements of this \$30M VDOT D-B project that replaced two bridges on I-81 over Route 11, Middle Fork Holston River, and Norfolk Southern Railroad in Smyth County, Virginia. He was responsible for roadway design, and coordination of all individual design elements. He ensured that the design conformed with contract requirements and delivered the project in accordance with the project's QA/QC plan. This project was constructed within an existing ROW, which required a complex MOT plan utilizing the existing median to temporarily carry north and southbound traffic while the existing bridges were replaced. The efficient design replaced twin five-span, bridges with a single 410' three-span structure utilizing a micropile pier configuration. Mike managed an aggressive design schedule that included submitting the Stage 1 Bridge report to VDOT at the Kick-Off Meeting.

Similarities/Relevance to the I-81 Project: *DM role on a D-B project for VDOT in the I-81 Corridor; MOT in an interstate corridor; interchange and roadway improvements; surveying; bridge and structure construction; railroad coordination; stakeholder and public involvement; environmental/permitting; hydraulics; geotechnical challenges; utility coordination and relocations; ROW acquisition; QA/QC; CEI; project management.*

f. For Key Personnel required to be on-site full-time for the duration of construction, provide a current list of assignments, role, and the anticipated duration of each assignment.

Not applicable for this position

APPENDIX 3.3.1.5
KEY PERSONNEL RESUME
.5 CONSTRUCTION
MANAGER (CM)



ATTACHMENT 3.3.1

KEY PERSONNEL RESUME FORM

Brief Resume of Key Personnel anticipated for the Project.		
a. Name & Title: Greg Suttle, Project Manager		
b. Project Assignment: Construction Manager (CM)		
c. Name of the Firm with which you are employed at the time of submitting SOQ.: Branch Civil, Inc. (Full Time)		
d. Employment History: With this Firm 33 Years With Other Firms 2 Years Please list chronologically (most recent first) your employment history, position, general responsibilities, and duration of employment for the last fifteen (15) years. (NOTE: If you have less than 15 years of employment history, please list the history for those years you have worked. Project specific experience shall be included in Section (g) below): <u>Branch Civil, Inc., Project Manager (1998 – Present)</u> Greg is responsible for constructing projects in Branch’s Virginia operations area. His regular duties include quality control (QC), executing work in accordance with “approved for construction” plans/specifications, and ensuring that work follows material and construction requirements. He is also responsible for planning, scheduling, allocating workforce and equipment resources, and managing owner, subcontractor, and supplier contracts. Greg supports EEO compliance and enforcement and adheres to corporate safety regulations and training. He has worked in a similar role on many design-build (D-B) and design-bid-build (D-B-B) projects in Virginia. Those projects have involved interstate, primary and secondary road widening/improvement/relocations, and intersection construction for various state and local departments of transportation, federal agencies, and private corporations. Greg has extensive experience working as a partner with the Virginia Department of Transportation (VDOT) to address public outreach and stakeholder concerns. His daily involvement with project operations creates a solid foundation because of his understanding and working knowledge of the impacts of challenging maintenance of traffic (MOT) issues, geotechnical concerns, and working around environmentally sensitive areas (ESAs). Greg emphasizes workplace safety and training while meeting or exceeding the owner’s expectations. His extensive VDOT construction experience, combined with his knowledge of constructability review and value engineering, will prove to be invaluable to our team throughout all phases of construction of the Project.		
SUMMARY OF RELEVANT EXPERIENCE		
<ul style="list-style-type: none"> Over 35 years of construction experience Management of many construction projects in busy, urban corridors, including interstate widening and bridge/structure construction 	<ul style="list-style-type: none"> Experience performing constructability reviews and VDOT requirements for QA/QC Extensive VDOT experience 	<ul style="list-style-type: none"> Experienced in performing value engineering reviews to pursue savings in time and money for Owners.
e. Education: Name & Location of Institution(s)/Degree(s)/Year/Specialization: West Virginia Institute of Technology / Montgomery, WV / 1987 / Bachelor of Science, Mining Engineering		
f. Active Registration: Year First Registered/ Discipline/VA Registration #: 2003/Virginia DEQ Responsible Land Disturber/No. RDL11212 (exp. 12/17/24) 1995/VDOT Erosion Sediment Control Contractor Certification (ESCCC)/No. 3-00974 (exp. 02/28/2024) 1999/Virginia Blaster – Unrestricted/No. E269250 2013/ACI Concrete Certification/No. 01273969 2019/VDOT Intermediate Work Zone Traffic Control Training and Flagger Certification/No. 022219306		
g. Document the extent and depth of your experience and qualifications relevant to the Project. 1. <i>Note your role, responsibility, and specific job duties for each project, not those of the firm.</i> 2. <i>Note whether experience is with current firm or with other firm.</i> 3. <i>Provide beginning and end dates for each project; projects older than fifteen (15) years will not be considered for evaluation.</i> (List only three (3) relevant projects* for which you have performed a similar function. If additional projects are shown in excess of three (3), the SOQ may be rendered non-responsive. In any case, only the first three (3) projects listed will be evaluated.) * On-call contracts with multiple task orders (on multiple projects) may not be listed as a single project.		

1. Route 3 Widening Design-Build, Culpeper, Virginia

Branch Civil, Inc., Construction Manager, 2015 - 2017 (Client: VDOT)

Role and Responsibilities: Greg was the CM for this \$25M D-B project that widened a five-mile section of Route 3 from a two- to a four-lane divided highway. Greg worked with the designer to perform constructability reviews and provided input on MOT design during the design phase. He also provided guidance for working around environmentally sensitive areas (ESAs) and contributed to developing solutions to geotechnical issues. During construction, Greg worked closely with VDOT to coordinate scheduling and workflow as various project stages became accessible for construction activities. Two critical responsibilities were ROW acquisition and extensive utility coordination and relocations throughout the entire. Greg successfully led the construction team in working around approximately 1,500 linear feet (LF) of ESAs. Greg also created a strategy to work around substantial geotechnical issues, including unsuitable soils, rock, and highly plastic clays. To manage shareholder impacts, Greg effectively managed clear and concise communication with residents and local businesses throughout the construction of this project. He assisted in scheduling QA/QC inspections by preparing two-week look-ahead schedules and holding bi-weekly construction progress meetings with VDOT and inspection staff. He also managed the project's schedule and crafted monthly schedule updates and narratives for submission to VDOT. *Similarities/Relevance to the I-81 Project: CM role on a D-B project for VDOT; roadway improvements; surveying; environmental; drainage and E&SC; stormwater management; traffic control and TMP; stakeholder and public involvement; geotechnical challenges; utility coordination and relocations; ROW acquisition; QA/QC; project management.*

2. Route 3 at I-95 Safety Improvements Design-Build, Stafford County, Virginia

Branch Civil, Inc., Construction Manager, 2017 - 2018 (Client: VDOT)

Roles and Responsibilities: Greg served as the CM for this \$18M D-B project that improved ramps at the US Route 3 interchange with I-95 and widened the existing lanes on US Route 3. In concert with the designer, he worked to develop construction sequencing, MOT plans, and lay down and disposal areas to limit impacts on the traveling public and create safer conditions for site personnel in the project corridor. Greg's involvement with the placement of access points for construction along the ramps and US Route 3 was critical to the timely delivery of construction materials and efficient movement of vehicles through the work zone. Working alongside DBPM Yisehak Shata, PE, and Lead Designer WRA, Greg oversaw all roadway, clearing and grubbing, borrow, undercut excavation, storm drainage, and erosion control installation and maintenance activities. He also managed subcontractors and self-performed work, scheduled crews, ordered materials, ensured QA/QC in all aspects of construction, and generated monthly job cost status reports. *Similarities/Relevance to the I-81 Project: CM role on a D-B project for VDOT with WRA as the Lead Designer; interchange and roadway improvements; MOT in a busy urban corridor; ITS; stakeholder and public involvement; geotechnical challenges; utility coordination and relocations; noise barriers; ROW acquisition; QA/QC; CEI; project management.*

3. I-95 HOT/HOV Express Lanes, Segment 1 Design-Build, Alexandria, Virginia

Branch Civil, Inc., Construction Manager, 2011 – 2015 (Client: VDOT)

Role and Responsibilities: Branch was a key subcontractor for the concessionaire, and Greg functioned as the CM for this \$47M D-B project that included coordination of all roadway activities (including Branch's self-performed work and other roadway subcontractors) for the concessionaire over the nine miles of new I-95 HOT Lanes, which included 1.5+ miles of interstate widening. Greg and the Branch team successfully mitigated similar geotechnical, environmental, and MOT challenges. Greg developed the construction sequencing, MOT plans, interstate widening access points, and laydown areas within the I-95 corridor. A significant part of Greg's focus was spent on managing the MOT plan to maintain a safe separation between the traveling public and construction as well as Incident Management. Greg's involvement with the placement of access points for construction in the median of I-95 along with areas for acceleration and deceleration was critical to the timely delivery of construction materials and efficient movement of vehicles through the work zone. The scope of work Greg oversaw consisted of clearing and grubbing, over 550,000 CY of on-site excavation, 400,000 CY of borrow material, storm drainage, and erosion control installation and maintenance. Greg coordinated all roadway activities with the other trades which included the construction of five new bridges, three widened bridges, 15 bridge/ramp repairs, more than 1,000,000 sf of noise barriers, retaining walls, box culvert extensions, and ITS installation. *Similarities/Relevance to the I-81 Project: CM role on a D-B project for VDOT; median interstate roadway and bridge construction; surveying; environmental; drainage and E&SC; stormwater management; ITS; MOT in an interstate corridor; noise barriers; box culverts; stakeholder and public involvement; geotechnical challenges; utility coordination and relocations; ROW acquisition; QA/QC; project management.*

h. For Key Personnel required to be on-site full-time for the duration of construction, provide a current list of assignments, role, and the anticipated duration of each assignment.

Greg is currently assigned as the Construction Manager for the Balls Ford Road Widening/Improvements Design-Bid-Build Project in Prince William County, which is scheduled for completion in May 2023, which is before the start of construction for the I-81 Project.

APPENDIX 3.4.1

Work History Forms

APPENDIX 3.4.1(a)
WORK HISTORY FORM
LEAD CONTRACTOR

ATTACHMENT 3.4.1(a)
LEAD CONTRACTOR - WORK HISTORY FORM
(LIMIT 1 PAGE PER PROJECT)

a. Project Name & Location	b. Name of the prime design consulting firm responsible for the overall project design.	c. Contact information of the Client or Owner and their Project Manager who can verify Firm's responsibilities.	d. Contract Completion Date (Original)	e. Contract Completion Date (Actual or Estimated)	f. Contract Value (in thousands)		g. Dollar Value of Work Performed by the Firm identified as the Lead Contractor for this procurement (in thousands)
					Original Contract Value	Final or Estimated Contract Value	
Name: I-95 Southern Terminus Extension Design-Build Location: Stafford County, Virginia	Name: Whitman, Requardt & Associates, LLP	Name of Client/Owner: VDOT Phone: 703.259.2362 Project Manager: Susan Shaw Phone: 571.221.5219 Email: Susan.Shaw@VDOT.Virginia.gov	08/2018	11/2017 <i>(completed ahead of schedule)</i>	\$31,000	\$37,000 <i>(increase due to owner-initiated scope changes)</i>	\$37,000

h. Narrative describing the Work Performed by the Firm identified as the Lead Contractor for this procurement. If the Offeror chooses to submit work completed by an affiliated or subsidiary company of the Lead Contractor, identify the full legal name of the affiliate or subsidiary and the role they will have on this Project, so the relevancy of that work can be considered accordingly. The Work History Form shall include only one singular project. Projects/contracts with multiple phases, segments, elements (projects), and/or contracts shall not be considered a single project. Projects/contracts with multiple phases, segments, elements (projects), and/or contracts shall not be claimed as a single project on this form. If the Offeror chooses to submit work performed as a Joint Venture or Partnership, identify how the Joint Venture or Partnership was structured and provide a description of the portion of the work performed only by the Offeror's firm.

The I-95 Express Lanes Southern Terminus Extension (STE) D-B Project extended the existing express lanes (ELs) further south to alleviate congestion challenges at the previous merge point and entry in Stafford County. Approximately 2.2 miles of a reversible lane was constructed starting at the beginning of the current southern end of the I-95 ELs (located north of Garrisonville Road) and included development of new northbound (NB) and southbound (SB) ramps between the ELs and the general purpose (GP) lanes. As prime contractor, Branch oversaw all aspects of design and construction. Branch self-performed all mass grading, erosion control, maintenance of traffic (MOT), drainage, fine grading, base stone placement activities, and contract administration and coordination with QA/QC.

Use of Innovative Design Solutions and Construction Techniques: VDOT's conceptual design for the project included impacting 500 LF of stream on the southern end of the project. Instead, the team's innovative design led to a reinforced soil slope (green wall) and the impact to 500 LF of stream was completely eliminated. This design approach helped expedite the water quality permit application process and saved VDOT approximately \$350,000 that would have been spent to purchase stream credits. Additionally, prior to contract award, VDOT took an innovative approach and obtained the VPDES and water quality permits for the project. VDOT worked with Branch during design development along with the permitting agencies to transfer the permits to Branch. During the design development and permit transfer stage, Branch proceeded at-risk with clearing and grubbing, grading, and drainage installation to accelerate the construction schedule. This proactive permitting approach allowed construction to begin within 45 days of the Notice to Proceed. Branch and WRA maintained a transparent relationship with VDOT and Transurban, which allowed the team to proactively address review and approval of the design, submittals, and overall constructibility. Design and construction of the ITS scope of work were adapted to address Transurban's specific requirements and operational needs. Midway through the project, VDOT added a second lane change order to revise the design, grading, electrical, utility, and overall roadway work to avoid conflicts with a future second lane design. Branch worked with VDOT to successfully negotiate the addition of \$5.6M of work to the project. This additional work was constructed within the same timeline as the original scope of work. All new work had to be completed by the original interim and final milestone dates. As this trust developed, Branch requested to begin work at-risk, ahead of schedule and ahead of Approved for Construction (AFC) plans. This trust continued all the way through closeout, as project stakeholders provided one unified punch list inspection, which was quickly closed out through their combined efforts.

The quality team and Construction Manager worked together to identify quality issues and address them promptly. Branch's early works package included MOT, clearing, and Phase 1 E&SC. VDOT had already obtained a VPDES Construction permit based on the RFP plans, which was issued to Branch with NTP. A revision was made to the VPDES permit based on the team's plans; work proceeded during the processing of the revision. VDOT had also submitted the JPA prior to NTP and the USACE Individual Permit was issued four months after NTP. Branch worked in non-jurisdictional areas before permit acquisition and roadway earthwork began after issuance of the permit. A month after roadway grading began, the team's dedicated ITS subcontractor began installing duct bank in the area where roadway grading was complete. **The project was completed nine months ahead of schedule and received the maximum incentive bonus offered by VDOT.**

Strategies For Limiting Impacts to the Traveling Public, Businesses, and Community: Branch and WRA took a partnering approach to actively engage with VDOT, Transurban, the design team, and other third-party stakeholders early in design development to review plans at various stages and to reduce the amount of time required for review. This coordination proved successful as evidenced by the project being completed ahead of schedule. The design and construction team worked together to develop a Transportation Management Plan (TMP) that not only ensured the safety and flow of the traveling public, but acknowledged VDOT's heavy lane use fees if lanes were disturbed along the I-95 corridor. The team worked to ensure a safe work zone that provided safe ingress and egress into the median at all times. Deliveries into the median were performed only in off-peak hours. Additionally, the TMP ensured that access points into and out of the median had adequate sight distance and proper acceleration and deceleration lengths.

Through proper planning and coordination, Branch did not receive any lane use fees during design, scope validation, or the construction phase of the project. The improvements reduce delays and queues for the NB GP lanes during AM peak, reduce delays and queues for the SB ELs during PM peak, improve overall safety, decrease rear-end collisions by reducing vehicles weaving to enter and exit the lanes (which caused a significantly high incident rate), and increased capacity while reducing congestion within the existing right-of-way (ROW). To widen the roadway, a new left entrance south of the Garrisonville Road overpass (Route 610) was constructed to accommodate NB traffic entering the ELs.

SB traffic using the ELs was able to merge into the GP lanes at a new exit point approximately one mile south of Garrisonville Road. High traffic volumes during peak hours required safe and well-marked access and egress points.

Implementing and Maintaining an Effective QA/QC Plan during Design and Construction: Branch's philosophy is that quality is the responsibility of every worker and is accomplished by using proven checks and balances throughout the course of the project. A job-specific Quality Control Plan (QCP), administered by a dedicated, independent QC Manager (and staff), was created. The QCP included constructability and verification reviews to confirm the design met specifications and conformed to the design plans. Inspection and testing procedures to control the quality of construction work were performed. Submittals were routinely reviewed for completeness and conformance to specifications and major materials were reviewed during the fabrication process.

Effective Communication Strategies with Businesses, Residents, Advocacy Groups, Railroads, and Other Key Stakeholders: Because there were multiple stakeholders involved, developing an open and collaborative relationship was crucial to achieving the common project goals. Public meetings, along with individual local elected officials meetings, were held to describe the benefits of the Project, including the congestion relief that would result in both the NB and SB general purpose lanes upon completion of the Project. Expected construction impacts were also explained. Additional meetings were held with residents to discuss the proposed noise barrier, with discussion including wall heights, wall finishes, and the noise barrier voting process.

Dedication to Safety: Approximately 154,749 man-hours were required to complete this project. **All work was performed with zero lost time incidents.**

- PROJECT SIMILARITIES:**
- VDOT D-B Project with WRA
 - Interstate Roadway Improvements
 - Structures and Noise Barriers
 - MOT with High Traffic Volumes
 - MOT Ingress/Egress to Median
 - Median Construction
 - Geotechnical Challenges
 - Safety and Congestion Concerns
 - Environmental Permitting
 - Third Party Stakeholder Coordination
 - Public Involvement & Outreach
 - E&SC and Stormwater Management
 - Utility Coordination and Relocations
 - Lighting/CCTV Cameras
 - QA/QC
- PROJECT RECOGNITION:**
- Winner of an ACEC-VA 2019 Merit Award
 - Completed nine months ahead of schedule and received the maximum incentive bonus by VDOT
- TEAM PERSONNEL MATCH:**
- Yishak Shata, PE
 - Danny Minnix
 - Mike Russell, PE, DBIA
 - Dana Trone, PE, PTOE
 - Jeff Cheng, PE
 - Mark Vasco, PE
 - Dave Gertz, PE
 - Taylor Sprengle, PWD
 - Les Byrnside, PLS



“During construction, the commitment of all stakeholders to an agreed process for oversight and acceptance, including a single unified punchlist, significantly benefited project success. Also worthy of noting is that throughout the entire D-B delivery process, the team’s agreed commitment to safety was evident. The benefit of this commitment was completion of the entire project with zero lost time incidents. As a result of the combined efforts of BCI, VDOT, and 95 Express, the team was able to successfully deliver the STE ahead of schedule, meeting or exceeding all quality requirements, and with an excellent safety record.”

RICH PREZIOSO
Project Delivery Manager, 95 Express Lanes/Transurban

ATTACHMENT 3.4.1(a)
LEAD CONTRACTOR - WORK HISTORY FORM
(LIMIT 1 PAGE PER PROJECT)

a. Project Name & Location	b. Name of the prime design consulting firm responsible for the overall project design.	c. Contact information of the Client or Owner and their Project Manager who can verify Firm's responsibilities.	d. Contract Completion Date (Original)	e. Contract Completion Date (Actual or Estimated)	f. Contract Value (in thousands)		g. Dollar Value of Work Performed by the Firm identified as the Lead Contractor for this procurement (in thousands)
					Original Contract Value	Final or Estimated Contract Value	
Name: I-64 Widening Exits 200 to 205 (Bottom's Bridge) Design-Build Location: Henrico and New Kent Counties, Virginia	Name: Whitman, Requardt & Associates, LLP	Name of Client/Owner: VDOT Phone: 804.212.8294 Project Manager: Scott Fisher, PE Phone: 804.212.8294 Email: Scott.Fisher@VDOT.Virginia.gov	08/2019	10/2019 <i>(completion date adjusted by VDOT)</i>	\$43,385	\$47,917 <i>(increase due to Owner-directed scope changes and early completion incentive)</i>	\$47,917

h. Narrative describing the Work Performed by the Firm identified as the Lead Contractor for this procurement. If the Offeror chooses to submit work completed by an affiliated or subsidiary company of the Lead Contractor, identify the full legal name of the affiliate or subsidiary and the role they will have on this Project, so the relevancy of that work can be considered accordingly. The Work History Form shall include only one singular project. Projects/contracts with multiple phases, segments, elements (projects), and/or contracts shall not be considered a single project. Projects/contracts with multiple phases, segments, elements (projects), and/or contracts shall not be claimed as a single project on this form. If the Offeror chooses to submit work performed as a Joint Venture or Partnership, identify how the Joint Venture or Partnership was structured and provide a description of the portion of the work performed only by the Offeror's firm.

As the Design-Builder, managing partner in a Joint Venture, and Lead Contractor, Branch was responsible for management and oversight of the construction of this challenging D-B project that included the widening of four miles along I-64 from four lanes to six lanes, widening two existing structures over the Chickahominy River, and rehabilitating the existing structures to accommodate the additional lanes. The additional lane widening took place towards the median in both the WB and EB directions. The scope of services included design and engineering, management and oversight of construction, right-of-way (ROW) acquisition, permitting, utility relocations, public outreach, overall Project administration, and QA/QC. All construction work was performed on a heavily traveled section of I-64, and all lane restrictions were coordinated with VDOT to allow for public notifications of impacts to traffic. Branch was the primary point of contact with the Owner in public relations and getting notices out to traveling motorists, businesses, and residents. Branch was also responsible for creating and monitoring the schedule throughout design and construction. Branch provided the DBPM, Construction Manager, General Superintendent, and a staff of engineers to help manage the project. Branch self-performed all erosion control, grading, drainage, MOT, and stone base construction.

Use of Innovative Design Solutions and Construction Techniques: Environmental compliance was crucial to the project's success. The focus on environmental protection was not overlooked with record-breaking rainfall and rising river levels. Plans were developed in advance to prepare for storms, react during rain events, and prepare to respond after the storm passed. Branch's environmental staff enacted mandatory environmental compliance training for all project office and field personnel. The footprint of the construction of the project was substantially contained within the limits of VDOT's existing ROW. A potential delay to the schedule was discovered with a conflict between a Dominion Energy line and the noise barrier. The Dominion line could not be shut down due to the noise barrier's proximity to the power line's zone of influence. To prevent the delay, the noise barrier posts were designed outside of the zone of influence, and shorter panels were used that could be erected with forklifts. Extreme weather that impacted bridge and roadway construction and additional scope of work pushed the project behind schedule during the early phases of construction. **Additional crews and re-sequencing activities brought the project's completion ahead of the adjusted completion date, earning the maximum early completion incentive from VDOT.**

Strategies For Limiting Impacts to the Traveling Public, Businesses, and Community: The team understood that special attention to MOT would be essential to not only ensure the safety of workers on site but also to provide a safe, well-communicated TMP for the public that would have a minimal impact on this highly congested corridor. Significant elements of this plan were signage, temporary concrete barrier, and carefully planned ingress/egress into the median area. Per the original baseline schedule, the noise barrier was to be installed near the end of the project timeline. The sequence of construction was revised to allow the noise barrier construction to begin early, eliminating a temporary traffic shift.

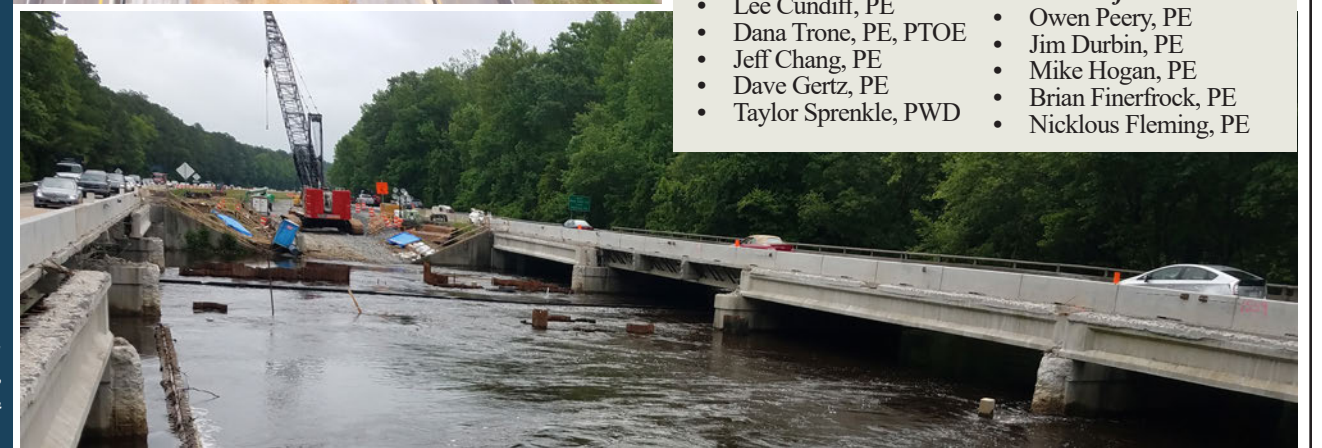
Implementing and Maintaining an Effective OA/OC Plan during Design and Construction: Branch's philosophy is that quality is the responsibility of every worker and is accomplished by using proven checks and balances throughout the course of the project. A job-specific Quality Control Plan (QCP), administered by a dedicated, independent QC Manager (and staff), was created. The QCP included constructability and verification reviews to confirm the design met specifications and conformed to the design plans. Inspection and testing procedures to control the quality of construction work were performed. Submittals were routinely reviewed for completeness and conformance to specifications and major materials were reviewed during the fabrication process.

Effective Communication Strategies with Businesses, Residents, Advocacy Groups, Railroads, and Other Key Stakeholders: This project was highly politically visible for VDOT. The functionality of the final product and the time during which the public would be impacted by construction were essential. The team utilized VDOT's website, social media, multiple message boards, radio ads, mailers, and meetings with police and first responders to manage and respond to the public outreach concerns associated with this project.



"Despite higher than normal river levels, which affected your substructure work on the bridge, pushing the project weeks behind the baseline schedule and the addition of soundwall square footage, Branch kept focused on completing the project within the original schedule. You led the project toward safety and quality while actively partnering with the Department. I appreciate your commitment to the project and look forward to working with you on future projects."

Shane Mann, PE
District Construction Engineer
VDOT Richmond District



- PROJECT SIMILARITIES:**
- VDOT D-B Project with WRA
 - Interstate Roadway Widening
 - Bridge Widening/Rehabilitation
 - Box Culvert Construction
 - MOT with High Traffic Volumes
 - MOT Ingress/Egress to Median
 - Median Construction
 - Safety and Congestion Concerns
 - Environmental Permitting
 - Third Party Stakeholder Coordination
 - Public Involvement & Outreach
 - E&SC and Stormwater Management
 - Noise Barriers
 - Utility Coordination and Relocations
 - Lighting/CCTV Cameras
 - QA/QC
- PROJECT RECOGNITION:**
- Winner of an HCCA 2020 Infrastructure Award
 - Completed ahead of schedule and recipient of the maximum incentive bonus from VDOT
- TEAM PERSONNEL MATCH:**
- | | |
|--------------------------|--|
| • Danny Minnix | Subconsultant Roles: |
| • Mike Russell, PE, DBIA | • Les Byrnside, PLS |
| • Gail Kuttesch, PE | |
| • Jeff Basford, PE | Preparation of Bridging Documents for VDOT: |
| • Lee Cundiff, PE | • Owen Peery, PE |
| • Dana Trone, PE, PTOE | • Jim Durbin, PE |
| • Jeff Chang, PE | • Mike Hogan, PE |
| • Dave Gertz, PE | • Brian Finerfrock, PE |
| • Taylor Sprenkle, PWD | • Nicklous Fleming, PE |

ATTACHMENT 3.4.1(a)
LEAD CONTRACTOR - WORK HISTORY FORM
(LIMIT 1 PAGE PER PROJECT)

a. Project Name & Location	b. Name of the prime design consulting firm responsible for the overall project design.	c. Contact information of the Client or Owner and their Project Manager who can verify Firm's responsibilities.	d. Contract Completion Date (Original)	e. Contract Completion Date (Actual or Estimated)	f. Contract Value (in thousands)		g. Dollar Value of Work Performed by the Firm identified as the Lead Contractor for this procurement (in thousands)
					Original Contract Value	Final or Estimated Contract Value	
Name: I-81 Widening MM 141 to MM 143 Location: Roanoke County, Virginia	Name: Virginia Department of Transportation	Name of Client/Owner: VDOT Phone: 540.387.5320 Project Manager: Chad Corns Phone: 276.692.5320 Email: Chad.Corns@VDOT.Virginia.gov	08/2022	08/2022	\$27,285	\$29,200 <i>(increase due owner-directed changes and early completion incentive)</i>	\$29,200

h. Narrative describing the Work Performed by the Firm identified as the Lead Contractor for this procurement. If the Offeror chooses to submit work completed by an affiliated or subsidiary company of the Lead Contractor, identify the full legal name of the affiliate or subsidiary and the role they will have on this Project, so the relevancy of that work can be considered accordingly. The Work History Form shall include only one singular project. Projects/contracts with multiple phases, segments, elements (projects), and/or contracts shall not be considered a single project. Projects/contracts with multiple phases, segments, elements (projects), and/or contracts shall not be claimed as a single project on this form. If the Offeror chooses to submit work performed as a Joint Venture or Partnership, identify how the Joint Venture or Partnership was structured and provide a description of the portion of the work performed only by the Offeror's firm.

Branch Civil, Inc. (Branch) was the Lead Contractor for this \$29M project that added an additional lane along Northbound (NB) and Southbound (SB) I-81 between Exit 141 (Salem) and Exit 143 (Roanoke) in Roanoke County. Adding additional lanes to the median and outside in both directions alleviates congestion and provides for safer traffic movements along this stretch of I-81, which has heavy truck volumes. The new NB lane begins near the Exit 141 on-ramp and continues with the I-81 NB right lane transitioning to become the Exit 143 off-ramp onto I-581. The new SB lane extends the Exit 143 on-ramp and terminates near exit 141.

Similar to the I-81 MM 221-225 Project, this project involved inside and outside widening for the added lanes along I-81, a heavily traveled interstate where nearly 70,000 vehicles pass through each day. Additionally, the scope of work included elements like those on the I-81 MM 221-225 project, including extensive maintenance of traffic (MOT) operations with multiple traffic shifts, shoulder strengthening, stormwater management, signage and lighting, and environmental construction and management, including the installation of noise barriers and bio-retention facilities. The project also included a completion milestone to expedite traffic opening onto the new lanes before the Christmas holiday of 2021. **Branch exceeded this expectation, opened the new lanes to traffic before the Thanksgiving holiday (30 days early), and received the maximum incentive offered by VDOT to achieve this milestone.**

Use of Innovative Design Solutions and Construction Techniques: Branch has a long history of partnering with VDOT to provide unique solutions to ensure that each project constructed is built safely on time and within budget. One example of this is this project included a unique element of the installation of **more than one mile of bio-retention dry swales in the median of I-81.** This recent technique for stormwater treatment was designated in the design to be constructed near the end of the project.

Branch approached VDOT with an alternative solution to install this work out of the designated sequence of construction. This eliminated several traffic shifts and **provided substantial savings (>\$500K) to VDOT by removing the need to reset traffic barriers later in the project.** Another solution developed was re-sequencing the work to maximize the use of the on site excavation, thus eliminating the project's proposed borrow excavation. This resulted in a **schedule savings of more than 30 days and nearly \$400,000 in cost savings.**

Strategies For Limiting Impacts to the Traveling Public, Businesses, and Community: Branch's approach to every project is to minimize the impacts of our work on the local community and the traveling public. Branch understood that special attention to MOT would be essential not only to ensure the safety of workers on site but also to provide a safe, well-communicated Transportation Management Plan (TMP) for the public that would have a minimal impact on this highly congested corridor. Signage, temporary pavement markings, and carefully planned ingress/egress locations were a few significant elements of this plan. **Our team's re-sequencing approach eliminated over 4,000 dump truck trips from entering and exiting the work zone.** Doing so eliminated numerous lane closures and provided a safer project delivered well ahead of schedule.

Implementing and Maintaining an Effective QA/QC Plan during Design and Construction: Branch's philosophy is that quality is the responsibility of every worker and is accomplished using proven checks and balances throughout the project. These systems were implemented on this project and were formalized in a written job-specific Quality Control Plan (QCP) that included the following elements:

- Constructability and verification reviews to confirm that construction conforms to the design plans.
- Incorporating quality expectations into our crews' daily work plans
- Review of submittals for completeness and conformance to specifications.
- Review of major materials during the fabrication process.
- Procedures for coordinating quality efforts within the team and with VDOT's CEI efforts.

Effective Communication Strategies with Businesses, Residents, Advocacy Groups, Railroads, and Other Key Stakeholders: This was a high-profile project for VDOT, as **it was the first widening project to be constructed under the newly formed I-81 Corridor Improvement Program.** The team provided VDOT regular updates on traffic conditions, notified VDOT of planned lane closures weeks in advance to ensure adequate time to inform the public, and regularly communicated with police and first responders to manage and respond to incidents in the corridor as well as forewarn of upcoming work so that a plan could be developed for the best possible route for the shortest response time.



PROJECT SIMILARITIES:

- VDOT Project in the I-81 Corridor
- Interstate Roadway Widening/Improvements
- Box Culverts, and Noise Barriers
- MOT with High Traffic Volumes
- MOT Ingress/Egress to Median
- Median Construction
- Geotechnical Challenges
- Safety and Congestion Concerns
- Environmental Permitting
- Third Party Stakeholder Coordination
- Public Involvement & Outreach
- E&SC and Stormwater Management, including Bioretention Basins in the Median
- Utility Coordination and Relocations
- Lighting/CCTV Cameras

PROJECT RECOGNITION:

- Completed ahead of schedule and recipient of maximum incentive bonus

TEAM PERSONNEL MATCH:

- Yisachak Shata, PE
- Danny Minnix
- David Scott
- Chad Sutton

APPENDIX 3.4.1(b)
WORK HISTORY FORM
LEAD DESIGNER

ATTACHMENT 3.4.1(b)
LEAD DESIGNER - WORK HISTORY FORM
(LIMIT 1 PAGE PER PROJECT)

a. Project Name & Location	b. Name of the prime/ general contractor responsible for overall construction of the project.	c. Contact information of the Client and their Project Manager who can verify Firm's responsibilities.	d. Construction Contract Start Date	e. Construction Contract Completion Date (Actual or Estimated)	f. Contract Value (in thousands)		g. Design Fee for the Work Performed by the Firm identified as the Lead Designer for this procurement.(in thousands)
					Construction Contract Value (Original)	Construction Contract Value (Actual or Estimated)	
Name: I-64 Widening Exits 200 to 205 (Bottom's Bridge) Design-Build Location: Henrico and New Kent Counties, Virginia	Name: Corman-Branch, a Joint Venture	Name of Client/Owner: VDOT Phone: 804.212.8294 Project Manager: Scott Fisher, PE Phone: 804.212.8294 Email: Scott.Fisher@VDOT.Virginia.gov	07/2017	08/2019	\$43.385	\$47,917 <i>(increase due to Owner-directed scope changes and early completion incentive)</i>	\$3,631

h. Narrative describing the Work Performed by the Firm identified as the Lead Designer for this procurement. Include the office location(s) where the design work was performed and whether the firm was the prime designer or a subconsultant. The Work History Form shall include only one singular project. Projects/contracts with multiple phases, segments, elements (projects), and/or contracts shall not be considered a single project. Projects/contracts with multiple phases, segments, elements (projects), and/or contracts shall not be claimed as a single project on this form.

WRA was the Prime design firm responsible for the final engineering design documents and approvals for this project that widened I-64 between Exits 200 and 205 in Henrico County and New Kent County, Virginia. The scope of services involved the addition of one 12-foot-wide lane and one 10-foot-wide shoulder (6-foot graded, 4-foot paved) within the median in each direction. The project corridor also included two DMV weigh stations (one in each direction) with pedestrian tunnels in between. The acceleration and deceleration lanes at each weigh station were extended and the pedestrian tunnels were connected. The limits of the project were from I-295 (Exit 200) to Route 249 (Exit 205) for a total length of approximately 4.5 miles.

The project was led by the WRA Richmond, VA office, and additional design support was performed from the Baltimore, MD office. Services included highway design, hydrologic and hydraulic design, stormwater management (SWM) design, erosion and sediment control (E&SC) design, geotechnical engineering, pavement evaluation and design, noise analysis and noise barrier design, maintenance of traffic (MOT), signing, lighting, pavement markings, bridge, retaining walls, utility relocation/coordination, public involvement, permitting, and coordination with project stakeholders.

Use of Innovative Design Solutions and Construction Techniques:

- **Bridge Engineering:** The project included the design, repair, and widening of two existing bridges (B-624 and B-625) over the Chickahominy River. Each of the existing bridges consisted of four simple span AASHTO girders, with three intermediate piers for a total length of 280 feet. The widened portion of the bridge structure modified the crown point of the existing roadway, which required coordination with the roadway design and special detailing on the bridge structure to accommodate this modification. In addition to the widening, the existing concrete decks were removed and replaced along with rehabilitation of all elements, which remained in place. The widened piers and abutments were supported on deep pile foundations that accounted for scour. The final configuration detailed the widened bridge such that it appears that it was built with the original 1960s bridge structure.
- **ITS/Lighting/Signing Integration:** The ITS-related scope of work included the installation of two ITS conduits and a 96-count fiber SMFO communications cable on the eastbound shoulder between the west project limit and the existing CCTV at MM 203.4 and continuing to the easternmost CCTV. The project also included the installation of three additional traffic monitoring cameras within the project limits. Additional lighting was coordinated with the DMV and installed along the extended weigh station acceleration/deceleration lanes. The project also included signing and pavement markings, including seven overhead sign structures.
- **Hydraulic Analysis and SWM:** An H&HA was completed for the bridges over the Chickahominy River. Two SWM detention basins were constructed within the median of I-64. In both locations, these were graded beyond the clear zone to eliminate the need for guardrail and additional impervious pavement.
- **Geotechnical Analysis and Design:** Geotechnical services included pavement and foundation design services (for bridge, retaining walls, and noise barriers) and slope recommendations. Investigations were performed to ensure the shoulders could accommodate temporary traffic shifts.
- **Noise Walls:** WRA performed noise data collection and analyses to confirm the preliminary noise barrier limits in the conceptual plans were appropriate and required. As a result, the noise barrier wall was extended to a total length of 6,700 LF, much of which was constructed on retaining wall panels.

Strategies For Limiting Impacts to the Traveling Public, Businesses, and Community: WRA's With I-64 being one of the most heavily traveled corridors on the east coast, MOT requirements for the work zone were restrictive with significant penalties for impacts to I-64. Prior to constructing the pavement widening, portions of the outside shoulders were strengthened to accommodate a traffic shift. Once the widening was complete, traffic was shifted onto the new pavement while outside ramp lengthening, noise barrier construction, and clearing were completed. Because of the high volume of traffic, and with coordination with the VDOT Regional Traffic Engineer, the speed limit was reduced during construction. Work requiring lane closures on I-64 was limited to nights and carefully coordinated with the regional traffic operations center and emergency responders.

Implementing and Maintaining an Effective QA/QC Plan during Design and Construction: As part of every D-B project WRA develops the design section of the project's QA/QC Plan. WRA's management requires strict adherence to the QA/QC Plan including "certifications" by the designers and QA/QC reviewers that plans were developed and reviewed in accordance with the QA/QC plan. As the project's overall

schedule is developed the team ensures adequate time is allotted to complete the QA/QC process.

Effective Communication Strategies with Businesses, Residents, Advocacy Groups, Railroads, and Other Key Stakeholders: An Advertising and Marketing Plan was utilized in collaboration with VDOT communications staff. Project boards depicting plans, design, and other visual aids, public meetings throughout the project, and radio and interactive media coverage were used throughout design and construction. Communication with property owners adjacent to the DMV weigh stations and the noise barrier was ongoing throughout the project's construction.



PROJECT SIMILARITIES:

- VDOT D-B Project with Branch
- Interstate Roadway Widening
- Bridge Widening/Rehabilitation
- Box Culvert Construction
- MOT with High Traffic Volumes
- MOT Ingress/Egress to Median
- Median Construction
- Safety and Congestion Concerns
- Environmental Permitting
- Third Party Stakeholder Coordination
- Public Involvement & Outreach
- E&SC and Stormwater Management
- Noise Barriers
- Utility Coordination and Relocations
- Lighting/CCTV Cameras
- QA/QC

PROJECT RECOGNITION:

- Winner of an HCCA 2020 Infrastructure Award
- Completed ahead of schedule and recipient of the maximum incentive bonus from VDOT

TEAM PERSONNEL MATCH:

- Mike Russell, PE, DBIA **Subconsultant Roles:**
- Gail Kuttesch, PE
- Jeff Basford, PE
- Lee Cundiff, PE
- Dana Trone, PE, PTOE
- Jeff Chang, PE
- Dave Gertz, PE
- Taylor Sprenkle, PWD
- Danny Minnix
- Les Byrnside, PLS
- Preparation of Bridging Documents:**
- Owen Peery, PE
- Jim Durbin, PE
- Mike Hogan, PE
- Brian Finerfrock, PE
- Nicklous Fleming, PE





ATTACHMENT 3.4.1(b)
LEAD DESIGNER - WORK HISTORY FORM
(LIMIT 1 PAGE PER PROJECT)

a. Project Name & Location	b. Name of the prime/ general contractor responsible for overall construction of the project.	c. Contact information of the Client and their Project Manager who can verify Firm's responsibilities.	d. Construction Contract Start Date	e. Construction Contract Completion Date (Actual or Estimated)	f. Contract Value (in thousands)		g. Design Fee for the Work Performed by the Firm identified as the Lead Designer for this procurement.(in thousands)
					Construction Contract Value (Original)	Construction Contract Value (Actual or Estimated)	
Name: I-81 over Route 11, Norfolk Southern Railway, and Middle Fork Holston River Design-Build Location: Smyth County, Virginia	Name: Orders Construction Company, Inc.	Name of Client/Owner: VDOT Phone: 276.781.6118 Project Manager: Rebecca Bane, PE Phone: 276.484.9338 Email: Becky.Bane2@VDOT.Virginia.gov	04/2019	05/2022	\$29,982	\$29,982	\$2,350

h. Narrative describing the Work Performed by the Firm identified as the Lead Designer for this procurement. Include the office location(s) where the design work was performed and whether the firm was the prime designer or a subconsultant. The Work History Form shall include only one singular project. Projects/contracts with multiple phases, segments, elements (projects), and/or contracts shall not be considered a single project. Projects/contracts with multiple phases, segments, elements (projects), and/or contracts shall not be claimed as a single project on this form.

WRA was the Lead Designer for this 0.7-mile, \$30M design-build (D-B) bridge replacement project in VDOT's Bristol District. This project is *directly relevant to the I-81 Widening project* from several perspectives, including:

- Bridge construction over roadways, water ways, and railroad lines.
- Geometric interstate design to not preclude future widening in the I-81 corridor.
- Development of complex construction sequencing and maintenance of traffic (MOT) schemes that incorporated the use of temporary wire walls and special design median barrier to accommodate the bifurcated I-81 northbound (NB) and southbound (SB) travel lanes.
- Design of innovative drainage and stormwater management facilities.
- Cost-effective structural designs that reduce construction costs and property impacts.

WRA provided engineering support throughout the construction phase.

Use of Innovative Design Solutions and Construction Techniques: WRA's design simplified project construction by adjusting the RFP Conceptual alignment with shorter connections to existing I-81 on both sides of the replacement bridges. The standard super-elevation of the existing horizontal curves within the project area is being upgraded to meet current VDOT standards and improve driver comfort and expectations as they approach and depart the bridge in both directions. This design improvement also eliminated the widening of I-81 NB to the outside (as proposed by the RFP Conceptual Design), simplifying construction and MOT, *saving VDOT an estimated \$1M.*

Strategies For Limiting Impacts to the Traveling Public, Businesses, and Community: WRA's design feature was a bridge replacement structure with a constant 2% cross slope in the same direction for both I-81 NB and SB. This resulted in smoother and safer transitions to the bridge, especially in the NB direction. An additional benefit of this design improvement was an increased vertical clearance over Route 11 by raising, instead of lowering (as the RFP plans depicted), the eastern half of the bridge. The refined I-81 profile, modified bridge cross slope, increased vertical clearance to achieve the required vertical clearance over both Route 11 and the Norfolk Southern Railway (NSR), and eliminated unnecessary reconstruction of Route 11, *saving VDOT an estimated \$1.5M.*

WRA's design reflected innovative drainage and stormwater management techniques that reduced initial project cost and long-term maintenance considerations. The final project design combined multiple culverts into a single crossing of I-81 and combined multiple outfalls of the median drainage into a single outfall for each side of the bridge. *WRA's design eliminated 11 RFP-plan proposed cross pipes (directional bores) beneath I-81 and/or outlet pipes beyond the I-81 NB and SB shoulders.*

WRA's stormwater management design incorporated Virginia Department of Environmental Quality (DEQ) Part II-B Regulations (Runoff Reduction Method) and Nutrient Credits, hydrologic and hydraulic analysis (H&HA) "No Rise" modeling, scour analysis of major stream crossing, and design of storm sewer and open channel. The project design also required innovative design of temporary and permanent drainage systems to accommodate MOT operations, permanent conditions, and to reduce the number of construction operations to transition from temporary to permanent conditions.

Implementing and Maintaining an Effective QA/QC Plan during Design and Construction: As part of every D-B project WRA develops the design section of the project's QA/QC Plan. WRA's management requires strict adherence to the QA/QC Plan including "certifications" by the designers and QA/QC reviewers that plans were developed and reviewed in accordance with the QA/QC plan. As the project's overall schedule is developed the team ensures adequate time is allotted to complete the QA/QC process.

Effective Communication Strategies with Businesses, Residents, Advocacy Groups, Railroads, and Other Key Stakeholders: The primary third-party stakeholders for the project were Smyth County and first responders including the Virginia State Police and Smyth County Sheriff's Office. The project staff maintained open lines of communication with all stakeholders as required by the project's Transportation Management Plan. The very rural setting and nature of the traffic required the primary communication with the public to be through the dynamic message boards controlled by the Traffic Operations Center. Careful coordination with the Norfolk Southern Railway was required to meet their stringent requirements for the project, especially concerning stormwater.



- PROJECT SIMILARITIES:**
- VDOT D-B Project in I-81 Corridor
 - Interstate Roadway Improvements
 - Structures/Interstate Bridge Replacements
 - MOT with High Traffic Volumes
 - Geotechnical Challenges
 - Railroad Coordination
 - Safety and Congestion Concerns
 - Hydraulics and Stormwater Management
 - Environmental Permitting
 - Public Involvement & Outreach
 - Erosion and Sediment Control & Stormwater Management
 - Utility Coordination and Relocations
 - Earthwork, Grading, and Drainage
 - Project Management
 - Construction Engineering & Inspections
 - QA/QC
- TEAM PERSONNEL MATCH:**
- Mike Russell, PE, DBIA
 - Brad Stipes, PE
 - Gail Kuttesch, PE
 - Jeff Basford, PE
 - Lee Cundiff, PE
 - Dana Trone, PE, PTOE
 - Dave Gertz, PE
 - Taylor Sprenkle, PWD
 - Bob Jackson



ATTACHMENT 3.4.1(b)
LEAD DESIGNER - WORK HISTORY FORM
(LIMIT 1 PAGE PER PROJECT)

a. Project Name & Location	b. Name of the prime/ general contractor responsible for overall construction of the project.	c. Contact information of the Client and their Project Manager who can verify Firm's responsibilities.	d. Construction Contract Start Date	e. Construction Contract Completion Date (Actual or Estimated)	f. Contract Value (in thousands)		g. Design Fee for the Work Performed by the Firm identified as the Lead Designer for this procurement.(in thousands)
					Construction Contract Value (Original)	Construction Contract Value (Actual or Estimated)	
Name: I-81 Bridges over Buffalo Creek Location: Rockbridge County, Virginia	Name: Fairfields Echols, LLC (Fairfield Skanska, Inc.)	Name of Client/Owner: VDOT Phone: 540.332.7724 Project Manager: Wayne Nolde Phone: 540.332.7724 Email: Wayne.Nolde@VDOT.Virginia.gov	08/2004	07/2007	\$27,151	\$28,897 <i>(increase due to Owner-approved change orders)</i>	\$2,221

h. Narrative describing the Work Performed by the Firm identified as the Lead Designer for this procurement. Include the office location(s) where the design work was performed and whether the firm was the prime designer or a subconsultant. The Work History Form shall include only one singular project. Projects/contracts with multiple phases, segments, elements (projects), and/or contracts shall not be considered a single project. Projects/contracts with multiple phases, segments, elements (projects), and/or contracts shall not be claimed as a single project on this form.

The project required a detailed hydraulic analysis of Buffalo Creek to ensure the project had no impact to the 100-year flood elevation. Additionally, the analysis included the evaluation of temporary causeways into the stream during construction. Three stormwater management facilities were designed for the project and all existing corrugated metal drainage pipes were replaced requiring the boring and jacking of several pipes. The project also included the design of the extension of two box culverts.

WRA provided all geotechnical engineering services for the project, which included an extensive testing and boring program to locate potential karst features. WRA's geologists performed extensive site visits and used dye testing to identify underground stream features that may have impacted the project design. At the Buffalo Creek northbound (NB) bridge, it was determined the existing median contained a major underground stream network. **The bridge and roadway improvements were shifted to the outside of the existing northbound I-81 lanes to avoid the karst features.** WRA provided a detailed geotechnical report including the design of major embankments, rock cut slopes, and bridge foundations.

The structural design of the two I-81 bridges over the Buffalo Creek gorge with a depth well over 100' on I-81 was the main focus of the design. The bridges were on independent alignments and grades with approximately 1,000' distance between the roadways. The NB bridge design presented additional challenges because of the requirement for the bridge to be constructed in two stages just downstream from the existing bridge, as well as the site topography. Alignment studies also revealed the need to raise the profiles of the bridges by approximately 8' to meet current Federal Highway Administration (FHWA) Interstate Design Standards.

Use of Innovative Design Solutions and Construction Techniques: The design consisted of continuous hybrid steel plate girder bridges with the following span configurations: NB Bridge: 137'-166'-166'-137' = 606'; and the Southbound (SB) Bridge: 138'-154'-154'-138' = 584'. The NB Bridge was on a curved alignment, while the SB Bridge had a tangent alignment. Both bridges required tall piers of up to 110 feet in height due to the depth of the gorge. The Buffalo Creek bridges featured an innovative design element for the treatment of the deck joints at the abutments. The ends of the steel girders are encased in a concrete diaphragm that is integral with the deck and located just beyond the bearings. The deck joints were tooth expansion joints that were located on the abutment side of the concrete diaphragm. VDOT included the detail in the Design Guidelines as a special alternative joint detail known as the Virginia Abutment. The design of the bridge was carefully coordinated with VDOT to ensure that it would accommodate the future widening of I-81 to four lanes in each direction.

Strategies For Limiting Impacts to the Traveling Public, Businesses, and Community: The sequence of construction and maintenance of traffic (MOT) required all existing travel lanes to remain open during construction. This required a phased construction of the bridges. The Buffalo Creek NB bridge was constructed in two phases, while the SB bridge was shifted into the median and constructed. WRA provided all presentation materials and participated in the Design Public Hearing for the project.

Implementing and Maintaining an Effective QA/QC Plan during Design: As part of every D-B project WRA develops the design section of the project's QA/QC Plan. WRA's management requires strict adherence to the QA/QC Plan including "certifications" by the designers and QA/QC reviewers that plans were developed and reviewed in accordance with the QA/QC plan. As the project's overall schedule is developed the team ensures adequate time is allotted to complete the QA/QC process.

Effective Communication Strategies with Businesses, Residents, Advocacy Groups, Railroads, and Other Key Stakeholders: While routinely assisting VDOT staff with public inquiries, WRA also provided all presentation materials and participated in the Design Public Hearing for the project. Additionally, extensive community outreach throughout the I-81 corridor took place during the original I-81 studies during the late 1990s.



- PROJECT SIMILARITIES:**
- VDOT Project in I-81 Corridor
 - Interstate Roadway Improvements
 - Structures/Interstate Bridge Replacements
 - MOT with High Traffic Volumes
 - Geotechnical Challenges with Karst Features
 - Safety and Congestion Concerns
 - Hydraulics and Stormwater Management
 - Environmental Permitting
 - Public Involvement & Outreach
 - Erosion and Sediment Control & Stormwater Management
 - Accommodating Future Widening
 - Earthwork, Grading, and Drainage
 - Project Management
 - Construction Engineering & Inspections
- PROJECT RECOGNITION:**
- VDOT Virginia Statewide Construction Quality Award\NPHQ Breaking The Mold Award
 - ACEC Grand Award For Design Excellence
- TEAM PERSONNEL MATCH:**
- Lee Cundiff, PE
 - Dave Gertz, PE
 - Jeff Basford, PE
 - Mark Vasco, PE
- Preparation of the I-81 Corridor Study:**
- Mike Russell, PE, DBIA



 **BRANCH
CIVIL**

 **WRA**

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