

STATEMENT OF **QUALIFICATIONS**

A DESIGN-BUILD PROJECT

Warrenton Southern Interchange US 15/17/29

From: Route 15/17/29 & Route 15/17/29 Business

To: 1.0 Mile South of Route 15/17/29 & Route 15/17/29 Business

Fauquier County, Virginia

State Project No.: 0029-030-121, P101, R201, C501, B616

Federal Project No.: STP-032-7 (032)

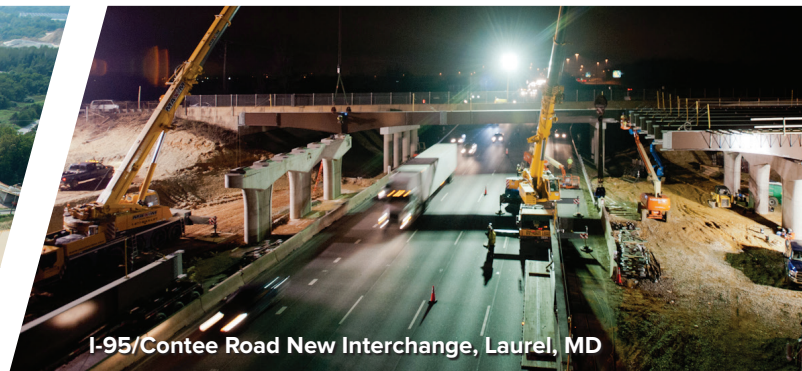
Contract ID No.: C00077384DB100

Date: June 2, 2017



ATTACHMENT 3.1.2

STATEMENT OF QUALIFICATIONS CHECKLIST AND CONTENTS



ATTACHMENT 3.1.2

Project: 0029-030-121, P101, R201, C501, B616

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	<i>i- iii</i>
Acknowledgement of RFQ, Revision and/or Addenda	Attachment 2.10 (Form C-78-RFQ)	Section 2.10	no	<i>iv</i>
Letter of Submittal (on Offeror's letterhead)				
Authorized Representative's signature	NA	Section 3.2.1	yes	1
Offeror's point of contact information	NA	Section 3.2.2	yes	1
Principal officer information	NA	Section 3.2.3	yes	1
Offeror's Corporate Structure	NA	Section 3.2.4	yes	1
Identity of Lead Contractor and Lead Designer	NA	Section 3.2.5	yes	1
Affiliated/subsidiary companies	Attachment 3.2.6	Section 3.2.6	no	Appx. 3.2.6
Debarment forms	Attachment 3.2.7(a) Attachment 3.2.7(b)	Section 3.2.7	no	Appx. 3.2.7
Offeror's VDOT prequalification evidence	NA	Section 3.2.8	no	Appx. 3.2.8
Evidence of obtaining bonding	NA	Section 3.2.9	no	Appx 3.2.9

ATTACHMENT 3.1.2

Project: 0029-030-121, P101, R201, C501, B616

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	Appx. 3.2.10
Full size copies of SCC Registration	NA	Section 3.2.10.1	no	Appx. 3.2.10
Full size copies of DPOR Registration (Offices)	NA	Section 3.2.10.2	no	Appx. 3.2.10
Full size copies of DPOR Registration (Key Personnel)	NA	Section 3.2.10.3	no	Appx. 3.2.10
Full size copies of DPOR Registration (Non-APELSCIDLA)	NA	Section 3.2.10.4	no	N/A
DBE statement within Letter of Submittal confirming Offeror is committed to achieving the required DBE goal	NA	Section 3.2.11	yes	1
Offeror's Team Structure				
Identity of and qualifications of Key Personnel	NA	Section 3.3.1	yes	2 - 5
Key Personnel Resume – DB Project Manager	Attachment 3.3.1	Section 3.3.1.1	no	Appx. 3.3.1
Key Personnel Resume – Quality Assurance Manager	Attachment 3.3.1	Section 3.3.1.2	no	Appx. 3.3.1
Key Personnel Resume – Design Manager	Attachment 3.3.1	Section 3.3.1.3	no	Appx. 3.3.1
Key Personnel Resume – Construction Manager	Attachment 3.3.1	Section 3.3.1.4	no	Appx. 3.3.1
Organizational chart	NA	Section 3.3.2	yes	5
Organizational chart narrative	NA	Section 3.3.2	yes	3

ATTACHMENT 3.1.2

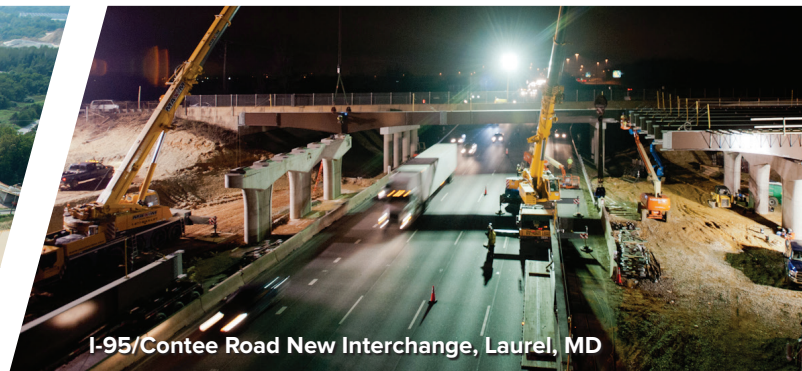
Project: 0029-030-121, P101, R201, C501, B616

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				6 - 7
Lead Contractor Work History Form	Attachment 3.4.1(a)	Section 3.4	no	Appx. 3.4.1
Lead Designer Work History Form	Attachment 3.4.1(b)	Section 3.4	no	Appx. 3.4.1
Project Risk				
Identify and discuss three critical risks for the Project	NA	Section 3.5.1	yes	8 - 15

ATTACHMENT 2.1.0 FORM C-78-RFQ

ACKNOWLEDGEMENT OF RFQ REVISION AND/OR ADDENDA



ATTACHMENT 2.10

**COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION**

RFQ NO. C00077384DB100

PROJECT NO.: 0029-030-121, P101, R201, C501, B616

ACKNOWLEDGEMENT OF RFQ, REVISION AND/OR ADDENDA

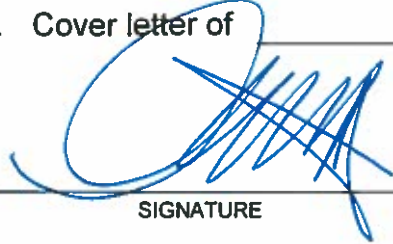
Acknowledgement shall be made of receipt of the Request for Qualifications (RFQ) and/or any and all revisions and/or addenda pertaining to the above designated project which are issued by the Department prior to the Statement of Qualifications (SOQ) submission date shown herein. Failure to include this 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 – April 26, 2017
(Date)

2. Cover letter of RFQ Addendum #1- May 22, 2017
(Date)

3. Cover letter of _____
(Date)



SIGNATURE

June 2, 2017

DATE

Aaron T. Myers

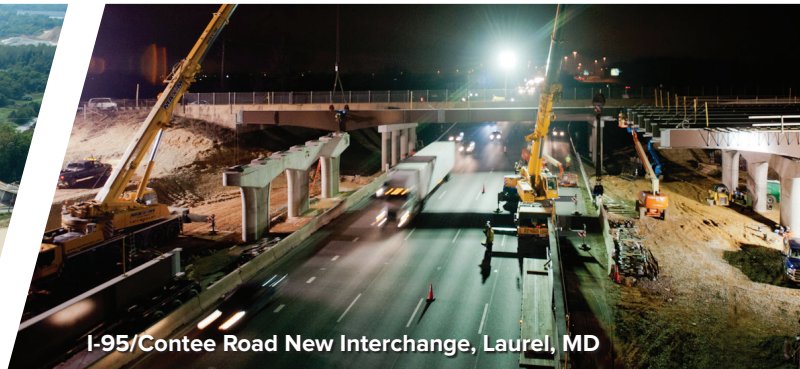
PRINTED NAME

Vice President/General Manager

TITLE

3.2

LETTER OF SUBMITTAL





June 2, 2017

Bryan W. Stevenson, P.E.
Alternative Project Delivery Division
Virginia Department of Transportation
1401 East Broad Street
Richmond, VA 23219

Letter of Submittal/Statement of Qualifications:
Warrenton Southern Interchange US 15/17/29
From: Route 15/17/29 & Route 15/17/29 Business
To: 1.0 mile South of Route 15/17/29 & Route 15/17/29 Business
Contract ID Number: C00077384DB100

Dear Mr. Bryan Stevenson:

The Team of Allan Myers (Myers), KCI Technologies (KCI), and Wallace Montgomery (WM), herein referred to as the Myers Team, presents an integrated design-build team to design and construct the Warrenton Southern Interchange US 15/17/29 Design-Build Project (Project). The Myers Team members have a proven DB work history on 13 recent design-build (DB) projects and pursuits, including six for VDOT. We have been responsible for the design and construction of several similar DB grade separated interchange projects. Our Team's expertise in transportation engineering, roundabout and innovative interchange design, utility coordination, and public outreach will effectively manage the project risks and support VDOT in successful achieving the Project goals.

The Myers Team presents the following information as required by Section 3.2 of the RFQ:

- 3.2.1 Allan Myers VA, Inc. (301 Concourse Boulevard, Suite 300, Glen Allen, VA 23059) is the legal entity who will execute a contract with VDOT for the Project.
- 3.2.2 Design-Build Project Manager, Thomas Heil, P.E. will serve as the Point of Contact for Myers.
Thomas Heil, P.E., Design-Build Project Manager (571) 485-0387 (Telephone)
301 Concourse Boulevard, Suite 300 (610) 222-4348 (Fax)
Glen Allen, VA 23059 tom.heil@allanmyers.com
- 3.2.3 Vice President/General Manager, Aaron Myers is the Principal Officer for Myers.
Aaron Myers, Vice President/General Manager (804) 290-8500 (Telephone)
301 Concourse Boulevard, Suite 300 (804) 418-7935 (Fax)
Glen Allen, VA 23059 aaron.myers@allanmyers.com
- 3.2.4 Allan Myers is a registered corporation in the Commonwealth of Virginia and will take full financial responsibility for the Project.
- 3.2.5 Allan Myers VA, Inc. will be the Lead Contractor and KCI Technologies Inc. will be the Lead Designer for the Project.
- 3.2.6 All affiliated and subsidiary companies are identified on the attachment in Appendix 3.2.6.
- 3.2.7 Executed Certification Regarding Debarment Forms are included in Appendix 3.2.7.
- 3.2.8 Allan Myers is active, in good standing, and prequalified to bid on the Project. Allan Myers' prequalification number is G303 and evidence of prequalification is included as in Appendix 3.2.8.
- 3.2.9 Myers has the capability to obtain a performance and payment bond for the \$20M estimated contract value of the Project as exhibited by the surety letter in Appendix 3.2.9.
- 3.2.10 Attachment 3.2.10 SCC and DPOR Information and full-size copies of individual licenses for all business entities and Key Personnel are included in Appendix 3.2.10.
- 3.2.11 Myers will achieve the 11% DBE participation goal for the Project.

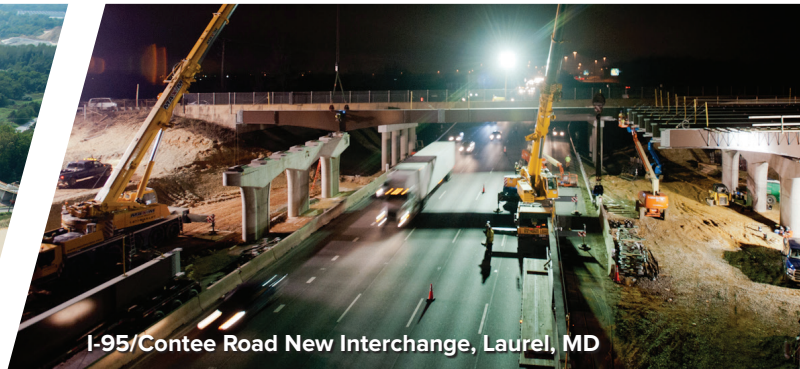
Respectfully,



Aaron T. Myers, Vice President/General Manager
Allan Myers VA, Inc.

3.3

TEAM STRUCTURE



THE MYERS TEAM

Design and construction of the Warrenton Southern Interchange US 15/17/29 Project requires an experienced Design-Build (DB) Team, innovative interchange design and construction expertise, and a focus on safe maintenance of traffic. The Myers Team provides VDOT and the Project with the following specific benefits:

- **A proven DB work history** and established working relationships between design and construction staff from 13 recent DB projects, including the I-64 Segment II and I-95/Temple Ave DB projects
- **Successful delivery of similar DB projects** that included the design and construction of grade-separated interchanges will help our Team implement lessons learned to ensure the Project's success
- **A history of alternative technical concepts** developed for interchange, bridge, and roundabout projects will improve safety and operational efficiency while reducing project costs
- **Key and value-added personnel capable of fully managing and mitigating the project risks** specifically associated with maintenance of traffic, geotechnical conditions, and utility coordination
- **The ability to self-perform all major elements of design and construction** provides schedule, quality, and cost benefits to the Project
- **Internal public outreach expertise**, including specific experience with the implementation of alternative configuration interchanges, will help the public safely acclimate to the new configuration

<i>Integrated Myers Team</i>	
	<i>Design-Builder Lead Contractor</i>
	<i>Lead Designer Construction QC</i>
	<i>TMP and Roundabout Design</i>
	<i>Quality Assurance</i>

In business since 1939, **Allan Myers (Myers)** employs 2,000 construction professionals and craft workers throughout the region with operations throughout PA, MD, DE, D.C. and VA. Myers is ranked #1 in



Transportation by *Engineering News Record (ENR)* Mid-Atlantic. Myers' comprehensive DB management team includes experts in design, construction, environmental management, transportation

engineering, utility coordination, and public relations. Myers resume of more than 20 DB projects across the Mid-Atlantic region consists of several grade separated interchanges with multiple classification roadways including the I-95/Contee Road, I-581/Elm Avenue, and the I-95/Temple Avenue Interchange DB projects.

KCI Technologies (KCI) is an employee-owned, full service engineering firm employing approximately 1,300 people in more than 36 offices, including Richmond and Sterling, VA. Established in 1955, KCI was recently named the ENR Mid-Atlantic Design Firm of the Year and is a leader in fast-track DB projects. KCI has provided design services on more than 35 DB projects, including two with Myers,

with notable projects including I-64 Segment II, Route 288/I-64 PPTA, and VDOT ARRA Region 2 Multiple Bridge Rehabilitations. In addition, KCI specializes in construction engineering with a client list of over 60 contractors, which provides KCI's competitive edge for constructability and efficient designs.

Wallace Montgomery (WM) has more than 42 years of experience in all aspects of the planning, design, and construction of transportation infrastructure. WM has completed the design for seven DB projects in Virginia and Maryland, six with Myers, including the I-95/Temple Ave and I-95/Contee Road Interchange DB projects. WM's roundabout planning and design experience of more than 25 roundabouts in Virginia and Maryland includes two recent interchange projects with roundabouts at the ramp termini, the I-95/Temple Avenue and US 301/304 Interchanges.



3.3.1 KEY PERSONNEL

The Myers Team is committed to maintaining the Key Personnel identified throughout the duration of the Project. These key staff are led by our DBPM, Tom Heil, who brings to the project over 31 years of experience, including 10 years of DB experience to the Project. Tom is supported by the three key staff and four value-added personnel. These key and value-added staff are committed to the Project for its duration to ensure consistency and collaboration with VDOT, project stakeholders, and within the DB Team.

Key Personnel Value to the Project

Design-Build Project Manager Thomas Heil, P.E., DBIA	31 Years of Experience	DBPM for 2 DB projects	Value to the Project: Design and construction team management and integration to manage risks and reduce costs
Quality Assurance Manager Kaushik Vyas, P.E., DBIA	38 Years of Experience	QAM for 8 DB projects	Value to the Project: Extensive VDOT QAM experience which will ensure quality project delivery
Design Manager Stephen Drumm, P.E.	40 Years of Experience	DM for 6 DB projects	Value to the Project: Interchange design expertise and DB integration to develop beneficial ATCs
Construction Manager Scott Armstrong	17 Years of Experience	CM for 2 DB projects	Value to the Project: Construction expertise with traffic congestion and complex maintenance of traffic

3.3.2 ORGANIZATIONAL STRUCTURE

FUNCTIONAL RELATIONSHIPS AND COMMUNICATION

The Myers Team organizational chart includes all major disciplines for management, design, construction, and quality management of the Project. Through the indicated relationships and discipline working groups, our team will ensure design consistency and construction methods that exceed VDOT quality requirements.

Design-Build Project Manager: Tom Heil, P.E., DBIA will be responsible for the overall project design and construction. To support effective communication, Tom will be supported by the key personnel (QAM, DM, and CM) as well as value-added positions for Public Affairs (PA), Utility Coordination, TMP and the Safety Manager. This structure ensures Tom’s ability to exercise appropriate control over the project design, construction, quality, stakeholder coordination, public safety, and contract administration. Structuring our Team to have these positions report directly to Tom will prioritize an expedited project schedule, optimized traffic flow, and incorporation of construction safety into the design.

Quality Assurance Manager: Kaushik Vyas, P.E., DBIA will report to the DBPM, with oversight by VDOT, and will manage the QA inspection and testing to ensure that all work and materials meet the contract requirements. He will communicate frequently with key staff, participate in regular coordination meetings, and confirm that the construction QC process is functioning properly. In addition, he will ensure the design QA/QC process is followed on submittals, along with the DBPM, prior to submission to VDOT.

Design Manager: Stephen Drumm, P.E. will serve as the Designer of Record and coordinate all design functions from NTP to final completion. He will report directly to the DBPM and coordinate with the Utility, TMP, Construction, and QA Managers to ensure collaboration during design and construction implementation. With support from Design QA/QC Manager, John Barefoot, P.E. he will prepare the DQMP and oversee the design QA/QC program to ensure a cohesive, high-quality, and integrated design.

Construction Manager: Scott Armstrong will report to the DBPM and will coordinate with the Utility, Design, TMP, and Safety Managers to ensure collaboration through the construction process. Construction QC and all construction personnel will report to Scott. He will coordinate with the DM to ensure design understanding, proper construction planning, and implementation.

Public Outreach: Shannon Moody will work closely with VDOT and the DBPM to develop and implement a comprehensive public outreach effort. Her integration with construction operations will keep the design-build team focused on building public trust. She will serve as an internal sounding board for the team with an understanding of project success from a PR perspective.

Public Affairs Manager, Shannon Moody has led outreach on multiple high profile projects in VA and NC. She is supporting community outreach efforts for VDOT's I-95/Temple Ave. Interchange and Roundabout DB project. On this Project, she will continue to support VDOT's public outreach support efforts to maintain positive relationships with project neighbors and stakeholders.

Utility Manager: Scott Styfco will report to the DBPM and work closely with the utility companies, DM, CM, and utility designer. Scott will focus on impact avoidance measures through innovative design and practical construction methods and will lead coordination during construction. Scott helped eliminate several utility conflicts on I-64 Segment II, allowing the project to progress without delays.

Utility Manager, Scott Styfco has 19 years of construction experience with focus on highway and bridge projects. His utility coordination expertise with field investigation, facility owner coordination, design avoidance strategies, and construction means and methods that further reduce/avoid impacts will reduce the schedule risk associated with utilities for the Project.

TMP Manager: Lawrence Marcus will report to the DBPM and will lead the development and implementation of the TMP. Larry will coordinate closely with the TMP designer, roundabout designer, and MOT coordinator to provide a seamless link between design and construction. His unique blend of experience will ensure the TMP is developed and implemented to respect all work zones requirements, public and worker safety, and construction means and methods.

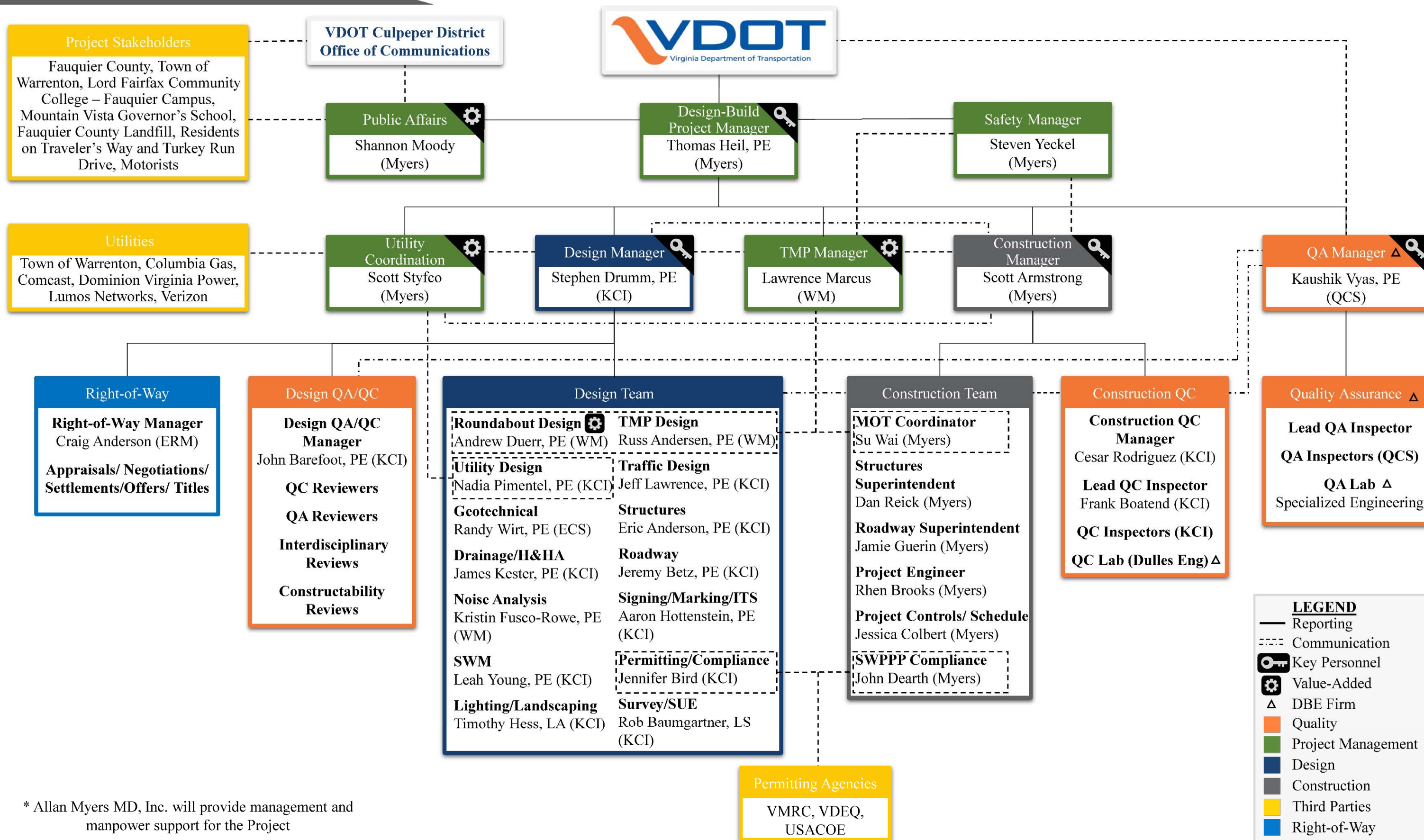
TMP Manager, Larry Marcus has over 25 years of experience with highway and interchange improvements and was a GEC Program Manager for all traffic and transportation activities for VDOT NOVA Megaprojects. Larry has an established working relationship with Culpeper District Staff and will oversee the development and implementation of an effective TMP for the Project.

Roundabout Designer: Andrew Duerr, PE will report to the DM and will lead the roundabout design. He will coordinate closely with the roadway designers, TMP design team, and MOT coordinator to ensure that the roundabouts are constructible and achieve all performance goals (fastest path, design vehicle, and sight distance checks).

Roundabout Design Lead, Andrew Duerr, PE, is a nationally recognized expert in roundabout planning and design. He has worked on more than 220 roundabouts nationwide and 25 in Virginia. His experience performing roundabout peer review and policy support for VDOT will streamline roundabout design and review for the Project.

DESIGN AND CONSTRUCTION TEAM INTERACTION

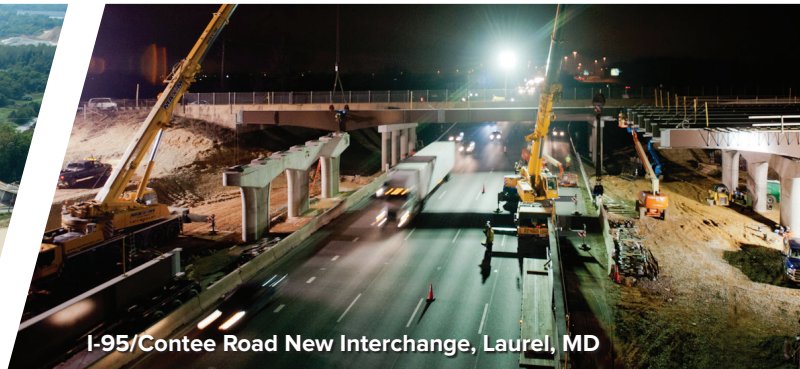
The Myers Team has been fully integrated from the start of the SOQ process. Design and construction team members have collaborated in discipline working groups to assess the project risks and identify mitigation strategies. They will continue to meet regularly throughout the design development, permit acquisition, and construction stages to elicit innovation, accelerate the schedule, and complete the project under budget. Weekly design meetings will begin during the RFP phase and will embed construction staff with the design team. Early design concepts, periodic design reviews, constructability reviews, and design comment resolution meetings will all involve working sessions. As the design progresses, construction personnel will begin the preconstruction planning process which includes planning safe work operations, scheduling operations with a focus on accelerating construction, and procuring and planning with key subcontractors and suppliers. The preconstruction planning will further integrate construction personnel into the discipline work groups to carry the design intent through into construction. This collaboration will address constructability issues early and reduce RFIs during construction. During construction, weekly coordination with the designers will continue, with a focus on submittals, RFIs, and as-built drawings.



* Allan Myers MD, Inc. will provide management and manpower support for the Project

3.4

EXPERIENCE OF TEAM




EXPERIENCE ON PROJECTS OF SIMILAR SCOPE AND COMPLEXITY


The Myers Team provides VDOT and the Warrenton Southern Interchange US 15/17/29 Project with an experienced design-build team, proven teaming arrangement, and a history of successful project delivery with similar scope and complexity. Our project-specific expertise includes grade separated interchanges, structural design and construction, and roundabout analysis and implementation. This design, construction, and scope-specific expertise will provide an efficient and effective project design, ensure quality construction methods, and prioritize safe maintenance of traffic throughout the Project.


DESIGN BUILD EXPERIENCE


Myers, KCI, and WM have served lead roles in the design and construction of 53 major design-build transportation projects. Our joint design-build delivery experience includes 13 recent projects and pursuits for VDOT and MD SHA, including the \$138M I-64 Segment II Widening, \$14M I-95/Temple Avenue Interchange, and \$33M I-95/Contee Road Interchange DB projects. Myers' DB project experience includes several grade separated interchanges with multiple classification roadways including the \$20M I-581/Elm Avenue and \$18M MD 40/715 Interchange DB projects. KCI and WM's DB project experience includes the \$236M Route 288/I-64 Interchange PPTA, \$6.8M I-64/US 15 Interchange (Zion Crossroads), and the \$9.5M VDOT ARRA Region 2 Multiple Bridge Rehabilitation Project. Additional notable DB project experience of our team members includes the \$560M Intercounty Connector Contract B, \$19M US 50 HOV from US 301 to MD 410, and \$194M I-520 Palmetto Parkway Phase I and II projects.

Myers Team Experience

53 major design-build transportation projects  **53**

260 roundabouts designed nation-wide and 25 in Virginia and Maryland  **260**

Over 50 years of bridge construction expertise  **50**

Construction of 30 recent interchange projects  **30**

GRADE SEPARATED INTERCHANGE EXPERIENCE

Myers has been constructing bridges for more than 50 years and has recently constructed 30 grade separated interchange projects including the \$50M I-276/SR29 Slip Ramp and the \$20M DB I-581/Elm Avenue Interchange projects. Myers' self-performed bridge and interchange construction capabilities will provide schedule, quality, and cost benefits for the Project.

KCI has extensive experience with efficient interchange design projects throughout the Mid-Atlantic and Southeast regions that focus on constructible MOT phasing. Design experience include roadway design, traffic and MOT, bridge and structure design, bridge rehabilitation, cross slope corrections, and alignment changes. KCI's structural design expertise includes bridge projects that include major multi-level interchange and interstate facilities, on varying bridge types and components that range from pre-stressed concrete beams to curved structural steel girders with complex geometry, and from pile bents to mechanically stabilized earth (MSE) retaining wall abutments to drilled shaft foundations.

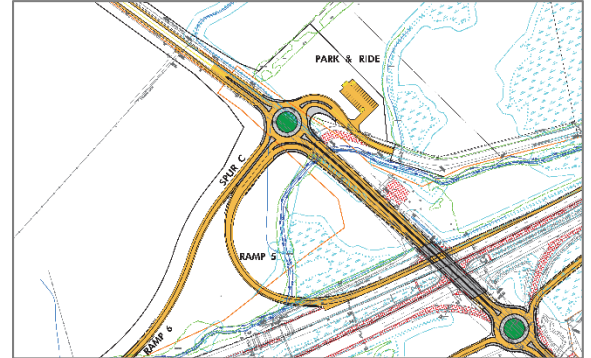
KCI's similar project experience includes the \$75M I-95 Access Improvements in Stafford County, VA; \$150M I-95/I-495/MD 210 Interchange Reconstruction in Prince George's County, MD; \$72M I-195 Interstate Access Road to BWI from I-95 to BWI Airport in Linthicum Heights, MD; the \$19M SCDOT Statewide Bridge Replacement Program; \$22M SCDOT District 4 Bridge Replacements; and \$23M NCDOT Express DB Bridge Replacements in Divisions 13 and 1. KCI's projects have been recognized with awards from ACEC, ASCE, and several regional professional organizations.

ROUNABOUT ANALYSIS AND IMPLEMENTATION

The Myers Team brings expertise in the study and development of innovative intersection and interchange designs that improve safety and operational efficiency while minimizing cost. Our experience ranges from mini-roundabouts to large two- and three-lane roundabouts, roundabout corridors, and roundabout interchanges.

Notable experience of our team members includes design and construction of the first three-lane roundabout in Virginia for the I-95/Temple Avenue Interchange project, design of a new roundabout interchange for the US 301 and MD 304 Interchange to replace a high-accident at-grade intersection, design assistance for a proposed roundabout at the I-95/Maury Street interchange in Richmond, and design of the first DDI in Virginia as a subconsultant to the DB Team at the I-64/US 15 (Zion Crossroads) Interchange.

Similar New Roundabout Interchange Design
 WM is actively designing a new interchange along US 301 to replace the high-accident at-grade intersection with MD 304.



Myers has constructed 10 recent Virginia roundabouts for public and private roadways, the most notable of which have required significant maintenance of traffic and public outreach efforts. Myers is supporting VDOT’s public outreach for roundabout implementation on the I-95/Temple Avenue DB project with 14 formal outreach presentations to date and multiple roundabout education clinics to be held this fall. KCI and WM bring a wide-range of roundabout design experience with more than 260 roundabout designs/evaluations nation-wide and the design of 25 roundabouts in Virginia and Maryland. In addition, WM is currently under contract with VDOT’s L&D Traffic Division to provide peer review, policy assistance, and direct design for roundabouts and other innovative intersections. WM also has unique expertise with roundabout design for oversized and overweight (OSOW) vehicles.

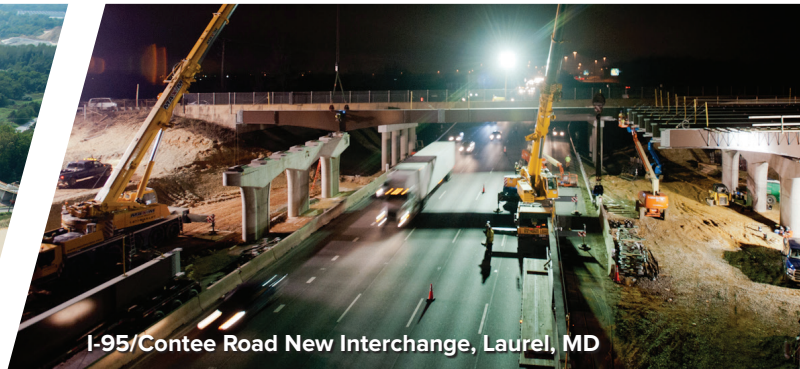
3.4.1 WORK HISTORY FORMS

The Myers Team has selected three projects from Myers and KCI which we consider most relevant in demonstrating our firm’s qualifications to serve as the Lead Contractor and Lead Designer for the Project. The projects presented for Myers include three successful design-build projects with grade separated interchanges that connect multiple classification roadways which are of similar size, scope, and complexity. For KCI, the projects presented include three grade-separated interchanges which convey design expertise in innovative interchanges, two of which are design-build projects.

Project Relevance	I-581/ Elm Ave. Interchange	I-95/ Contee Rd. Interchange	I-895 Airport Connector Road	I-95/MD24/ MD924 Interchange	MD 355 Interchange	MD 650 Interchange (ICC)
Myers Team Firm(s)	Myers	Myers/WM	Myers	KCI	KCI	KCI
Design-Build	✓	✓	✓		✓	✓
Construction Value	\$20M	\$33M	\$38M	\$37M	\$25M	\$35M
Proposed Project Personnel	✓		✓	✓	✓	✓
Grade Separated Interchange	✓	✓	✓	✓	✓	✓
Multiple Roadway Classifications	✓	✓	✓	✓	✓	✓
Bridges	✓	✓	✓	✓	✓	✓
Utility Coordination	✓	✓	✓	✓	✓	✓
Bike/Pedestrian Facilities	✓	✓		✓	✓	✓
Public Relations	✓	✓	✓	✓	✓	✓

3.5

PROJECT RISK



The Myers Team member's experience on 53 major DB transportation projects, and our joint experience on 13 recent DB projects and pursuits have contributed to the following risk management strategies our Team will implement for the Warrenton Southern Interchange US 15/17/29 Project:

- Optimizing traffic flow during and following construction to reduce the likelihood of incidents and improve corridor operations;
- Realizing efficiencies through design optimizations and Alternative Technical Concepts (ATC) identified by our structural and traffic control design and construction experts;
- Reducing the construction schedule and minimizing costs by self-performing all major elements of design, construction, and project management; and
- Supporting a robust public outreach program and coordinating with project stakeholders to increase public safety and mitigate traffic issues.

In consideration of the risks most relevant and critical to the success of the Project, the Myers Team reviewed the RFQ documents, visited the project site, reached out to stakeholders, and attended the public meeting. We selected **maintenance of traffic, utility coordination, and unsuitable soils** as three critical risks which could significantly impact the project's success by impacting public safety during construction, delaying the schedule, and creating design and construction inefficiencies which inflate the project cost.

MAINTENANCE OF TRAFFIC (MOT)

WHY THE RISK IS CRITICAL: The Myers Team understands that high volumes of traffic and traffic crashes within the project limits are the primary purpose and need for this grade separation project. The intersection has the third highest crash rate in Fauquier County and significant southbound queues during peak periods – up to a mile long – often causing traffic to divert through the Town of Warrenton. The intersection provides access to Lord Fairfax Community College, a landfill, and local residences on the east side of the Bypass, as well as a direct route from US 17 to the Town of Warrenton on Business Route 15. Lord Fairfax Community College (LFCC) is planning an expansion, which will result in increased traffic using the intersection and cause greater delays on all approaches.

Maintenance of traffic during construction will need to address the key stakeholders in and around the project area: LFCC students and faculty, trucks accessing the Fauquier County Landfill, local residents, long-range commuters using the bypass, school buses and delivery vehicles, farm vehicle access to adjacent fields, and semi-trailers serving Walmart, Home Depot, and other nearby commercial sites. Temporary lane closures, narrow lanes and lane shifts, temporary traffic signals, and reconfigured intersections all have the potential to create driver confusion, which could lead to increased crash rates and congestion in the corridor. We also understand that the risk associated with safety and congestion extends beyond our work zone as traffic patterns change along the US 15/17/29 corridor. There is the potential for traffic to divert to local roadways, adjacent intersections, or through residential roadways to avoid construction related delays.

IMPACT ON THE PROJECT: Building a new interchange with a bridge, exit and entrance ramps, and two roundabouts over top of an existing operational intersection creates many challenges in developing the detailed traffic control plans to safely convey traffic during construction. The public requires a safe and simple traffic control plan with limited impacts and the contractor needs adequate work space free of traffic to efficiently build the Project. *The risk to the project is finding a balanced plan to accommodate public safety and capacity with construction efficiency at a reasonable cost.*

The primary impacts associated with maintenance of traffic for the Project are safety and inconvenience for the traveling public, with the secondary impacts of added construction costs and schedule risks associated with constructing the project in multiple-phases to safely accommodate high volumes of traffic through the existing intersection. Additional congestion and traffic delays associated with temporary signals, narrower lanes, and eliminating shoulders increase the likelihood of crashes as drivers encounter these new traffic patterns, and increase risk of injury to construction workers should traffic enter the work areas.

MITIGATION STRATEGIES: The Myers Team has the knowledge and experience to develop and implement a safe and effective traffic control plan that balances the competing needs of providing space for both traffic and construction. With development and implementation led by TMP Manager, Lawrence Marcus, the TMP will take a corridor-wide view of traffic to investigate alternate routes that can be used to safely divert traffic during incidents, stoppages for bridge beam erection, and major traffic shifts. Our Team will partner with VDOT and project stakeholders to identify and analyze new traffic patterns to prevent overwhelming existing intersections and causing unsafe conditions as motorists seek to avoid the construction. *As the design is progressed, the Myers Team will maintain focus on the following commitments to mitigate the traffic risk for the Project:*

- *Improving temporary and final traffic conditions through design optimizations*
- *Reducing congestion in the project area by expediting construction*
- *Supporting public outreach and implementation of a new traffic configuration*

Improving Temporary and Final Traffic Conditions through Design Optimization

Our Team has studied the available plans and proposed strategies for maintaining traffic for the Project. Myers will focus on providing safe, high capacity intersection solutions to maintain access to US 15/17/29 Bypass, US 15 Business, Lord Fairfax Road, and adjacent residencies. Our Team will investigate innovative intersection configurations that maximize traffic capacity with easy to understand signalized intersections spaced apart from one another to minimize conflicting movements. The following examples are design optimizations our Team has identified and will further investigate as an ATC during the RFP phase:

- ***Eliminating the detour route:*** The jughandle detour route would require significant time-consuming upfront design and construction work including a large construction easement, clear-cutting of mature hardwood trees, relocation of additional utilities, and considerable temporary pavement. Our Team has developed MOT phasing that eliminates the need for the detour route. Portions of the existing intersection can be used to maintain traffic to and from the west, which will reduce motorist confusion, improve safety, and allow permanent construction to begin earlier.
- ***Modifying the southern intersection:*** Splitting the intersection to independently serve the US 29 Bypass and Lord Fairfax connections will increase capacity of the intersections, reduce congestion, and improve safety. Configuring the temporary intersection as a three-legged intersection without a jughandle allows traffic to move more efficiently through the corridor than the existing conditions.
- ***Preventing queuing traffic into the curve at Lovers Lane:*** The proximity of the temporary southern intersection to the horizontal curve at Lovers Lane has the potential for queued traffic to extend into the curve, which increases the likelihood of rear-end crashes. Eliminating the jughandle and the associated improved signal operations reduces the potential of this happening.
- ***Maintaining LFCC access from US 15 Business:*** Southbound motorists on US 15 Business that are accessing LFCC or the northbound Bypass can continue to use the existing intersection to access the southern intersection, eliminating the need for the jughandle while maintaining the existing lane configuration on SB US 15 Business. Maintaining both approach lanes on SB US 15 Business, similar to both existing and final configurations, improves predictability and safety for drivers.
- ***Eliminating the northern U-turn:*** The northern U-turn in the concept plan requires construction of a new dual-lane left-turn bay on the northbound Bypass that would impact construction of the new bridge pier and requires a new temporary traffic signal. Using the existing intersection and eliminating this temporary configuration improves safety by maintaining familiar traffic patterns.
- ***Maintaining through lanes:*** Utilizing the wide medians on the Bypass and US 15 Business for temporary pavement to shift traffic will expedite construction, maintain existing drainage courses, and avoid larger drop-offs at the outer roadway edges. Expanding the northbound pavement into the median at the temporary southern intersection and using the existing U-turn lane as a through-lane will provide space for the right turn lane into Lord Fairfax Road without widening to the outside.

Reducing Congestion in the Project Area by Expediting Construction

The Myers Team and VDOT share a desire to complete the Project as quickly as possible to improve the safety and capacity of the interchange. The TMP will be developed with consideration of providing efficient work areas for construction. The potential MOT design discussed above results in revisions to the northern and southern intersections as described and shown below.

Optimized Northern Intersection: Placing new temporary pavement within the median and on the western leg of the existing signalized intersection will maintain all three lanes of traffic on this leg. Shifting the alignment will allow construction of fills for the roundabout, half of the new roadway, and the southbound Bypass ramp to northbound US 15 Business.

Optimized Intersection Benefits

- Maintains driver expectations
- Reduces queues and delays
- Reduces clearing, grading, and paving required
- Expedites the start of permanent construction
- Avoids ROW, environmental, and utility impacts

Potential Phase 1 MOT for Northern Intersection

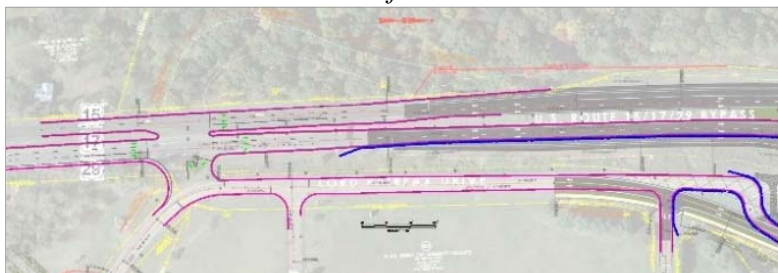


New Pavement for Potential Phase 1 MOT



Optimized Southern Intersection: Providing two three-legged, signalized intersections that each operate with three signal phases during the first phase of the work will maintain the existing turning movement locations to the fullest extent practicable. All movements between US 15 Business and the Bypass will remain the same. Drivers on US 15 Business accessing LFCC will travel to the signal, just as they do today, however they will turn right instead of traveling straight across the Bypass in order to safely position themselves to easily enter the left turn lane at the temporary southern intersection. All movements to and from Lord Fairfax Drive will occur as they do today, except relocated to the southern intersection.

Potential Phase 1 MOT for Southern Intersection



New Pavement for Potential Phase 1 MOT



Supporting Public Outreach and Implementation of New Traffic Configurations

A robust Public Outreach Plan, developed and carried out in partnership with the VDOT Culpeper Communications Team, will be central to the Project's success. Our Team will provide timely construction schedule updates and will seek feedback from project neighbors and the public to minimize and address community concerns. This is particularly true for residents adjacent to the corridor with noise concerns.

Community Outreach Expertise

PA Manager, Shannon Moody, has worked closely with VDOT on outreach programs for multiple DB projects including I-95/Temple Avenue. Multiple presentations were made to first responders, chamber of commerce, local senior groups, high schools, churches, and businesses to address concerns and answer questions. A series of roundabout education sessions are planned for late summer.

The Myers Team recommends a three-tier approach to conducting public outreach (1) communicating general project information and project purpose; (2) proactively alerting the public to upcoming traffic shifts; and (3) providing timely messaging of upcoming and current tools such as social media and the project website. Social media, the project website, stakeholder meetings, and media alerts will be used to reach the broader community. Placed articles in newsletters, such as Warrenton’s quarterly *Town Crier* newsletter, can be used to share information with local residents and businesses.

Our Team’s experience with conducting roundabout clinics and developing 3D simulations can help acclimate the public with the new traffic configurations. Roundabout Clinics can educate drivers on how roundabouts function, why they are safer than signalized intersections, what lane to be in, who has the right of way, and what signing and pavements markings can be expected. 3D simulation can educate the community on the new interchange design and the traffic pattern changes during construction with a non-technical understanding of the final configuration and how to traverse the area during construction. Fly-by perspectives help guide the viewer through the project from a driver’s vantage point.

3D VISSIM Simulation Expertise
For the I-81 Exit 150 Interchange project, Roundabout Designer Andy Duerr led the development of a 3D VISSIM simulation with roundabout features, signs, and pavement markings. Flash animations provided users the opportunity to interactively choose different approaches and turning movements.

ROLE OF VDOT AND OTHER AGENCIES: The Myers Team, VDOT, Town of Warrenton, Fauquier County, and emergency services are all part of a Transportation Management Team with a shared goal to minimize adverse impacts to the public. Our Team will work closely with VDOT Culpeper District Traffic staff and Northwestern Regional Operations (NWRO) in the MOT plan development to address VDOT and stakeholder concerns through coordination meetings and over-the-shoulder reviews. We anticipate VDOT will communicate progress and real-time travel information that affect motorists and other stakeholders.

UTILITY COORDINATION

WHY THE RISK IS CRITICAL: The design and construction phases of the new interchange will require extensive utility coordination to avoid and minimize utility impacts where possible and to expeditiously complete unavoidable relocations. The conceptual plans indicate the potential for significant utility impacts, including a line of DVP/Verizon joint-use poles in the southwest quadrant of the project, a 20” gas transmission line crossing the Project, and numerous facilities east of US 17. Based on our Team’s experience coordinating utilities on similar projects, this risk is critical to the Project for several reasons:

- Significant time is often required to design and construct utility relocations. Certain utilities, including some identified on this project, historically have difficulties in meeting the schedule demands of fast-paced DB projects.
- ROW or easement acquisition will be necessary prior to relocation of the DVP/ Verizon joint-use poles in the southwest quadrant and Entrance 1 on Lord Fairfax Road.
- Per the conceptual plans, the DVP/ Verizon joint-use poles must be relocated prior to the construction of the jughandle detour road along Ramp A for the first phase of MOT.
- The exact depths, location, and requirements for the 20” Columbia Gas Transmission Line will be a major factor in determining if relocation is required. Based on our current knowledge, avoidance appears possible for the US 17 widening; however, the Lord Fairfax Road crossing will require protection during construction and special subgrade treatment for the relocation.

IMPACT ON THE PROJECT: The utility relocations can significantly impact the Project schedule and cost. To understand the full impact of this risk, our utility coordination staff performed an initial review of the Project and researched the utility companies who have facilities in the area, including Columbia Gas Transmission (TransCanada), Columbia Gas of Virginia, Comcast, Dominion Virginia Power (DVP), Lumos Networks, Verizon, and Town of Warrenton. We have contacted each company to obtain as-built plans within, and adjacent, to the project area. Preliminary, there are impacts to the DVP/ Verizon joint-use

pole line between 107+25 LT US 17 and 112+50 LT Lord Fairfax Road; potential impacts to the Columbia Gas (TransCanada) 20” natural gas transmission line crossing the Project; and various impacts to power, communication, water, sewer and gas facilities to the east of US 17.

Based on the current design, the DVP/ Verizon joint-use pole relocation will likely be on the critical path schedule. These utilities are impacted by the RFQ concept plan detour road. As the pole line is currently in a DVP easement, it is anticipated that a new easement outside of the proposed ROW will be required. The ROW acquisition process could impact the project schedule; however, in this case, only one property owner appears to be involved.

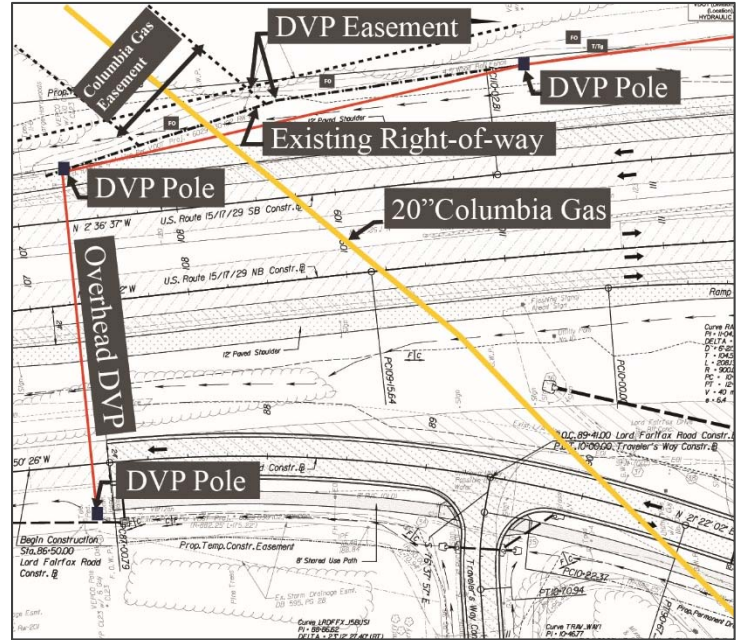
If relocation of the 20” Columbia Gas Transmission main crossing US 17, Ramp A, and Lord Fairfax Road be required, significant schedule implications could occur. The remaining utilities east of US 17 servicing residences, LFCC, and the landfill along Lord Fairfax Road; Turkey Run Drive; and Traveler’s Way appear to be far less critical to the overall success of the Project than the DVP/Verizon poles and 20” gas main. Due to the number of utilities involved and the need to acquire ROW and/or easements prior to relocation, the potential for schedule delay can impact the Project if this risk is not managed properly.

MITIGATION STRATEGIES: The Myers Team has learned that partnering and good communication is paramount to successful utility coordination efforts for DB projects. Coordination with each of the impacted facility owners will include one-on-one meetings to gain their input on project areas and gain any institutional knowledge of their facilities to further assist with conflict analysis and mitigation strategies.

In addition to a partnering approach to utility coordination, the Myers Team will mitigate the utilities risk for the Project through our commitments to:

- *Avoiding impacts to existing utilities*
- *Providing a consistent interface between design and construction*
- *Phasing construction to prevent schedule delays*

Avoiding Impacts to Existing Utilities: During the RFP process, our Team will design of the roadway and stormwater systems to avoid utility impacts entirely, minimizing the cost and schedule risks carried in our proposal. We will look at ATCs for alternate types of interchanges and/or horizontal alignments that avoid utility impacts. We will further engage utility companies to develop a detailed understanding of their criteria and will alter profiles, cross-sections, and drainage designs to maximize cover and meet clearance criteria. These efforts will continue immediately after NTP by performing test pits on apparent conflicts and through continual communication as our design is developed. We will also consider protection of utilities in close proximity to meet facility owner requirements.



DVP and Columbia Gas Utility Impacts

Utility Avoidance Expertise

On the I-64 Segment II Project, Utility Manager Scott Styfco implemented a test pitting program which identified seven Verizon Lines and two Cox Communication lines in conflict or directly adjacent to proposed bridge footings that required relocation. He engaged Structures Designer Eric Anderson to develop an unconventional footing design, and researched thin-profile SOE systems. Through this investigation and design modification, all of the existing utilities were able to remain in place, saving significant relocation time and cost.

- **20" Columbia Gas Transmission Main US 17:** Based on our discussions with Columbia Gas, the 20" gas line may not need relocation since it has fourteen feet of cover as it crosses US15/17/29, minimizing any impacts from proposed widening, roadside grading, and ditches.
- **20" Columbia Gas Transmission Main Lord Fairfax Road:** In our discussions, Columbia Gas indicated the gas main clearance under Lord Fairfax Road was much less and construction activities and the relocated roadway were a concern. During the RFP stage, we will test pit critical locations and coordinate with Columbia Gas to avoid impacts and address requirements including inspection, air-bridging, and encasement.
- **Utilities to the East of US 17:** Our preferred method to address the utilities will be to avoid them through design innovation. Where avoidance is not possible, relocation within the existing ROW will be investigated and prioritized. The incorporation of wider and deeper vertical and horizontal offsets than required will be considered for water and sanitary facilities, to allow relocations of those facilities to proceed prior to stormwater design completion with little risk of conflict as the design is finalized.

Early Coordination

Our Team's experience with gas main relocations prompted us to contact Columbia Gas while preparing this SOQ to understand the potential risk of relocation. Based on our discussions with Columbia Gas land agent, Anthony Redd on May 19th, we do not anticipate relocation for the US 17 crossing which is 14 feet deep. However, the shallower depth under Lord Fairfax Road may require air bridging during construction.

Providing a Consistent Interface between Design and Construction: Utility Manager, Scott Styfco will lead utility coordination efforts during design and will follow through on coordination and relocation efforts during construction to provide a consistent interface for utility owners throughout the duration of the Project. Scott will be involved with over-the-shoulder reviews, along with CM Scott Armstrong, to ensure the design and utility coordination accommodates constructability issues prior to field implementation. He will hold regular utility coordination meetings for relocations and to coordinate work in close proximity to existing facilities. Scott's background in construction operations provides a unique advantage for utility impact avoidance and has led to field avoidance of known utility impacts on numerous projects.

Phasing Construction to Prevent Schedule Delays: By providing a consistent utility coordination interface with facility owners, our Team will establish a solid base for coordination efforts to avoid and minimize utility impacts. In addition, the Project schedule will incorporate appropriate durations for potential utility impacts by allowing adequate time to confirm avoidance and relocate lines, if necessary. If avoidance is not possible, our design team brings qualified utility designers capable of developing conceptual relocation plans and right-of-way needs for the impacted utilities.

Preventing Utility Delays

Led by DBPM, Tom Heil, Myers overcame utility relocation delays on the Walney Road DB Project due to long lead items for special cable, splicing crew availability, and weather by partnering with utilities to phase their work and supporting them with clearing and grubbing, E&S, and MOT support to ensure their crews focused on relocating the utility lines.

- **DVP / Verizon Mitigation Strategy:** As discussed in the MOT risk section, our Team has developed alternative MOT options that eliminates the jughandle detour road along southbound US15/17/29 and mitigates potential schedule implications of the DVP/Verizon pole relocations. This allows a significant amount of construction to begin while utility coordination and design, ROW approval and acquisition, and utility relocations are ongoing. We will prioritize the development of design plans along this utility corridor such that ROW acquisition and utility relocation can proceed at the earliest possible time to maximize schedule float in case of delays. As Verizon's approved OSP and relocation designer in Virginia, KCI will coordinate directly with Verizon to perform relocation design for any impacted facilities, either aerial or underground. This has been proven to save time during utility design and relocations and will allow the roadway and utility design to advance concurrently using the same design team to eliminate potential redesigns.

ROLE OF VDOT AND OTHER AGENCIES: The role of VDOT, FHWA and other agencies will be to assist with the utility coordination and provide timely reviews and advice on avoidance concepts, relocation plans, and approvals. Advanced ROW and easement negotiations / acquisition of Parcel 007 would reduce schedule impacts related to the DVP/ Verizon poles.

POTENTIAL UNSUITABLE SOILS

WHY THE RISK IS CRITICAL: Geotechnical conditions at the site, consisting of potential unsuitable soils, are a critical risk for the Project. Based on the provided Geotechnical Data Report (GDR), the soil conditions in the area consist predominantly of moisture sensitive, moderate to high plasticity, and fine-grained soils containing mica. These materials exhibit elevated moistures within the upper strata in many areas (in-situ moisture content over 20% of optimum moisture content), are not suitable for retaining wall backfill (due to plasticity), cannot be placed within steep slopes (high plasticity and potential low shear strength), cannot be placed within the top three feet of embankment fill in pavement subgrades (CBR<5), and have reduced shear strength when wet. The risk is relatively widespread based on the presence of these unsuitable materials across the Project site.

IMPACT ON THE PROJECT: The presence of unsuitable soils will primarily impact the duration of the construction schedule due to the time required to delineate the extent of unsuitable soils, dry or stabilize the material with admixtures (lime and/or cement), and/or to remove and replace the materials with suitable fill. This risk also leads to uncertainty regarding earthwork quantity estimation and manpower needs for QC and QA activities. Impacts may further include the need for a disposal area off-site for unsuitable soils, and a stockpile area for the storage of quicklime or cement that will be used for drying/modification. If the materials cannot be suitably treated and used onsite, the removal of unsuitable materials and replacement with imported fill would increase the volume of construction traffic entering and exiting the work area and ultimately increase concerns for public safety through the corridor.

Unsuitable high plasticity soil (MH/CH) materials at the base of retaining walls and within deeper fills could cause Project quality concerns and schedule impacts. If such conditions are not identified or properly planned for, long-term serviceability issues could arise due to time-dependent settlements and potential slope stability issues. Settlement of larger fill areas will need to be evaluated and retaining structures will require monitoring for improvements to the subgrade to achieve safe global stability. Settlement monitoring of the deeper fill areas could impact the Project schedule if unaccounted for early in the construction process as certain settlement values need to be realized before final grading and paving can proceed. Unanticipated settlement could require additional fill material to maintain the roadway grade and can create future maintenance issues. Settlement of unsuitable subsurface soils due to embankment loading can lead to down drag forces on foundation elements which could influence the performance of the bridge joints and bearings.

MITIGATION STRATEGIES: The Myers Team will mitigate the geotechnical risks associated with the Project by confirming the extent of the potential impacts with a thorough geotechnical exploration program, selecting appropriate design and remediation strategies, and managing safe and efficient construction operations to minimize cost, schedule, and public safety impacts. *The Myers Team's commitments for managing the risks associated with unsuitable soils for the Project include:*

- *Exceeding the requirements of the MOI*
- *Proactively planning for soils remediation and settlement*
- *Minimizing potential schedule impacts*

Exceeding the Requirements of the MOI: To evaluate and delineate unsuitable soils, the Myers Team will follow a mitigation strategy that includes nine major action items undertaken from commencement of the Project through final construction. *This geotechnical process routinely exceeds minimum VDOT MOI requirements for volume and quantity of testing.* Myers implemented this process on four successful DB projects by over the last two years, including the I-64 Segment II and I-95/Temple Avenue projects.

We will confirm the extent of potential impacts by performing comprehensive geotechnical exploration to

supplement the subsurface information provided in the GDR. We will evaluate the engineering characteristics of the materials during the geotechnical study via lab tests such as; natural moisture contents, gradation, atterberg limits, standard proctor, CBR, consolidation tests, and direct shear testing. In-situ testing consisting of pressuremeter testing can be performed on materials at the base of the retaining walls and at deep-fill locations to evaluate slope geometry and acceptable global stability factors of safety.

Myers Team Geotechnical Process

- 1. Conduct thorough geotechnical investigation in compliance with VDOT MOI Chapter III*
- 2. Supplement MOI compliant investigation with in-situ testing*
- 3. Create a matrix of potential unsuitable soil locations with mitigation strategy for each location*
- 4. Plan for mitigation/improvement strategies in the construction schedule*
- 5. Prepare estimated quantities of unsuitable soils*
- 6. Create a Soils Remediation Plan to include haul-off, treatment types/locations, and borrow sources*
- 7. Increase geotechnical representation onsite during critical earthwork and foundation operations*
- 8. Use onsite soils to the extent possible using drying (lime) or admixtures (cement) as needed*
- 9. Develop alternative treatment methods that may accelerate schedule or improve quality*

Proactively Planning for Soils Remediation: Locations where unsuitable soils are anticipated to be encountered will be delineated on the project drawings (both depth and lateral extent). A Soils Remediation Plan will be developed and reviewed/approved in coordination with VDOT’s geotechnical and materials engineers prior to the commencement of construction. The Soils Remediation Plan may include undercut/replacement, in-place drying/scarification, lime modification (moisture reduction), or lime/cement stabilization (altering the plasticity of the soil). The admixture options such as soil cement or lime modification of the subgrade and full depth reclamation will be reviewed to determine their feasibility in areas of the proposed plan. These techniques have been shown to reduce the amount of undercut and haul-off of unsuitable soil located at the subgrade elevation.

The use of onsite borrow sources will be fully evaluated, as it limits the amount of soil that needs to come from off site, keeping dump trucks off of the local road network, and lessening impacts to traffic and public safety. Potential borrow sources will be identified and approved by VDOT prior to the start of construction to provide suitable material for fills and undercuts.

To mitigate against large settlement values, long-term settlement behavior, and/or global stability failures for sloped fills and retaining walls, alternative construction techniques may include utilizing light weight fill material, installing geosynthetic grids or fabrics, or surcharging embankment fills. These approaches will be evaluated by the Team and finalized with VDOT’s input.

Minimizing Potential Schedule Impacts: Our Team’s proven mitigation strategy for unsuitable soils is to identify areas with the potential for unsuitable soils early, develop an appropriate remediation plan, and communicate/ implement the action plan with all appropriate parties. We will appropriately account for unsuitable soils in the Project schedule by incorporating activities for geotechnical investigation, analysis, and recommendation settlement periods, adjusted production rates to account for unsuitable soils. Following NTP and as preparation of the GER progresses, the schedule will be revisited to ensure that all geotechnical mitigation measures are accurately incorporated. If necessary, Myers will utilize multiple crews/shifts to accelerate construction due to delays associated with unsuitable soils.

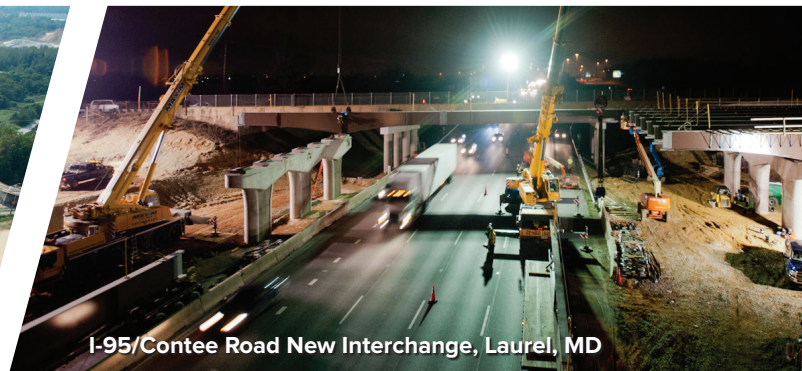
ROLE OF VDOT AND OTHER AGENCIES: The intent of the geotechnical scope is that this discipline will be covered by the Project specifications and VDOT’s MOI. As such, we do not anticipate significant oversight or interaction by VDOT or other agencies to complete the work in a timely and quality manner.

Soils Remediation Success

This 9-step mitigation strategy has been used successfully by the Myers Team’s geotechnical engineer on similar projects in the past to identify and treat soft silts overlying weathered rock (I-66/Route 15 Interchange), evaluate in-situ soils for shoulder strengthening in place of full-depth replacement (I-64 Short Pump and Route 623), and to evaluate high plasticity residuals soils for use as on-site fill (I-64/Exit 91 Interchange).

APPENDIX 3.2.6

AFFILIATED/SUBSIDIARY COMPANIES



ATTACHMENT 3.2.6

State Project No. 0029-030-121, P101, R201, C501, B616

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.

<input type="checkbox"/> The Offeror does not have any affiliated or subsidiary companies.
<input checked="" type="checkbox"/> Affiliated and/ or subsidiary companies of the Offeror are listed below.

Relationship with Offeror (Affiliate or Subsidiary)	Full Legal Name	Address
Parent	Allan Myers, Inc.	1805 Berks Road, P.O. Box 98, Worcester, PA 19490
Affiliate	Allan Myers MD, Inc.	2011 Bel Air Rd, P.O. Box 278, Fallston, MD 21047
Affiliate	Allan Myers, L.P.	1805 Berks Road, P.O. Box 98, Worcester, PA 19490
Affiliate	Allan Myers Materials MD, Inc.	638 Lancaster Avenue, Malvern, PA 19355
Affiliate	Allan Myers DE, Inc.	638 Lancaster Avenue, Malvern, PA 19355
Affiliate	Allan Myers Materials PA, Inc.	638 Lancaster Avenue, Malvern, PA 19355
Affiliate	Allan Myers Transport Co	1805 Berks Road, P.O. Box 98, Worcester, PA 19490
Affiliate	Allan A. Myers, Co.	1805 Berks Road, P.O. Box 98, Worcester, PA 19490
Affiliate	American Infrastructure Investments, Inc.	1805 Berks Road, P.O. Box 98, Worcester, PA 19490
Affiliate	The Myers Group, Inc.	1805 Berks Road, P.O. Box 98, Worcester, PA 19490
Affiliate	Compass Quarries, Inc.	638 Lancaster Avenue, Malvern, PA 19355
Affiliate	Allan Myers Materials, Inc.	638 Lancaster Avenue, Malvern, PA 19355
Affiliate	Allan Myers Management, Inc.	1805 Berks Road, P.O. Box 98, Worcester, PA 19490
Affiliate	US 460 Mobility Partners, LLC	7025 Harbour View Boulevard, Suffolk, VA 23435
Affiliate	FAM Construction, LLC, a Joint Venture	9600 Great Hills Trail, Ste 200E, Austin, TX 78759
Affiliate	Allan Myers Wagman, a Joint Venture	301 Concourse Blvd., Ste 300, Glen Allen, VA 23059

APPENDIX 3.2.7

DEBARMENT FORMS



ATTACHMENT NO. 3.2.7(a)

**CERTIFICATION REGARDING DEBARMENT
PRIMARY COVERED TRANSACTIONS**

Project No.: 0029-030-121, P101, R201, C501, B616

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 form.

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

May 23, 2017

Date

Vice President/General Manger
Title

Allan Myers VA, Inc.
Name of Firm

ATTACHMENT NO. 3.2.7(b)

**CERTIFICATION REGARDING DEBARMENT
LOWER TIER COVERED TRANSACTIONS**

Project No.: 0029-030-121, P101, R201, C501, B616

- 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 form.

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><i>Am To</i></u>	<u>5/18/2017</u>	<u>Principal</u>
Signature	Date	Title
<u>Dulles Engineering, Inc.</u>		
Name of Firm		

ATTACHMENT NO. 3.2.7(b)

**CERTIFICATION REGARDING DEBARMENT
LOWER TIER COVERED TRANSACTIONS**

Project No.: 0029-030-121, P101, R201, C501, B616

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 form.

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

J. Randy Wirt 5/17/17 VICE PRESIDENT
Signature Date Title

ECS MID-ATLANTIC, LLC
Name of Firm

ATTACHMENT NO. 3.2.7(b)

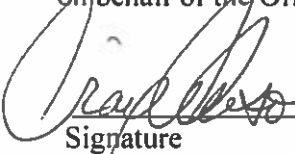
**CERTIFICATION REGARDING DEBARMENT
LOWER TIER COVERED TRANSACTIONS**

Project No.: 0029-030-121, P101, R201, C501, B616

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 form.

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.

	May 16, 2017	President
Signature	Date	Title
ERM & Associates, LLC		
Name of Firm		

ATTACHMENT NO. 3.2.7(b)

**CERTIFICATION REGARDING DEBARMENT
LOWER TIER COVERED TRANSACTIONS**

Project No.: 0029-030-121, P101, R201, C501, B616

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 form.

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.

 5/15/17
Signature Date

Vice President
Title

KCI Technologies, Inc.

Name of Firm

ATTACHMENT NO. 3.2.7(b)


**CERTIFICATION REGARDING DEBARMENT
LOWER TIER COVERED TRANSACTIONS**

Project No.: 0029-030-121, P101, R201, C501, B616

- 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.

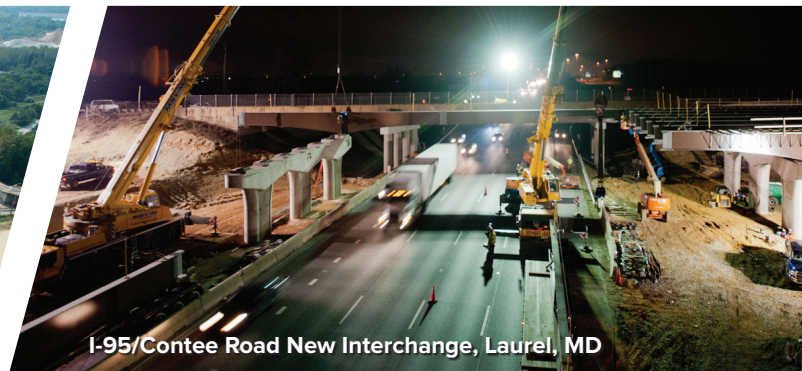
- 2) Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this form.

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.

	June 2, 2017	President
Signature	Date	Title
<u>Quinn Consulting Services, Inc.</u>		
Name of Firm		

APPENDIX 3.2.8

VDOT PREQUALIFICATION EVIDENCE





COMMONWEALTH OF VIRGINIA



CERTIFICATE OF QUALIFICATION

ALLAN MYERS VA, INC.

Vendor Number: **G303**

In accordance with the Regulations of the Virginia Department of Transportation, your firm is hereby notified that the following Rating has been assigned to your firm:

PREQUALIFIED

Your firm specializes in the noted Classification(s):

**GRADING; MAJOR STRUCTURES; ASPHALT CONCRETE PAVING;
MINOR STRUCTURES; ROADWAY MILLING; SURFACE TREATMENT**

Issue Date: July 31, 2016

Suzanne FR Lucas, State Prequalification Officer

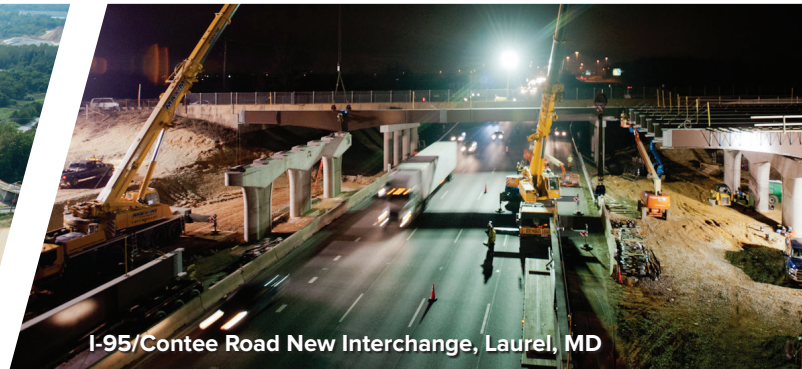
This Rating and Classification will Expire: July 31, 2017

Don E. Silies, Director of Contracts

It is not permissible to alter this document, use after posted expiration date, or use by persons or firms other than those named on this certificate.

APPENDIX 3.2.9

EVIDENCE OF OBTAINING BONDING





June 2, 2017

Commonwealth of Virginia
Virginia Department of Transportation (VDOT)
1401 East Broad Street
Richmond VA 23219

Re: Warrenton Southern Interchange US 15/17/29
From: Route 15/17/29 & Route 15/17/29 Business
To: 1.0 mile South of Route 15/17/29 & Route 15/17/29 Business
Fauquier County, Virginia
State Project No.: 0029-030-121, P101, R201, C501, B616
Federal Project No.: STP-032-7(032)
Contract ID Number: C00077384DB100

To Whom It May Concern:

Allan Myers VA, Inc., a subsidiary of Allan Myers, Inc., is a highly regarded and valued client of Fidelity and Deposit Company of Maryland, Zurich American Insurance Company, and Berkshire Hathaway Specialty Insurance Company.

As sureties for Allan Myers VA, Inc., with A.M. Best Financial Strength Rating and Financial Size Category as listed below, and authorized to transact business in the Commonwealth of Virginia, Allan Myers VA, Inc. is capable of obtaining a 100% Performance Bond and 100% Labor and Materials Payment Bond in the amount of the anticipated cost of construction for approximately Twenty Million and No/100 (\$20,000,000.00) Dollars, 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.

Please be advised that this authorization is subject to standard underwriting throughout the RFQ process, including a review of the contract terms, bond forms, project financing and any other pertinent underwriting information.

Sincerely,

Fidelity and Deposit Company of Maryland (AM Best Rating A+ (XV))
Zurich American Insurance Company (AM Best Rating A+ (XV))
Berkshire Hathaway Specialty Insurance Company (AM Best Rating A++ (XV))

Elizabeth P. Cervini
Attorney-in-Fact

cc: Paul McCarthy, Fidelity and Deposit Company of Maryland & Zurich American Insurance Company
Kevin O'Brien, Berkshire Hathaway Specialty Insurance Company



**ZURICH AMERICAN INSURANCE COMPANY
COLONIAL AMERICAN CASUALTY AND SURETY COMPANY
FIDELITY AND DEPOSIT COMPANY OF MARYLAND
POWER OF ATTORNEY**

KNOW ALL MEN BY THESE PRESENTS: That the ZURICH AMERICAN INSURANCE COMPANY, a corporation of the State of New York, the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, a corporation of the State of Maryland, and the FIDELITY AND DEPOSIT COMPANY OF MARYLAND a corporation of the State of Maryland (herein collectively called the "Companies"), by **DAVID MCVICKER, Vice President**, in pursuance of authority granted by Article V, Section 8, of the By-Laws of said Companies, which are set forth on the reverse side hereof and are hereby certified to be in full force and effect on the date hereof, do hereby nominate, constitute, and appoint **Harry C. ROSENBERG, David C. ROSENBERG, Matthew J. ROSENBERG, Denise M. BRUNO, Julia R. BURNET, Joyce M. HOUGHTON, Jonathan F. BLACK and Elizabeth P. CERVINI**, all of King of Prussia, Pennsylvania, EACH its true and lawful agent and Attorney-in-Fact, to make, execute, seal and deliver, for, and on its behalf as surety, and as its act and deed: **any and all bonds and undertakings**, and the execution of such bonds or undertakings in pursuance of these presents, shall be as binding upon said Companies, as fully and amply, to all intents and purposes, as if they had been duly executed and acknowledged by the regularly elected officers of the ZURICH AMERICAN INSURANCE COMPANY at its office in New York, New York., the regularly elected officers of the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY at its office in Owings Mills, Maryland., and the regularly elected officers of the FIDELITY AND DEPOSIT COMPANY OF MARYLAND at its office in Owings Mills, Maryland., in their own proper persons.


The said Vice President does hereby certify that the extract set forth on the reverse side hereof is a true copy of Article V, Section 8, of the By-Laws of said Companies, and is now in force.

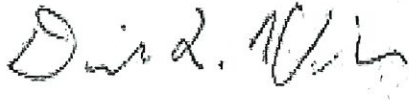
IN WITNESS WHEREOF, the said Vice-President has hereunto subscribed his/her names and affixed the Corporate Seals of the said **ZURICH AMERICAN INSURANCE COMPANY, COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, and FIDELITY AND DEPOSIT COMPANY OF MARYLAND**, this 26th day of May, A.D. 2017.

ATTEST:

**ZURICH AMERICAN INSURANCE COMPANY
COLONIAL AMERICAN CASUALTY AND SURETY COMPANY
FIDELITY AND DEPOSIT COMPANY OF MARYLAND**



By: 
Secretary
Michael McKibben


Vice President
David McVicker

State of Maryland
County of Baltimore

On this 26th day of May, A.D. 2017, before the subscriber, a Notary Public of the State of Maryland, duly commissioned and qualified, **DAVID MCVICKER, Vice President, and MICHAEL MCKIBBEN, Secretary**, of the Companies, to me personally known to be the individuals and officers described in and who executed the preceding instrument, and acknowledged the execution of same, and being by me duly sworn, deposeth and saith, that he/she is the said officer of the Company aforesaid, and that the seals affixed to the preceding instrument are the Corporate Seals of said Companies, and that the said Corporate Seals and the signature as such officer were duly affixed and subscribed to the said instrument by the authority and direction of the said Corporations.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my Official Seal the day and year first above written.





Constance A. Dunn, Notary Public
My Commission Expires: July 9, 2019

EXTRACT FROM BY-LAWS OF THE COMPANIES

"Article V, Section 8, Attorneys-in-Fact. The Chief Executive Officer, the President, or any Executive Vice President or Vice President may, by written instrument under the attested corporate seal, appoint attorneys-in-fact with authority to execute bonds, policies, recognizances, stipulations, undertakings, or other like instruments on behalf of the Company, and may authorize any officer or any such attorney-in-fact to affix the corporate seal thereto; and may with or without cause modify or revoke any such appointment or authority at any time."

CERTIFICATE

I, the undersigned, Vice President of the ZURICH AMERICAN INSURANCE COMPANY, the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, and the FIDELITY AND DEPOSIT COMPANY OF MARYLAND, do hereby certify that the foregoing Power of Attorney is still in full force and effect on the date of this certificate; and I do further certify that Article V, Section 8, of the By-Laws of the Companies is still in force.

This Power of Attorney and Certificate may be signed by facsimile under and by authority of the following resolution of the Board of Directors of the ZURICH AMERICAN INSURANCE COMPANY at a meeting duly called and held on the 15th day of December 1998.

RESOLVED: "That the signature of the President or a Vice President and the attesting signature of a Secretary or an Assistant Secretary and the Seal of the Company may be affixed by facsimile on any Power of Attorney...Any such Power or any certificate thereof bearing such facsimile signature and seal shall be valid and binding on the Company."

This Power of Attorney and Certificate may be signed by facsimile under and by authority of the following resolution of the Board of Directors of the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY at a meeting duly called and held on the 5th day of May, 1994, and the following resolution of the Board of Directors of the FIDELITY AND DEPOSIT COMPANY OF MARYLAND at a meeting duly called and held on the 10th day of May, 1990.

RESOLVED: "That the facsimile or mechanically reproduced seal of the company and facsimile or mechanically reproduced signature of any Vice-President, Secretary, or Assistant Secretary of the Company, whether made heretofore or hereafter, wherever appearing upon a certified copy of any power of attorney issued by the Company, shall be valid and binding upon the Company with the same force and effect as though manually affixed.

IN TESTIMONY WHEREOF, I have hereunto subscribed my name and affixed the corporate seals of the said Companies, this 2nd day of June, 20 17.



Michael Bond

Michael Bond, Vice President

TO REPORT A CLAIM WITH REGARD TO A SURETY BOND, PLEASE SUBMIT ALL REQUIRED INFORMATION TO:

Zurich American Insurance Co.
Attn: Surety Claims
1299 Zurich Way
Schaumburg, IL 60196-1056

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 100 Federal Street, 20th Floor, Boston, Massachusetts 02110, **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: **David A. Johnson, Stephanie S. Helmig, Jonathan F. Black, Elizabeth P. Cervini, Harry C. Rosenberg, Denise M. Bruno, Julia R. Burnet, Joyce M. Houghton, David C. Rosenberg, Matthew J. Rosenberg, 455 S. Gulph Road, Suite 400 of the city of King of Prussia, State of Pennsylvania**, 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 November 18, 2014. 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.

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:

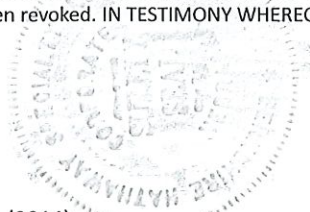
On this 18th day of November, 2014 before me appeared David Fields, Executive Vice President of **BERKSHIRE HATHAWAY SPECIALTY INSURANCE COMPANY** and Vice President of **NATIONAL INDEMNITY COMPANY** and **NATIONAL LIABILITY & FIRE INSURANCE COMPANY**, who being duly sworn, says that his capacity is 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, Brennan Neville, the undersigned, Assistant Secretary 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, I have hereunto affixed the seals of said companies this date of June 2, 2017.



To verify the authenticity of this Power of Attorney please contact us at BHSI Surety Department, Berkshire Hathaway Specialty Insurance Company, 100 Federal Street, 20th Floor, Boston, MA 02110 | (617) 936-2971 or by email at Courtney.Walker@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 claimnotice@bhspecialty.com, via fax to (617) 507-8259, or via mail.



Brian S. Neill

Assistant Secretary

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:

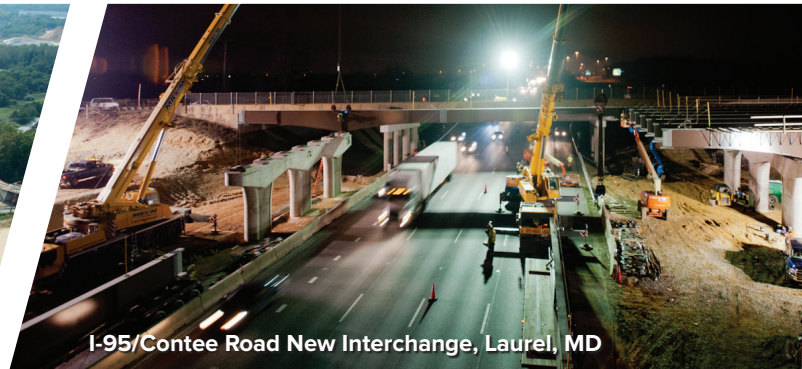
A. The officers shall be a president, one or more vice presidents, one or more assistant vice presidents, a secretary, one or more assistant secretaries, a treasurer, and one or more assistant treasurers, none of whom shall be required to be shareholders or directors, and each of whom shall be elected 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.

APPENDIX 3.2.10

SCC AND DPOR REGISTRATION DOCUMENTATION



ATTACHMENT 3.2.10

State Project No. 0029-030-121, P101, R201, C501, B616

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
Allan Myers VA, Inc	0113780-1	Corporation	Active	301 Concourse Blvd, Suite 300 Glen Allen VA 23059	Class A Contractor	2701009872	12-31-2018
DIW Group, Inc dba Specialized Engineering	F128190-8	Corporation	Active	4845 International Blvd, Suite 104 Frederick MD 21703	Business Entity ENG	0407004748	12-31-2017
Dulles Engineering, Inc	0814199-6	Corporation	Active	4230 Lafayette Center Dr, Ste AB Chantilly VA 20151	Professional Corporation ENG	0405002161	12-31-2017
ECS -Mid-Atlantic LLC	S120821-6	Limited Liability Corporation	Active	14026 Thunderbolt Pl Suite 100 Chantilly, VA 20151	Business Entity ENG	0407004628	12-31-2017
ERM & Associates, LLC	S431583-6	Limited Liability Corporation	Active	N/A	N/A	N/A	N/A
KCI Technologies Inc.	F059869-0	Foreign Corporation	Active	936 Ridgebrook Road Sparks, MD 21152	Business Entity ENG	0407003113	12-31-2017
				6802 Paragon Place Suite 410 Richmond, VA 23230	Business Entity Branch Ofc ENG	0411000938	02-28-2018

ATTACHMENT 3.2.10

State Project No. 0029-030-121, P101, R201, C501, B616

SCC and DPOR Information

KCI (continued)				3014 Southcross Blvd Rock Hill, SC 29730	Business Entity Branch Ofc ENG	0411000956	02-28-2018
Quinn Consulting Services, Incorporated	0492551-7	Corporation	Active	14160 Newbrook Dr, Suite 220 Chantilly, VA 20151	Business Entity ENG	0407003733	12-31-2017
Wallace Montgomery & Associates, LLP	K000734-6	Limited Liability Partnership	Active	10150 York Road Suite 200 Hunt Valley, MD 21030	Business Entity Branch Ofc ENG	0411001087	02-28-2018
				10150 York Road Suite 200 Hunt Valley, MD 21030	Business Entity ENG	0407005814	12-31-2017

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
Allan Myers VA, Inc	Thomas M. Heil	Glen Allen, VA	318 E Mason Ave Alexandria, VA 22301	Professional Engineer	0402044111	01-31-2019
Quinn Consulting Services, Incorporated	Kaushikkumar B. Vyas	Chantilly, VA	10170 Spring Dr Gordonsville, VA 22942	Professional Engineer	0402039004	06-30-2018
KCI Technologies Inc.	Stephen F. Drumm	Sparks, MD	18450 Pretty Boy Dam Rd Parkton, MD 21120	Professional Engineer	0402044936	06-30-2018

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Commonwealth of Virginia
State Corporation Commission

Vir

CISM0180

CORPORATE DATA INQUIRY

05/23/17

15:48:35

CORP ID: 0113780 - 1 STATUS: 00 ACTIVE STATUS DATE: 11/19/13
 CORP NAME: Allan Myers VA, Inc.

DATE OF CERTIFICATE: 10/06/1967 PERIOD OF DURATION: INDUSTRY CODE: 00
 STATE OF INCORPORATION: VA VIRGINIA STOCK INDICATOR: S STOCK
 MERGER IND: CONVERSION/DOMESTICATION IND:
 GOOD STANDING IND: Y MONITOR INDICATOR:
 CHARTER FEE: MON NO: MON STATUS: MONITOR DTE:
 R/A NAME: CT CORPORATION SYSTEM

STREET: 4701 COX ROAD, SUITE 285 AR RTN MAIL:

CITY: GLEN ALLEN STATE : VA ZIP: 23060-0000
 R/A STATUS: 5 B.E. AUTH IN VI EFF. DATE: 10/04/13 LOC : 143
 ACCEPTED AR#: 216 15 6422 DATE: 10/21/16 HENRICO COUNTY
 CURRENT AR#: 216 15 6422 DATE: 10/21/16 STATUS: A ASSESSMENT INDICATOR: 0
 YEAR FEES PENALTY INTEREST TAXES BALANCE TOTAL SHARES
 16 670.00 100,000

(Screen Id:/Corp_Data_Inquiry)

COMMONWEALTH of VIRGINIA

Department of Professional and Occupational Regulation
9960 Mayland Drive, Suite 400, Richmond, VA 23233
Telephone: (804) 367-8500

EXPIRES ON
12-31-2018

NUMBER
2701009872

BOARD FOR CONTRACTORS
CLASS A CONTRACTOR
CLASSIFICATIONS H/H



ALLAN MYERS VA INC
301 CONCOURSE BLVD
SUITE 300
GLEN ALLEN, VA 23059



James W. DeBorja
J. W. DeBorja
Director

Status can be verified at <http://www.dpor.virginia.gov>

(SEE REVERSE SIDE FOR PRIVILEGES AND INSTRUCTIONS)



COMMONWEALTH of VIRGINIA
Department of Professional and Occupational Regulation
CLASS A BOARD FOR CONTRACTORS
CONTRACTOR

CLASSIFICATIONS H/H
NUMBER: 2701009872 EXPIRES: 12-31-2018

ALLAN MYERS VA INC
301 CONCOURSE BLVD
SUITE 300
GLEN ALLEN, VA 23059



Status can be verified at <http://www.dpor.virginia.gov>

DPOR-LIC (05/2015)
(DETACH HERE)

DPOR-PC (05/2015)

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CISM0180

CORPORATE DATA INQUIRY

05/23/17

17:36:09

CORP ID: F128190 - 8 STATUS: 00 ACTIVE STATUS DATE: 01/30/97
 CORP NAME: DIW GROUP, INC.

DATE OF CERTIFICATE: 01/30/1997 PERIOD OF DURATION: INDUSTRY CODE: 00
 STATE OF INCORPORATION: MD MARYLAND STOCK INDICATOR: S STOCK
 MERGER IND: CONVERSION/DOMESTICATION IND:
 GOOD STANDING IND: Y MONITOR INDICATOR:
 CHARTER FEE: 2500.00 MON NO: MON STATUS: MONITOR DTE:
 R/A NAME: C T CORPORATION SYSTEM

STREET: 4701 COX ROAD AR RTN MAIL:
 SUITE 285
 CITY: GLEN ALLEN STATE : VA ZIP: 23060-0000
 R/A STATUS: 5 B.E. AUTH IN VI EFF. DATE: 12/12/13 LOC : 143
 ACCEPTED AR#: 217 01 2461 DATE: 12/05/16 HENRICO COUNTY
 CURRENT AR#: 217 01 2461 DATE: 12/05/16 STATUS: A ASSESSMENT INDICATOR: 0
 YEAR FEES PENALTY INTEREST TAXES BALANCE TOTAL SHARES
 17 1,700.00 2,000,000

(Screen Id:/Corp_Data_Inquiry)

COMMONWEALTH of VIRGINIA
Department of Professional and Occupational Regulation
9960 Mayland Drive, Suite 400, Richmond, VA 23233
Telephone: (804) 367-8500

EXPIRES ON
12-31-2017

NUMBER
0407004748

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



PROFESSIONS-ENG

DIW GROUP INC
SPECIALIZED ENGINEERING
4845 INTERNATIONAL BLVD
#104
FREDERICK, MD 21703

DPOR

Jay W. DeBoer
Jay W. DeBoer, Director

Status can be verified at <http://www.dpor.virginia.gov>

(SEE REVERSE SIDE FOR PRIVILEGES AND INSTRUCTIONS)

DPOR COMMONWEALTH of VIRGINIA
Department of Professional and Occupational Regulation

BOARD FOR APELSCIDLA
BUSINESS ENTITY REGISTRATION
NUMBER: 0407004748 EXPIRES: 12-31-2017
PROFESSIONS: ENG



(For)

DIW GROUP INC
SPECIALIZED ENGINEERING
4845 INTERNATIONAL BLVD
#104
FREDERICK, MD 21703

Status can be verified at <http://www.dpor.virginia.gov>

DPOR-LIC (05/2015)
(DETACH HERE)

DPOR-PC (05/2015)

Alert to corporations regarding unsolicited mailings from VIRGINIA COUNCIL CORPORATIONS is available from the Bulletin Archive link of the Clerk's Office w

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CISM0180

CORPORATE DATA INQUIRY

05/23/17

16:52:37

CORP ID: 0814199 - 6 STATUS: 00 ACTIVE STATUS DATE: 01/26/17
 CORP NAME: Dulles Engineering, Inc.

DATE OF CERTIFICATE: 01/26/2017 PERIOD OF DURATION: INDUSTRY CODE: 70
 STATE OF INCORPORATION: VA VIRGINIA STOCK INDICATOR: S STOCK
 MERGER IND: CONVERSION/DOMESTICATION IND:
 GOOD STANDING IND: Y MONITOR INDICATOR:
 CHARTER FEE: 50.00 MON NO: MON STATUS: MONITOR DTE:
 R/A NAME: ALI DAR

STREET: 42033 FOLEY HEADWATERS ST AR RTN MAIL:

CITY: ALDIE STATE : VA ZIP: 20105-0000
 R/A STATUS: 1 DIRECTOR EFF. DATE: 01/26/17 LOC : 153
 ACCEPTED AR#: 000 00 0000 DATE: LOUDOUN COUNTY
 CURRENT AR#: 000 00 0000 DATE: STATUS: ASSESSMENT INDICATOR: 0
 YEAR FEES PENALTY INTEREST TAXES BALANCE TOTAL SHARES
 00 500

(Screen Id:/Corp_Data_Inquiry)

COMMONWEALTH of VIRGINIA

Department of Professional and Occupational Regulation
9960 Mayland Drive, Suite 400, Richmond, VA 23233
Telephone: (804) 367-8500

EXPIRES ON
12-31-2017

NUMBER
0405002161

BOARD FOR ARCHITECTS, PROFESSIONAL ENGINEERS, LAND SURVEYORS, CERTIFIED INTERIOR DESIGNERS
AND LANDSCAPE ARCHITECTS
PROFESSIONAL CORPORATION REGISTRATION

PROFESSIONS: ENG



DULLES ENGINEERING INC
4230 LAFAYETTE CENTER DR STE AB
CHANTILLY, VA 20151



Jerry W. Wilcox
Director

Status can be verified at <http://www.dpor.virginia.gov>

(SEE REVERSE SIDE FOR PRIVILEGES AND INSTRUCTIONS)

DPOR-LIC (05/2015)

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Commonwealth of Virginia
State Corporation Commission

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05/23/17

LLCM3220

LLC DATA INQUIRY

16:49:44

LLC ID: S120821 - 6 STATUS: 00 ACTIVE STATUS DATE: 04/16/04
 LLC NAME: ECS - Mid-Atlantic, LLC

DATE OF FILING: 04/16/2004 PERIOD OF DURATION: INDUSTRY CODE: 00

STATE OF FILING: VA VIRGINIA MERGER INDICATOR:

CONVERSION/DOMESTICATION INDICATOR:

P R I N C I P A L O F F I C E A D D R E S S

STREET: 14026 THUNDERBOLT PL STE 100

CITY: CHANTILLY STATE: VA ZIP: 20151-0000

R E G I S T E R E D A G E N T I N F O R M A T I O N

R/A NAME: JAMES A ECKERT

STREET: 14026 THUNDERBOLT PL STE 100

RTN MAIL:

CITY: CHANTILLY STATE: VA ZIP: 20151-0000

R/A STATUS: 2 O/D OF CORP M/M EFF DATE: 04/16/04 LOC: 129 FAIRFAX COUNTY

YEAR	FEES	PENALTY	INTEREST	BALANCE
17	50.00			

(Screen Id:/LLC_Data_Inquiry)

COMMONWEALTH of VIRGINIA

Department of Professional and Occupational Regulation
9960 Mayland Drive., Suite 400, Richmond, VA 23233
Telephone: (804) 367-8500

EXPIRES ON

12-31-2017

NUMBER

0407004628

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

PROFESSIONS: ENG



ECS-MID-ATLANTIC LLC
LEO J TITUS JR PE
14026 THUNDERBOLT PL STE 100
CHANTILLY, VA 20151



Status can be verified at <http://www.dpor.virginia.gov>

Angela W. D. B...
ANGELA W. D. B...

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Commonwealth of Virginia
State Corporation Commission

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05/23/17

LLCM3220

LLC DATA INQUIRY

16:50:21

LLC ID: S431583 - 6 STATUS: 00 ACTIVE STATUS DATE: 12/03/12
 LLC NAME: **ERM & ASSOCIATES, LLC**

DATE OF FILING: 12/03/2012 PERIOD OF DURATION: INDUSTRY CODE: 00

STATE OF FILING: VA VIRGINIA MERGER INDICATOR:

CONVERSION/DOMESTICATION INDICATOR:

P R I N C I P A L O F F I C E A D D R E S S

STREET: 7047 WINTERGREEN CT

CITY: WARRENTON STATE: VA ZIP: 20187-0000

R E G I S T E R E D A G E N T I N F O R M A T I O N

R/A NAME: CRAIG J. ANDERSON

STREET: 15 MAIN STREET

RTN MAIL:

CITY: WARRENTON STATE: VA ZIP: 20186-0000

R/A STATUS: 1 MEMBER/MANAGER EFF DATE: 11/30/16 LOC: 130 FAUQUIER COUNTY

YEAR	FEE	PENALTY	INTEREST	BALANCE
16	50.00			

(Screen Id:/LLC_Data_Inquiry)

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Commonwealth of Virginia
State Corporation Commission

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CISM0180

CORPORATE DATA INQUIRY

05/23/17

15:50:07

CORP ID: F059869 - 0 STATUS: 00 ACTIVE STATUS DATE: 01/18/06
CORP NAME: KCI Technologies, Inc.

DATE OF CERTIFICATE: 12/19/1988 PERIOD OF DURATION: INDUSTRY CODE: 00
STATE OF INCORPORATION: DE DELAWARE STOCK INDICATOR: S STOCK
MERGER IND: S SURVIVOR CONVERSION/DOMESTICATION IND:
GOOD STANDING IND: Y MONITOR INDICATOR:
CHARTER FEE: MON NO: MON STATUS: MONITOR DTE:
R/A NAME: CORPORATION SERVICE COMPANY

STREET: Bank of America Center, 16th Floor AR RTN MAIL:
1111 East Main Street
CITY: RICHMOND STATE : VA ZIP: 23219-0000
R/A STATUS: 5 B.E. AUTH IN VI EFF. DATE: 04/29/11 LOC : 216
ACCEPTED AR#: 216 17 2564 DATE: 11/23/16 RICHMOND CITY
CURRENT AR#: 216 17 2564 DATE: 11/23/16 STATUS: A ASSESSMENT INDICATOR: 0
YEAR FEES PENALTY INTEREST TAXES BALANCE TOTAL SHARES
16 100.00 1,000

(Screen Id:/Corp_Data_Inquiry)

COMMONWEALTH of VIRGINIA

Department of Professional and Occupational Regulation
9960 Mayland Drive, Suite 400, Richmond, VA 23233

Telephone: (804) 367-8500

EXPIRES ON

12-31-2017

NUMBER

0407003113

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

PROFESSIONS: ENG



KCI TECHNOLOGIES INC
936 RIDGEBROOK ROAD
SPARKS, MD 21152



Jan W. DeBoer
Jan W. DeBoer, Director

Status can be verified at <http://www.dpor.virginia.gov>

(SEE REVERSE SIDE FOR PRIVILEGES AND INSTRUCTIONS)

DPOR-LIC (05/2015)

COMMONWEALTH of VIRGINIA

Department of Professional and Occupational Regulation
9960 Mayland Drive, Suite 400, Richmond, VA 23233
Telephone: (804) 367-8500

EXPIRES ON

02-28-2018

NUMBER

0411000938

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

PROFESSIONS: ENG



KCI TECHNOLOGIES INC
6802 PARAGON PLACE
SUITE 410
RICHMOND, VA 23230



Status can be verified at <http://www.dpor.virginia.gov>

Jan W. DeBoer
Jan W. DeBoer Director

(SEE REVERSE SIDE FOR PRIVILEGES AND INSTRUCTIONS)

DPOR-LIC (05/2015)

COMMONWEALTH of VIRGINIA

Department of Professional and Occupational Regulation
9960 Mayland Drive, Suite 400, Richmond, VA 23233
Telephone: (804) 367-8500

EXPIRES ON
02-28-2018

NUMBER
0411000956

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

PROFESSIONS: ENG



KCI TECHNOLOGIES INC
3014 SOUTHCROSS BLVD
ROCK HILL, SC 29730



Jay W. DeBoer
Jay W. DeBoer, Director

Status can be verified at <http://www.dpor.virginia.gov>

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COMMONWEALTH of VIRGINIA
Department of Professional and Occupational Regulation
BOARD FOR APELSCIDLA
BUSINESS ENTITY BRANCH OFFICE REGISTRATION
NUMBER: 0411000956 EXPIRES: 02-28-2018
PROFESSIONS: ENG
KCI TECHNOLOGIES INC
3014 SOUTHCROSS BLVD
ROCK HILL, SC 29730



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DPOR-PC (05/2015)

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CISM0180

CORPORATE DATA INQUIRY

05/23/17

15:50:42

CORP ID: 0492551 - 7 STATUS: 00 ACTIVE STATUS DATE: 12/01/08
CORP NAME: QUINN CONSULTING SERVICES INCORPORATED

DATE OF CERTIFICATE: 10/24/1997 PERIOD OF DURATION: INDUSTRY CODE: 00
STATE OF INCORPORATION: VA VIRGINIA STOCK INDICATOR: S STOCK
MERGER IND: S SURVIVOR CONVERSION/DOMESTICATION IND:
GOOD STANDING IND: Y MONITOR INDICATOR:
CHARTER FEE: 50.00 MON NO: MON STATUS: MONITOR DTE:
R/A NAME: JOHN H QUINN JR

STREET: 2208 S KNOLL ST

AR RTN MAIL:

CITY: ARLINGTON STATE : VA ZIP: 22202-2134
R/A STATUS: 4 ATTORNEY EFF. DATE: 10/24/97 LOC : 106
ACCEPTED AR#: 216 13 3280 DATE: 08/29/16 ARLINGTON COUNT
CURRENT AR#: 216 13 3280 DATE: 08/29/16 STATUS: A ASSESSMENT INDICATOR: 0
YEAR FEES PENALTY INTEREST TAXES BALANCE TOTAL SHARES
16 100.00 5,000

(Screen Id:/Corp_Data_Inquiry)

COMMONWEALTH of VIRGINIA

Department of Professional and Occupational Regulation
9960 Mayland Drive, Suite 400, Richmond, VA 23233
Telephone: (804) 367-8500

EXPIRES ON
12-31-2017

NUMBER
0407003733

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

PROFESSIONS: ENG



QUINN CONSULTING SERVICES INC
14160 NEWBROOK DR STE 220
CHANTILLY, VA 20151



Jay W. DeBver
Jay W. DeBver, Director

Status can be verified at <http://www.dpor.virginia.gov>

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COMMONWEALTH of VIRGINIA
Department of Professional and Occupational Regulation

BOARD FOR APELSCIDLA

BUSINESS ENTITY REGISTRATION

NUMBER: 0407003733 EXPIRES: 12-31-2017

PROFESSIONS: ENG

QUINN CONSULTING SERVICES INC

14160 NEWBROOK DR STE 220

CHANTILLY, VA 20151

(FOLD)



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DPOR-PC (05/2015)

DPOR-LIC (05/2015)
(DETACH HERE)

Commonwealth of Virginia



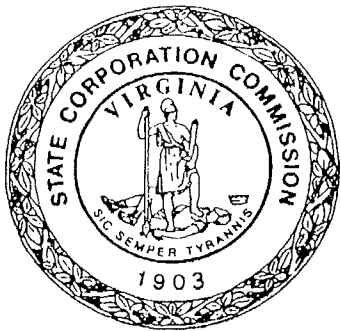
STATE CORPORATION COMMISSION

Richmond, October 13, 2010

This is to Certify that the statement of registration of

Wallace, Montgomery & Associates, LLP

a partnership registered as a limited liability partnership under the laws of MARYLAND, was this day admitted to record in this office and that the partnership is registered to transact business in Virginia as a foreign Registered Limited Liability Partnership, subject to all laws applicable to the partnership and its business.



State Corporation Commission

Attest:

Joel H. Beck
Clerk of the Commission



COMMONWEALTH OF VIRGINIA
STATE CORPORATION COMMISSION

Office of the Clerk

October 13, 2010

NATIONAL REGISTERED AGENTS INC
201 N UNION ST STE 140
ALEXANDRIA, VA 22314

RECEIPT

RE: Wallace, Montgomery & Associates, LLP

ID: K000734 - 6

DCN: 10-10-08-0501

Dear Customer:

This is your receipt for \$100.00 to cover the fees for filing a statement of registration as a registered limited liability partnership with this office.

The effective date of the statement is October 13, 2010.

If you have any questions, please call (804) 371-9733 or toll-free in Virginia, 1-866-722-2551.

Sincerely,

Joel H. Peck
Clerk of the Commission

GPACCEPT
CIS0436

COMMONWEALTH of VIRGINIA

Department of Professional and Occupational Regulation
9960 Mayland Drive, Suite 400, Richmond, VA 23233
Telephone: (804) 367-8500

EXPIRES ON
02-28-2018

NUMBER
0411001087

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

PROFESSIONS: ENG



WALLACE, MONTGOMERY & ASSOCIATES, LLP
10150 YORK RD STE 200
HUNT VALLEY, MD 21030

Jay W. Teffner
Jay W. Teffner, Director

Status can be verified at <http://www.dpor.virginia.gov>

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COMMONWEALTH of VIRGINIA
Department of Professional and Occupational Regulation

BOARD FOR APELSCIDLA
BUSINESS ENTITY BRANCH OFFICE REGISTRATION
NUMBER: 0411001087 EXPIRES: 02-28-2018
PROFESSIONS: ENG
WALLACE, MONTGOMERY & ASSOCIATES, LLP
10150 YORK RD STE 200
HUNT VALLEY, MD 21030



(FOLD)

DPOR-LIC (05/2015)
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9960 Mayland Drive, Suite 400, Richmond, VA 23233
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EXPIRES ON
12-31-2017

NUMBER
0407005814

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

PROFESSIONS: ENG



WALLACE, MONTGOMERY & ASSOCIATES, LLP
10150 YORK RD STE 200
HUNT VALLEY, MD 21030



Jay W. DeBoer
Jay W. DeBoer, Director

Status can be verified at <http://www.dpor.virginia.gov>

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COMMONWEALTH of VIRGINIA
Department of Professional and Occupational Regulation

BOARD FOR APELSCIDLA
BUSINESS ENTITY REGISTRATION
NUMBER: 0407005814 EXPIRES: 12-31-2017
PROFESSIONS: ENG
WALLACE, MONTGOMERY & ASSOCIATES, LLP
10150 YORK RD STE 200
HUNT VALLEY, MD 21030



DPOR-LIC (05/2015)
(DETACH HERE)

COMMONWEALTH of VIRGINIA

Department of Professional and Occupational Regulation
9960 Mayland Drive, Suite 400, Richmond, VA 23233
Telephone: (804) 367-8500

EXPIRES ON
01-31-2019

NUMBER
0402044111

BOARD FOR ARCHITECTS, PROFESSIONAL ENGINEERS, LAND SURVEYORS, CERTIFIED INTERIOR DESIGNERS
AND LANDSCAPE ARCHITECTS
PROFESSIONAL ENGINEER LICENSE



THOMAS M HEIL
318 E MASON AVE
ALEXANDRIA, VA 22301



Jay W. DeBoer
Jay W. DeBoer
Director

Status can be verified at <http://www.dpor.virginia.gov>

(SEE REVERSE SIDE FOR PRIVILEGES AND INSTRUCTIONS)

DPOR COMMONWEALTH of VIRGINIA
Department of Professional and Occupational Regulation

BOARD FOR APELSCIDLA
PROFESSIONAL ENGINEER LICENSE
NUMBER: 0402044111 EXPIRES: 01-31-2019



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THOMAS M HEIL
318 E MASON AVE
ALEXANDRIA, VA 22301

DPOR-LIC (05/2015)
(DETACH HERE)

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DPOR-PC (05/2015)

COMMONWEALTH of VIRGINIA

Department of Professional and Occupational Regulation

9960 Mayland Drive, Suite 400, Richmond, VA 23233

Telephone: (804) 367-8500

EXPIRES ON

06-30-2018

NUMBER

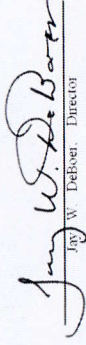
0402039004

BOARD FOR ARCHITECTS, PROFESSIONAL ENGINEERS, LAND SURVEYORS, CERTIFIED INTERIOR DESIGNERS
AND LANDSCAPE ARCHITECTS
PROFESSIONAL ENGINEER LICENSE



KAUSHIKKUMAR BHUPENDRAPRASAD VYAS
10170 SPRING DRIVE
GORDONSVILLE, VA 22942-7581

DPOR


Jay W. DeBoer, Director

Status can be verified at <http://www.dpor.virginia.gov>

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DPOR-LIC (05/2015)

COMMONWEALTH of VIRGINIA

Department of Professional and Occupational Regulation
9960 Mayland Drive, Suite 400, Richmond, VA 23233
Telephone: (804) 367-8500

EXPIRES ON
06-30-2018

NUMBER
0402044936

BOARD FOR ARCHITECTS, PROFESSIONAL ENGINEERS, LAND SURVEYORS, CERTIFIED INTERIOR DESIGNERS
AND LANDSCAPE ARCHITECTS
PROFESSIONAL ENGINEER LICENSE



STEPHEN FRANCIS DRUMM
18450 PRETTY BOY DAM ROAD
PARKTON, MD 21120

James W. DeBoer
James W. DeBoer, Director

Status can be verified at <http://www.dpor.virginia.gov>

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DPOR-LIC (05/2015)
(DETACH HERE)



BOARD FOR APELSCIDLA
PROFESSIONAL ENGINEER LICENSE
NUMBER: 0402044936 EXPIRES: 06-30-2018



STEPHEN FRANCIS DRUMM
18450 PRETTY BOY DAM ROAD
PARKTON, MD 21120

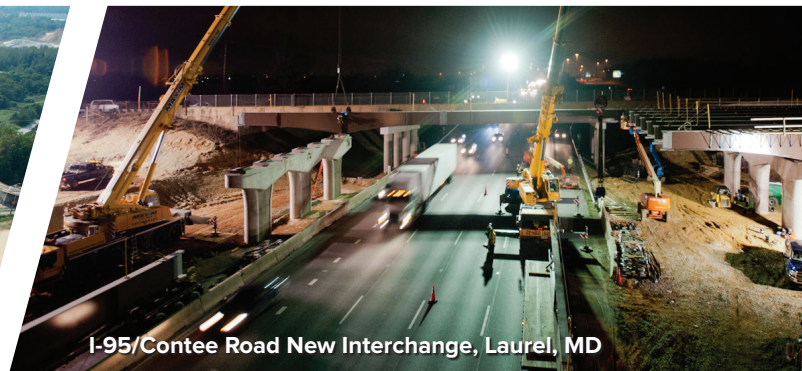
Status can be verified at <http://www.dpor.virginia.gov>

DPOR-PC (05/2015)

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APPENDIX 3.3.1

KEY PERSONNEL RESUMES



ATTACHMENT 3.3.1

KEY PERSONNEL RESUME FORM

Brief Resume of Key Personnel anticipated for the Project.	
a.	Name & Title: THOMAS HEIL, P.E., DBIA - DESIGN-BUILD MANAGER
b.	Project Assignment: DESIGN-BUILD PROJECT MANAGER
c.	Name of all Firms with which you are employed at the time of submitting SOQ. In addition, please denote the type of employment (Full time/Part Time) : ALLAN MYERS (FULL TIME)
d.	<p>Employment History: With this Firm <u>4</u> Years With Other Firms <u>27</u> Years</p> <p>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):</p> <p>ALLAN MYERS, DESIGN MANAGER (2012 – PRESENT): Tom is fully integrated with all Myers’ DB efforts and is responsible for client coordination during DB Project pursuit, bid preparation, design, and construction. He oversees design efforts to obtain AFC plans and secure Notice to Commence Construction (NtCC) approval. In construction, he ensures that all design related modifications are contract compliant and properly coordinated with the client, the Engineer of Record (EOR), and the quality and construction teams. He works closely with all key and support staff, including VDOT, stakeholders, utility companies, and agencies to ensure the approved design plans are closely followed throughout construction. His unique experience in design and problem solving allows him to serve in various roles on Myers DB Projects, such as DBPM on the VDOT \$12M Walney Road and \$9.5M Rolling Road Interchange.</p> <p>RK&K, DIRECTOR, TRANSPORTATION (2008 – 2012): Tom managed RK&K’s NOVA Design Office and his responsibilities included client coordination, directed development of PI / RW / FI / Final Roadway Plans, working with clients to resolving design challenges that met budgetary constraints, and ensuring all pre-construction work products met strict client quality standards and VDOT design specifications. He served as Design Manager for two VDOT NOVA District term contracts (L&D and Traffic Engineering), VDOT project specific environmental contract (FEIS for the HRBT Crossing), and Fairfax County DOT conceptual and final design term contracts (Route 123/Route 7 Interchange, Route 123 widening, Route 123/Braddock Road Interchange study). Some of his VDOT design tasks include Route 7 Truck Climbing Lanes PE, Route 7 Improvements through Hillsboro (twin roundabout designs), I-95 Spot Improvements, over 50 signal modifications, and over 200 miles of safety assessments.</p> <p>RK&K, DESIGN, ASSOCIATE (1997 – 2008): Following his work as the Environmental Manager on the Wilson Bridge Project (1997 through 2001), he was responsible for Mid-Atlantic (MD, DE, VA, PA, and WV) environmental support of major transportation initiatives. He served as the environmental subject matter expert and prepared/supported the development of NEPA documents (CE’s, EA’s and EIS’s) and environmental permitting efforts.</p>
e.	<p>Education: Name & Location of Institution(s)/Degree(s)/Year/Specialization:</p> <p>UNIVERSITY OF MARYLAND, COLLEGE PARK / MS / 1996 / CIVIL ENGINEERING (WATER RESOURCES)</p> <p>UNIVERSITY OF MAINE, ORONO / BS/ 1987 / FOREST ENGINEERING</p>
f.	<p>Active Registration: Year First Registered/ Discipline/VA Registration #:</p> <p>PROFESSIONAL ENGINEER – VIRGINIA / 1994 / 044111; DBIA / 2017 / D-2293</p>
g.	<p>Document the extent and depth of your experience and qualifications relevant to the Project.</p> <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>WALNEY ROAD AND BRIDGE WIDENING DB PROJECT</p> <p>FAIRFAX COUNTY, VA Dates: MAR. 2014 – DEC. 2015 (RECEIPT OF C-5)</p> <p>Client: VDOT Total Cost: \$12.2M Project Role: DESIGN BUILD PROJECT MANAGER</p> <p>With Current Firm? YES</p> <p>Role: As the DBPM and primary VDOT liaison, Tom focused on contract administration, design/construction issue resolution, critical utility relocations coordination, quality management, and stakeholder outreach. Tom managed design through AFC plans and Notice to Commence Construction (NtCC) approval; oversaw construction efforts including utility relocations, roadway, and bridge construction; and implementation of bike/pedestrian facilities.</p>

Project Highlights: Widening of 1.4 miles of Walney Road, which carries more than 21,000 vehicles per day, from two- to four-lanes (predominantly under traffic). The project required complex MOT / temporary detours, provided both on and off road bicycle and pedestrian facilities, and relocated eight major wet and dry utilities. Right-of-way was acquired from seven private owners and the Parks Authority. The project constructed an 85-foot-long voided box beam bridge over Flatlick Branch.

Similarities to Warrington Southern Interchange: The project included complex and time sensitive utility relocations, construction under local traffic (except for a four-month summer road closure/detour to construct the bridge while school was out), and safe and effective MOT during both the AM and PM peaks on Walney Road which serves as a relief route to primary Route 28.

Impact on the Project: Tom actively partnered with VDOT and utility owners to overcome weather delays and overlapping utility relocation schedules in advance of the roadway closure. To meet the project milestone, he directed Myers' forces to assist the utility relocation subcontractors with C&G, E/SC installation, and MOT to expedite duct bank relocations and build float into splicing requirements. This contingency planning ensured that the Project stayed on-track and mitigated relocation delays thus allowing the Project to progress in accordance with the CPM schedule.

VDOT PM: Arif Rahman, VDOT Project Manager, (703) 259-1940

ROLLING RD / FRANCONIA SPRINGFIELD PARKWAY INTERCHANGE IMPROVEMENTS

FAIRFAX COUNTY, VA

Dates: MAR. 2014 – JUNE 2017 (PRESENT)

Client: VDOT | Total Cost: \$9.2M

Project Role: DESIGN BUILD PROJECT MANAGER

With Current Firm? YES

Role: As the DBPM and primary VDOT liaison, Tom focused on contract administration, design and construction issue resolution, quality management, and stakeholder outreach. He managed design through AFC plans and NtCC approval and oversaw construction efforts including unsuitable soil mitigation, construction of retaining walls, and relocation of bike/pedestrian facilities without incident. He continues to work with VDOT on Project close-out.

Project Highlights: The Project included capacity improvements to existing interchange ramp systems to and from Route 286 and elimination of a flow through right movement from Rolling Road to a controlled intersection, all completed under traffic without lane closures. Improvements included bridge rehabilitation, retaining wall construction, median improvements, mitigating unsuitable soils, and sidewalk/shared use path improvements.

Similarities to Warrington Southern Interchange: The Rolling Road Interchange capacity improvement project managed unsuitable soils adjacent to traffic and complex MOT issues similar to those anticipated for this Project.

Impact on the Project: Tom partnered with VDOT, the EOR, and the CM to develop and implement a phased MOT construction approach that preserved the existing bike/pedestrian trail system, balanced the interaction between vehicles and trail users, and prioritized the through trail movements to ensure safety to users going to and from school.

VDOT PM: Arif Rahman, VDOT Project Manager, (703) 259-1940

I-95 INTERCHANGE AT TEMPLE AVENUE – ROUNDABOUT PROJECT

COLONIAL HEIGHTS, VA

Dates: JAN. 2009 – DEC. 2012

Client: VDOT | Total Cost: \$14.5M

Project Role: MYERS DESIGN MANAGER

With Current Firm? Yes

Role: As Myers Design Manager, Tom responsible for planning and design of the proposed interstate, roundabout, and local roadway improvements through AFC plans and NtCC for construction.

Project Highlights: This project includes realigning the existing entrance/exit ramps at the I-95 interchange at Temple Avenue and relocation of the signalized intersection to a new two-lane roundabout with bypass lanes. Extension of the I-95 ramps improves sight distance, vehicle capacity, and transition from interstate speeds to Temple Avenue. The Temple Avenue improvements are constructed to encourage planned development.

Similarities to Warrington Southern Interchange: This project included construction of new interchange ramps which terminated in a roundabout with bypass lanes to ease traffic flow and manage vehicular speeds from a highway setting to speeds appropriate for the local network. In addition, the project mitigated unsuitable soils, included a four-phase MOT plan and included a proactive public outreach effort focused on MOT and future roundabout operations.

Impact on the Project: Sighting and design of the roundabout was complicated by the existing Temple Avenue bridge over an abandoned railroad located over twenty-five feet below grade. In order to negotiate the grade transition and maintain access along Temple Avenue and to/from I-95 during construction, a phased MOT plan was designed and built. Tom's involvement in this process and working with Colonial Heights was essential to properly phase the construction and minimize impacts.

VDOT PM: Harold Dyson, VDOT Project Manager, (804)524-6439

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

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. *Tom is available and committed to supervising and controlling the work and filling the role of DBPM to meet the project commitments.*

ATTACHMENT 3.3.1

KEY PERSONNEL RESUME FORM

Brief Resume of Key Personnel anticipated for the Project.
a. Name & Title: KAUSHIK VYAS, P.E. DBIA, QUALITY ASSURANCE MANAGER
b. Project Assignment: QUALITY ASSURANCE MANAGER
c. Name of all Firms with which you are employed at the time of submitting SOQ. In addition, please denote the type of employment (Full time/Part Time) : QUINN CONSULTING SERVICES (FULL TIME)
d. Employment History: With this Firm <u>7</u> Years With Other Firms <u>31</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): QUINN CONSULTING SERVICES, INC. QUALITY ASSURANCE MANAGER (2010 – PRESENT): Kaushik is a registered professional civil engineer in Virginia and with DBIA, as well as a certified professional of design build institute of America. His professional record includes 31 years of experience in engineering, quality assurance, quality control in the transportation and heavy civil construction. Kaushik has provided professional services on both PPTA/P3 projects and design-build transportation projects, where he has held the positions of area resident engineer and quality assurance manager (QAM), respectively. His responsibilities as QAM have included the supervision of quality assurance inspection staff and responsibility for material record documentation as required for payment application approval. His responsibilities also include the quality assurance and oversight of the construction operations, including the QA testing technicians; review of test reports, daily reports, safety reports, and environmental reports; assessing and certifying whether the materials and work complied with the contract documents; conducting preparatory inspection meetings prior to the start of any new work; providing oversight and directing the independent quality assurance testing and inspections; and reviewing QA and QC documentation for conformance to VDOT’s Minimum QA/QC Requirements Manual and the project quality control plan. TRC, FORMALLY SITE-BLAUVELT, TRANSPORTATION ENGINEER (2001–2010): Kaushik worked as transportation engineer on various projects to include Route 895 Pocahontas Parkway PPTA Project in Richmond, design-build projects like the Rte. 15 Widening, and Linton Hall Road widening in Prince William County. His responsibilities included ensuring construction work as per project plans and specifications. He ensured the testing of materials, documentation of the material, payment of the pay items, and checking pay applications. Kaushik served as the owner’s representative for Rte. 15 widening and Linton Hall Road widening design-build project role in Prince William County. His responsibilities included ensuring construction work per the approved plans. He oversaw the testing of materials, inspection reports, and the material notebook. He was also responsible for the verification of pay quantities and pay applications and coordination with utility companies.
e. Education: Name & Location of Institution(s)/Degree(s)/Year/Specialization: GUJARAT UNIVERSITY, AHMEDABAD, INDIA / BS / 1983 / CIVIL ENGINEERING
f. Active Registration: Year First Registered/ Discipline/VA Registration #: PROFESSIONAL ENGINEER VA 2004 / CIVIL ENGINEER / 0402 039004
g. 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>I-66 ROUTE 15 DIVERGING DIAMOND INTERCHANGE DESIGN-BUILD</p> <p>HAYMARKET, VA Dates: MAR. 2015 – AUG. 2017 Client: VDOT Total Cost: \$36M Project Role: QUALITY ASSURANCE MANAGER With Current Firm? YES</p> <p>Role: As QAM, Kaushik’s conducted preparatory inspection meetings prior to the start of new activity, provided oversight and directed the independent quality assurance testing and inspections, reviewed payment applications, and compared the QA and QC tests to ensure that they were within the tolerances established by VDOT’s Minimum QA/QC Requirements Manual.</p> <p>Project Highlights: The project constructed a diverging-diamond interchange (DDI) on U.S. 15 at I-66 to relieve congestion, enhance public safety, operations and capacity, and accommodate forecasted traffic demand in the area. Work included constructing two new bridges to carry U.S. 15 traffic over I-66 with two crossover intersections, ramp</p>



improvements (including a spur ramp to ease traffic flow from westbound I-66 to northbound U.S. 15 to westbound Heathcote Boulevard), improvements on U.S. 15 from just north of the railroad tracks to just south of Heathcote Boulevard, wider intersections on U.S. 15 at Heathcote Boulevard and Route 55 to add turn lanes, and a 10-foot-wide shared-use path on the east side of U.S. 15 for pedestrians and bicyclists.

Project Similarities to Warrenton: The Warrenton project and the I-66 project are similar in that they both are grade-separated interchanges and include multiple MOT phases performed under heavy traffic conditions.

Impact on the Project: Kaushik worked closely with VDOT and the DB contractor to schedule and deliver in-depth and detailed activity preparatory meetings that enabled all parties to thoroughly understand the requirements for inspection and testing for each activity on VDOT design-build projects.

Reference: William Atkins (VDOT Construction Manager) (571) 287- 0061

BELMONT RIDGE ROAD DESIGN BUILD

LOUDOUN COUNTY, VIRGINIA

Dates: SEPT. 2016 – DEC. 2018

Client: VDOT | Total Cost: \$45M

Project Role: QUALITY ASSURANCE MANAGER

With Current Firm? YES

Role: As QAM, Kaushik conducted preparatory inspection meetings prior to the start of new activity; provided oversight and directed the independent quality assurance testing and inspections, reviewed payment applications, and compared the QA and QC tests to ensure that they are within the tolerances established by VDOT's Minimum QA/QC Requirements Manual.

Project Highlights: This project is located along Route 659 (Belmont Ridge Road) in Loudoun County, VA between Route 642 (Hay Road) and Route 2150 (Gloucester Parkway) and has a total project length of approximately 1.9 miles. The purpose of this project is to address current and future traffic volume needs along the corridor by widening the existing two-lane roadway to a four-lane median divided facility. A bridge for grade-separation is being constructed at the Washington & Old Dominion (W&OD) Trail and shared-use paths will be provided on both sides of Route 659 (Belmont Ridge Road) with direct connections to the W&OD Trail.

Project Similarities to Warrenton: The Warrenton project is similar to Belmont Ridge Project in that both are being constructed under heavy traffic conditions requiring multiple phases and include pedestrian and bicycle facilities.

Impact on the Project: Kaushik scheduled and oversaw a team of QA inspectors that had to work multiple shifts and cover varying activities. Through detailed preparatory meetings, Kaushik made each party (QC, QA, IA) aware of their respective inspection and materials testing responsibilities prior to the start of each activity.

Reference: Jay (Jitender) Babra (VDOT Construction Manager) (571) 722-9585

GLOUCESTER PARKWAY EXTENSION DESIGN BUILD

LOUDOUN COUNTY, VA

Dates: NOV. 2010 – SEPT. 2016

Client: VDOT | Total Cost: \$26M

Project Role: QUALITY ASSURANCE MANAGER

With Current Firm? YES

Role: As QAM, Kaushik's responsibilities included checking test reports, daily reports, MOT reports, and environmental reports. He was responsible for the QA of the construction operations, including the supervision of the QA testing technicians, and he also determined and certified to VDOT whether the materials and work complied with the contract documents. Kaushik conducted preparatory inspection meetings prior to the start of any new activity, reviewed payment applications, provided oversight and directing the independent QA testing and inspections, and compared the QA and QC tests to ensure that they are within the tolerances established by VDOT's Minimum QA/QC Requirements Manual.

Project Highlights: This project extended Gloucester Parkway from the Loudoun County Parkway to the intersection of Pacific Boulevard and Nokes Boulevard. The project consisted of the design and construction of a four-lane divided highway, a new bridge over Broad Run, intersection improvements at Loudoun County Parkway (Route 607) and Pacific Boulevard (Route 1036), and trail and sidewalk improvements.

Project Similarities to Warrenton: The Warrenton project and the Gloucester Parkway project are very similar in size (\$20M and \$26M) and complexity and include many of the same elements. This similarity will help Kaushik to quickly prepare project preparatory meetings and identify possible issues before they impact the quality of the Project.

Impact on the Project: Kaushik worked very closely with the VDOT DB project manager to limit the number of non-compliance issues on the project by working with the DB contractor to have issues corrected immediately in the field.

Reference: Christina Briganti (VDOT Design-Build Manager) (703) 259-2960

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

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.

- *QAM for I-66/Rt 15 Interchange – completion anticipated in August 2017*
- *QAM for Belmont Ridge Road – completion anticipated in December 2018*



ATTACHMENT 3.3.1

KEY PERSONNEL RESUME FORM

Brief Resume of Key Personnel anticipated for the Project.
a. Name & Title: STEPHEN DRUMM, PE, VICE PRESIDENT, TRANSPORTATION REGIONAL PRACTICE LEADER
b. Project Assignment: DESIGN MANAGER
c. Name of all Firms with which you are employed at the time of submitting SOQ. In addition, please denote the type of employment (Full time/Part Time) : KCI TECHNOLOGIES, INC. (FULL TIME)
d. Employment History: With this Firm <u>22</u> Years With Other Firms <u>18</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): KCI TECHNOLOGIES, INC., VICE PRESIDENT, TRANSPORTATION REGIONAL PRACTICE LEADER (1994 – PRESENT): Steve has extensive experience in all aspects of highway design, including design-build projects for MD 355, MD 124, Section B of the ICC, US 50 HOV, MD 695, I-70 rest areas, and the I-90 Cleveland Inner belt CCG2. His responsibilities include managing a design team comprised of design disciplines from KCI and various subconsultants (including DBE) providing task assignments for his projects. He manages the design through regular team meetings, coordination with the client, and providing quality control reviews of all work. Steve prepares monthly invoices, progress reports, staff assignments, budget and schedule monitoring, and general technical oversight. This management role is continued through construction through partnering meetings participation and resolving field issues.
e. Education: Name & Location of Institution(s)/Degree(s)/Year/Specialization: UNIVERSITY OF LOWELL, LOWELL, MA/BS/1978/CIVIL ENGINEERING WENTWORTH INSTITUTE, BOSTON, MA/AA/1975/ENGINEERING
f. Active Registration: Year First Registered/ Discipline/VA Registration #: PROFESSIONAL ENGINEER / 2008 / 044936
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.) MD 355, HOYA ROAD TO MAPLE/CHAPMAN AVE. PHASE 1 BRIDGE DESIGN-BUILD MONTGOMERY COUNTY, MD Dates: JUN. 2010-MAR. 2015 Client: MARYLAND STATE HIGHWAY ADMINISTRATION Total Cost: \$25M Project Role: PRINCIPAL-IN-CHARGE With Current Firm? YES Role: Steve managed the design of the project which included a multi-phased MOT detour road for MD 355, a 150-foot-long single-span bridge, temporary and final signal design for local roads, intersections and interchange, and drainage design for new outfall and three SWM facilities with multi-phased E&SC. Traffic engineering included analysis for TMP and design of signals, signing, lighting, and pavement markings. Utility relocation design included WSSC water line and a Washington Gas line. Project Highlights: This project relocated existing Randolph Road slightly south to align with Montrose Parkway and provided a grade-separated interchange at Rockville Pike (MD 355) and Montrose Parkway. Construction was necessary to improve safety and traffic flow at the busy Rockville Pike intersection by providing a grade-separated interchange for MD 355 over the connection of relocated Randolph Road to Montrose Parkway. Similarities to Warrington: Design-build, grade separated interchange, capacity and safety improvement, multiple roadway classifications, bridges, MSE walls, temporary traffic signals, landscaping, SWM, E/S controls, utility coordination, park and ride facility, bike/pedestrian facility, public relations Impact on the Project: Steve was responsible for preparing the overall design concept. He assisted in developing innovation solutions to providing a drainage outfall for the underpass, designing alternative traffic control phasing and coordinating timely design, approval, and relocation of a gas line with utility staff. During design, he meet bi-weekly with the contractor to review progress, address review comments, and incorporate anticipated construction phasing. During construction, he attended partnering meetings with SHA inspection staff and the contractor to address field issues and upcoming work, such as traffic changes, utility impacts or pending relocations tasks. Reference: Jeff Folden (MDSHA Alternative Delivery Manager) 410-545-8824



I-95/MD 24/MD 924 INTERCHANGES**HARFORD COUNTY, MD****Dates: DEC. 2006-JAN. 2008****Client: MARYLAND TRANSPORTATION AUTHORITY | Total Cost: \$37M****Project Role: DESIGN MANAGER****With Current Firm? YES**

Role: Steve managed the interchange reconstruction project at I-95 and MD 24/MD 924. This required planning, preliminary engineering, and final design for interchange improvements to address high volumes of Northbound traffic exiting to Westbound MD 24 and create a grade separated interchange at the MD 24/MD 924 intersection.

Project Highlights: Capacity and safety had become major concerns for I-95 in Harford County, specifically at MD 24 where evening rush-hour traffic routinely slowed and backed up onto the interstate. The interchange is among the busiest north of the Baltimore Beltway and provides access to a major shopping hub as well as Aberdeen Proving Ground. Less than one half mile down the road, the MD 24 intersection with MD 924 was also experiencing severe congestion and higher than normal accident rates. MDTA worked with the KCI team of designers to tackle both challenges by upgrading the existing I-95 interchange at MD Route 24 and replacing the MD 24/MD 924 intersection with a full grade-separated urban diamond. Because the junctions are located so closely together, an integrated solution was required.

Similarities to Warrington: Grade separated interchange, multiple roadway classifications, bridges, MSE walls, temporary traffic signals, multi-phased traffic control plans, SWM, E/S controls, landscaping, ROW plats and procurement, utility coordination, park and ride facility, bike/pedestrian facility, public relations

Impact on the Project: Steve's assembled and managed the traffic and highway team to assess the effectiveness of the proposed improvements. Steve was responsible for coordinating between the traffic and highway staff to refine the traffic results, and adjust a range of roadway improvement alternatives to investigate the best traffic management strategies for both the interstate and local traffic through the I-95 interchange. Through Steve's leadership, the team successfully developed cost-effective solutions and continued the planning and design efforts with a final traffic analysis and report for submission.

Reference: Mark Coblentz (MTA Overall Project Manager) 301-586-9267

I-90 EB CLEVELAND INNERBELT GEORGE V. VIONOVICH BRIDGE DESIGN-BUILD CCG2**CUYAHOGA COUNTY, OH****DATES: DEC. 2013-JAN. 2017****Client: OHIO DOT | Total Cost: \$270M****Project Role: ROADWAY DESIGN QUALITY MANAGER/ENGINEER****With Current Firm? YES**

Role: KCI is part of the independent quality firm (IQF) that is contracted with the contractor to provide quality management services. Steve served as the Highway Design Lead for the project, and was responsible for reviewing all non-structural elements of the project, including roadway, traffic, maintenance of traffic, retaining walls and drainage design and utility relocation for two miles of the interstate widening and interchange reconstruction. Steve was responsible for the management of the highway review team and coordination with the design and construction team consisting of staff from multiple firms. The IQF was responsible to review, approve, and release for construction all plans prior to construction. Steve was responsible for the review of 27 buildable units consisting of for the full depth eastbound reconstruction of the interstate comprising of three partial interchanges, retaining walls, drainage, and stormwater management facilities, multi-phase maintenance of traffic, signing, and lighting.

Project Highlights: This project is the second phase for the east bound bridge replacement of a 3900' structure over the Cuyahoga River. The roadway improvements include three interchanges at Fairfield, Ontario, East 9th streets, replacement of seven bridges, and five retaining walls. Project complexities include addressing multi-phased changes to City street patterns and changes to ramp access to the interstate, utility relocations, drainage, and coordination with the demolition of the existing Bridge structure.

Similarities to Warrington: Design-build, interchange construction, multiple roadway classifications, bridges, traffic signals, SWM, multi-phased MOT utility coordination, park and ride facility, bike/pedestrian facility, signing pavement marking, landscaping, SWM, drainage,

Impact on the Project: Steve's extensive knowledge and experience in interstate/interchange highway design and the design process for DB projects provided the design team with an experienced manager who understood the challenges of design coordination, submission requirements, and early phase work elements. His oversight resulted in the fast processing of early utility relocation packages, temporary detour roadway shifts, and approval of the TMP.

Reference: Kirk Greick (Ohio DOT Project Manager) (216) 630-1203

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. *Steve is available and committed to the Project and will provide periodic onsite presence as necessary to support construction activities.*

ATTACHMENT 3.3.1

KEY PERSONNEL RESUME FORM

Brief Resume of Key Personnel anticipated for the Project.
a. Name & Title: SCOTT ARMSTRONG, CONSTRUCTION MANAGER
b. Project Assignment: CONSTRUCTION MANAGER
c. Name of all Firms with which you are employed at the time of submitting SOQ. In addition, please denote the type of employment (Full time/Part Time) : ALLAN MYERS (FULL TIME)
d. Employment History: With this Firm <u>1</u> Years With Other Firms <u>16</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): ALLAN MYERS, CONSTRUCTION MANAGER (2016 – PRESENT): Scott oversees all construction activities on his projects to ensure project delivery that meets or exceeds all expectations of quality, timeliness, and budget. His responsibilities include managing the quality control, schedule, planning work activities, coordinating submittals, preparing pay estimates, and negotiating changes to scope of work. Scott coordinates with the owner, design consultants, private utility owners, and the public and other stakeholders. Scott excels in bridge construction, and utility coordination which includes activities such as pre-construction meetings and scheduling of subcontractors to meet the schedule requirements, and maintenance of traffic in congested areas which includes scheduling resourcing to meet the schedule in a safe and productive environment. COLAS WEST AUSTRALIA, AREA MANAGER; (2015–2016): Scott managed the Western Australia division. He was responsible for all financial results within all departments. Duties included the management of all department managers on P&L reporting, planning & scheduling of upcoming works with multiple crews, external invoicing, subcontractor management, and client relation as well as to provide and maintain a safety-first culture throughout the organization. REEVES CONSTRUCTION INC. SENIOR PROJECT MANAGER; (2013-2015): Scott was responsible for several widening projects located in the Augusta Georgia region with contract amounts ranging from \$20M to \$50M. His duties included monthly P6 schedule updates, weekly internal schedules for resources, monthly EAC reviews, monthly utility meetings for UAS, B1/B4 budget projections, external invoicing, subcontractor management, and client relations. TAMPA PAVEMENT CONSTRUCTORS, OPERATION/PROJECT MANAGER; (2012–2009): Scott was responsible for all operations from field management to administration in regards to project planning, scheduling, daily cost reporting, monthly cost-to-complete projections, client relations, key performance indicators, and project closeout. Scott worked with the estimating team in developing realistic, manageable bids for future project opportunities. Scott coordinated quality control, asphalt plant needs, traffic management services, and multiple paving crews for concurrent operations. SLOAN CONSTRUCTION, PROJECT MANAGER; (2005-2009): Scott was responsible for infrastructure projects ranging from <\$100k to \$50M in revenue, including client relations, financial reporting, scheduling, contract management, resource management, and project closeout. He coordinated all internal resources for construction projects including Quality Control, Manufacturing facilities, front-line supervisors, and multiple traffic control, paving, and grading crews for concurrent and efficient operations, and was instrumental in the delivery of all projects on-time and under budget. SLOAN CONSTRUCTION, QA/QC, ASPHALT PLANT, AND TRUCKING MANAGER; (2001-2005): Scott held the positions of QA/QC Technician, Asphalt Plant Manager, and Trucking Manager. In these positions his responsibilities included; all aspects of QA/QC for the only AASHTO Certified Asphalt Laboratory in South Carolina, mix design, mix sampling, mix testing, and mix verification for 5 regional asphalt plants. As Trucking manager, Scott Managed all trucking operations for a fleet of 20-100 internal and external haulers on multiple infrastructure construction projects.
e. Education: Name & Location of Institution(s)/Degree(s)/Year/Specialization: HILLCREST HIGH SCHOOL SIMPSONVILLE, SC/DIPLOMA/1987
f. Active Registration: Year First Registered/ Discipline/VA Registration #: Scott will obtain VDEQ RLD Certification and VDOT ESCCC Certification prior to the commencement of construction for the Project
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.)

I-95/TEMPLE AVE INTERCHANGE IMPROVEMENTS DESIGN-BUILD

COLONIAL HEIGHTS, VA
Client: VDOT | Total Cost: \$14M
With Current Firm? YES

Dates: JAN. 2015 – NOV. 2018
Project Role: CONSTRUCTION MANAGER

Role: Scott is responsible for oversight of construction operations, schedule performance, and construction quality control. His duties included updating the P6 schedule monthly, preparing monthly reports with payment applications, planning of upcoming scheduled activities, management of the punch-list and close-out process.

Project Highlights: This project involves the realignment and extension of the existing interchange ramps, roadway widening, demolition of two bridges, construction of new NB and SB ramps off of I-95 onto Temple Avenue, 80,000 CY of earthwork, two reinforced earth slope walls, and replacement of the signalized intersection at the interchange with a three-lane roundabout. Design relocates the ramp termini to the west of the current location and removes and replaces the signalized intersection at the interchange with a roundabout.

Project Similarities to Warrenton: Design-build, interchange improvements, bridge construction, roundabout

Impact on the Project: Scott is responsible for coordination with VDOT, City of Colonial Heights, Kroger, and internal resources which include QA/QC to meet the schedule needs for completion. Scott resolves any unforeseen challenges and works to mitigate to keep the project on schedule. He coordinated the approval to detour at a signalized intersection which ensure the project meets the completion milestone date.

Client Reference: Harold Dyson, VDOT Project Manager, 804-720-7471

I-585/US-176 WIDENING AND RECONSTRUCTION

SPARTANBURG COUNTY, SC
Client: SOUTH CAROLINA DOT | Total Cost: \$35M
With Current Firm? NO; SLOAN CONSTRUCTION

Dates: JAN. 2005 – MAY 2007
Project Role: CONSTRUCTION MANAGER

Role: Scott was responsible for oversight of construction operations, schedule performance, and construction quality control for the project. Duties also included were monthly P6 schedule updates, monthly EAC reviews, holding monthly utility coordination, subcontractor management, and client relations.

Project Highlights: The project consisted of six phases of construction with widening and reconstruction of existing roadway located in Spartanburg South, Carolina. Major scope items consisted of the construction of three bridges, drainage, concrete sidewalk, and construction of reinforced concrete culverts, construction of MSE walls, grading, and asphalt surfacing.

Project Similarities to Warrenton: Bridge construction, phased construction

Impact on the Project: This project met all incentive dates set by the SCDOT, and ultimately was awarded the 2007 AGC Pinnacle Award for “Best Heavy Highway Project.” Scott’s key role was scheduling / planning the logistics for the operations to minimize time in order to complete each incentive.

Client Reference: Dennis Garber, District Construction Engineer, SCDOT 864-587-4718

SR 56 MIKE PADGETT HIGHWAY WIDENING AND RECONSTRUCTION

AUGUSTA, GA
Client: GDOT | Total Cost: \$29M
With Current Firm? NO; REEVES CONSTRUCTION

Dates: JUNE 2013 – FEB 2015
Project Role: CONSTRUCTION MANAGER

Role: Scott was responsible for oversight of construction operations, schedule performance, and construction quality control for the project. His duties included were management of erosion control, resource allocation, subcontractor management, utility coordination, traffic control maintenance, OJT management, and monthly progress meetings.

Project Highlights: The project consisted of five miles of widening and reconstruction on SR56 (Mike Padgett Highway) beginning at Bannocks Mill Rd (CR 17) and extending to Old Waynesboro Road. (CR 1516). Major items of work included the construction of two new bridges; 64,000 LF of storm drainage; multiple utility relocations; and 21,000 tons of Asphalt. SR56 work utilized four phases of construction to maintain traffic flow.

Project Similarities to Warrenton: Multiple bridge constructions, utility relocations, multi-phased MOT

Impact on the Project: Under Scott’s leadership, this project met all GDOT requirements and finished on schedule. Scott obtained approval for the usage of the existing roadway concrete as recycled graded aggregate base which was utilized on the project. This project required the contractor to coordinate all utilities on behalf of the owner, a task that Scott championed through regular meetings and concurrent utility relocations. The project was located in an area where large industries were present and Scott was involved in planning the construction process to limit interruptions.

Client Reference: Jimmie Smith, GDOT RCE, 404-631-1990

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

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.

- *CM for I-95/Temple Avenue Interchange – completion anticipated in January 2018*

APPENDIX 3.4.1

WORK HISTORY FORMS



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-581 Elm Avenue Interchange Improvements Design-Build Location: Roanoke, VA	Name: Rinker Design Associates	Name of Client.: VDOT Phone: 504-378-5038 Project Manager: Robert Phlegar Phone: 504-378-5038 Email: r.phlegar@vdot.virignia.gov	06/2015	02/2016*	\$20,445	\$20,742 *Contract extension to incorporate additional work requested by VDOT	\$20,742

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 with multiple phases, segments, elements, and/or contracts shall not be considered a single project. If a project listed includes multiple phases, segments, elements, and/or contracts, the SOQ may be rendered non-responsive. In any case, only the first phase, segment, element, and/or contract listed will be evaluated.

PROJECT DESCRIPTION AND RELEVANCE

This project was designed to reduce traffic congestion on I-581, restore and increase clearances for two bridges over I-581 and the Norfolk Southern Railroad, widen Elm Avenue, and modernize downtown Roanoke.

Interchange and Intersection Improvements – The configuration of the Elm Avenue and the I-581 interchange included 0.3 miles of widening on Elm Avenue at the I-581 interchange, widening of the SB off-ramp from I-581 by adding one new lane, widening of the NB off-ramp from Route 220 with an additional lane, connection to the on-ramps to I-581 and Route 220, and construction of a center pier in the median of I-581/Route 220. Improvements also included extending the left turn lane in each direction on Elm Avenue to provide additional capacity and improve traffic flow on the congested roadway, replacement of the guardrail along I-581 to current standards, replacement of a 60-inch pipe crossing under I-581 with an 84-inch pipe, and urban landscaping in medians along I-581.

Bridge Replacement/Reconstruction – Bridge work on I-581/Elm Avenue included widening and replacement of two bridges - one over I-581 and one over the Norfolk Southern Railroad. Improvements included adding one lane to both off ramps from I-581, and extending the left turn lane in each direction on Elm Avenue. Modifications were made to each bridge to provide adequate vertical clearance. The design converted a four-lane urban highway structure (200' long over I-581) to a six-lane bridge including sidewalks and lighting. A new pier (in the median) was added to the existing layout to convert three spans of simple steel-girders to a four-span, continuous, steel-girder bridge with shallower girders to meet current vertical clearance criteria. The design also converted a four-lane urban highway structure (150' long) to a seven-lane bridge over the Norfolk Southern Railroad tracks including sidewalks and lighting. Simple-span, concrete, and box beams were replaced with three-span, continuous, steel girders. Deck extensions and buried approach slabs were used on both bridges to eliminate joints at the abutments, reduce maintenance, and minimize traffic disruptions.

Utility Coordination – Coordination is required with several utilities, including the Western Virginia Water Authority (public water and sanitary sewer), Roanoke Gas, and Appalachian Power Company. The Western Virginia Water Authority and Roanoke Gas relocations were critical to the installation of the 84" Micro-Tunnel replacing a 60" concrete pipe running under I-581. Installation of new lighting and signals was complicated since the location of the existing utility lines was not documented correctly. The Myers Team coordinated with the City to maintain existing signals and lighting for pedestrians while installing the new utility lines. Coordination efforts included Myers, VDOT, the City, and Myers' electrical subcontractor performing the work.

Geotechnical Challenges – Bridge foundations were designed as drilled shafts adjacent to existing footings. Field probes identified pinnacle rock with elevations as deep as 100'. The design was modified based on field conditions and utilized H-piles in lieu of drilled shafts. Delays to construction were overcome by utilizing multiple crews and additional shifts.

Public Relations - To mitigate traffic impacts, Myers coordinated with the public and VDOT TOC to keep parties informed of lane closures and traffic signal impacts.

SUCCESSFUL DELIVERY DETAILS

- **Schedule** – Construction reached substantial completion on schedule and was delivered within budget. There were zero incidents or injuries for 772 days and 65,250 construction man-hours during the project. Myers provided a \$100K cost savings to VDOT for value-engineering which changed the proposed micro-tunneling under I-581 to a tunnel boring operation.
- **Safety and Mobility** – Myers, VDOT, and the City worked collaboratively to maintain traffic flow throughout construction with minimal disruptions, by completing construction in two stages on I-581 and three stages for Elm Avenue. To eliminate additional phases of construction and reduce impacts to traffic on the interstate, widening was completed on I-581 prior to shifting traffic. To maximize traffic flow and safety, Myers built certain elements out of their logical sequence by systematically performing the construction sequentially from one side of the road to the other. Pavement markings were proactively refreshed to provide clear direction for traffic flow.
- **Environment** – Avoid and minimized impacts to wetlands, threatened and endangered species, and cultural resources by optimizing the requirements for the SWM basins and ROW.
- **Maintenance** – Successfully shifted traffic throughout the interchange to mitigate impacts to I-581; designed and scheduled work around the City of Roanoke planned events; and, communicated and coordinated weekly with adjacent project, which included lane closures, traffic switches and construction signs.

“The [Myers] approach to project management has served the Department well... Project scheduling is done on site and involves input from superintendents which improves the efficiency of planning construction in an urban setting.”- Robert Phlegar, VDOT DB Project Manager, January 2015



Aerial view of the Project Location




Post Construction I-581 at Elm Avenue Interchange

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 at Contee Road (Konterra Rd) Interchange Design-Build Location: Prince George's County, MD	Name: Wallace Montgomery 	Name of Client/ Owner: MD SHA Phone: (410) 545-0300 Project Manager: Kevin Oberheim, Phone: 410-808-3493 Email: koberheim@sha.state.md.us	05/2014	11/2014*	\$30,700	\$33,744 *Contract extension to incorporate additional work requested by MD SHA	\$33,744

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 with multiple phases, segments, elements, and/or contracts shall not be considered a single project. If a project listed includes multiple phases, segments, elements, and/or contracts, the SOQ may be rendered non-responsive. In any case, only the first phase, segment, element, and/or contract listed will be evaluated.

PROJECT DESCRIPTION AND RELEVANCE

This project designed and constructed a new interchange at I-95 and Contee Road in Prince George's County to benefit current and future development east and west of the I-95 corridor. The project relocates Contee Road between Virginia Manor Road and Old Gunpowder Road. The interchange links I-95 to Burtonsville and Laurel areas via Contee Road and extends it to Virginia Manor Road to the east and Old Gunpowder Road to the west.

Interchange Improvements: Construction included an urban arterial roadway, Contee Road, (now Konterra Drive), and its grade separated connection with I-95 using a partial cloverleaf interchange configuration. Contee Road was constructed parallel to the north and replaced the existing Van Dusen Road and its crossing over I-95. The interchange connects within the I-95 collector-distributor (CD) roadway system between MD 198 and the Intercounty Connector (ICC) - MD 200. The project signalized three intersections, provided roadway lighting and signage for both pedestrians and drivers, and installed 60,000 square yards of sidewalk.

Bridges: The work included constructing a four-span bridge over I-95, two interchange directional ramps and two cloverleaf ramps, and the relocated at-grade connections of Sweitzer Lane and Van Dusen Road to Konterra Drive. The project required close coordination with several adjacent state, county, and private contracts. The new bridge was required to be opened and the existing bridge demolished in advance of project completion in order for adjacent contractors to complete work. The Myers Team's Alternative Technical Concept shortened the bridge over I-95 by 82 feet in length. The shortening of the bridge was coordinated with the adjacent design-build contract to construction the I-95 C-D road under the over pass. Coordination of design resulted in completion of the new bridge four weeks ahead of schedule. The design and construction of the bridge was on the critical path of the Project CPM schedule. This ATC also resulted in a cost savings of \$2M.

Utility Coordination: Utilities being relocated under the contract include Verizon, Comcast, BGE gas, BGE electric, and WSSC 42", 30", 24", & 16" water mains. Coordination of design and relocation of several private utilities was required during site rough grading operations and prior to final roadway grading. This was a key component to meeting the early interim milestone for bridge construction. The project also occurred in conjunction with adjacent construction and development projects with different stakeholders at each interface of the project. Utilities were designed and relocated to accommodate future town center site development project by Konterra adjacent to the roadway.

SUCCESSFUL DELIVERY DETAILS

- **Schedule** – The completion of the new Konterra Road Bridge and the demolition of the existing Van Dusen Bridge over I-95, allowing for the completion of the ICC's CD Roadways, were vital to the success of Project.
- **ATC Implementation** - The Myers Team developed an ATC that shortened the bridge over I-95 by 82 feet to 519 feet in length. This innovation resulted in completion of the new bridge four weeks ahead of the required interim milestone date.
- **Safely Maintaining Traffic-** During construction, traffic was safely maintained resulting in zero incidents. This was due to the Team's proactive approach to safety and an additional Interim MOT Phase that properly maintained traffic for a water main betterment that conflicted with the proposed road alignment. Myers used detailed TMPs, limited construction access points, and isolated work to specific areas in order to minimize safety risks to the traveling public. To further enhance access, safety and multi-modal features, the Myers Team updated the RFP conceptual design to comply with SHA's revised Bicycle Policy & Design Guidelines by providing 6' shoulders for marked bike lanes along Konterra Drive and 6' pocket lanes between the travel through lane and right turn lanes at the relocated at-grade intersections of Sweitzer Lane and Van Dusen Road.
- **Environment** – Incentives were achieved related to forest impact reduction and reforestation. The final completed project achieved 19.65 acres in actual forest impacts; a reduction of 4.78 acres. As a result of decreasing the Project footprint, increased area was available within right-of-way for on-site reforestation. In addition, Waters of the US (WUS) impacts were decreased by 123 LF. The MDE/USCOE Joint Permit Application permitted WUS impacts at 1,366 LF based on SHA's Concept/ Preliminary Design, and the final completed project achieved 1,243 LF in actual WUS impacts.
- **Maintenance** – Our successful approaches and approved ATCs that resulted in a shortened bridge with reduced number of girders offers tremendous long-term maintenance benefit. There is now much less structure to maintain in future years. A progressive approach to SWM resulted in a minimized approach with fewest facilities possible and reduced maintenance requirements. As we reduced the LOD and forest impacts, we provided a low-maintenance footprint relative to new plantings and grassed surfaces. The design inherently improves access for all maintenance forces in the immediate I-95 corridor (and County road system) for inspection, mowing, plowing and related operations.



Aerial view of before construction



Aerial view after construction

Allan Myers MD, Inc., an affiliate of Allan Myers VA, Inc., served as the Lead Contractor for this project and will provide management and manpower support for the Warrenton Southern Interchange Project. While Allan Myers contracts under different entities in different states for accounting purposes, all entities share resources and report to the same management team.

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: Richmond Airport Connector Road Design-Build Location: Richmond, VA	Name: Dewberry	Name of Client/ Owner: Transurban Phone: (804) 822-3460 Project Manager: Richard Prezioso Phone: (804) 822-3460 Email: rprezioso@transurban.com	05/2011	03/2011	\$38,523	\$39,446 Change due to scope validation after engineering investigation was complete	\$39,446

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 with multiple phases, segments, elements, and/or contracts shall not be considered a single project. If a project listed includes multiple phases, segments, elements, and/or contracts, the SOQ may be rendered non-responsive. In any case, only the first phase, segment, element, and/or contract listed will be evaluated.

PROJECT DESCRIPTION AND RELEVANCE
 The Richmond Airport Connector Road is a Public-Private Partnership project that involved the design and construction of 1.6 miles of new four-lane divided roadway and a grade separated intersection with route 895, including three new bridges and the widening of an existing bridge. The new road improves access and reduces travel time in the burgeoning Henrico County, VA area by providing motorists with a direct link to the Richmond International Airport from Route 895, a toll road operated by project customer Transurban. Major work items for this project included 111,500 SF of MSE walls, four box culvert extensions, 16,540 LF of storm drainage, over 450,000 CY of import, and 133,500 TN of stone base and paving. Completion of the Richmond Airport Connector Road fulfilled a long-term transportation goal for VDOT and Henrico County. The project received the DBIA Design-Build Merit Award for Transportation in 2011 and received an overall rating of "Extremely Satisfied" from Myers project completion customer survey.

Interchange Improvements: The project included the design and construction of an interchange at Route 895 with four new ramps.

Multiple Roadway Classification: The project reconfigured an existing at-grade intersection with Charles City Road. as an improvement for Henrico County, Charles City Road was widened to handle the additional traffic, which required significant coordination to obtain their approval of the design.

Bridges: The scope of work included three new bridges (one crossing over existing Route 895) and bridge widening for one structure. Myers utilized a combination of self-performing and subcontracting bridge construction to meet the critical path project schedule. Retaining wall construction was a critical item at each of the four bridges and totaled 111,511 SF.

Utility Coordination: Utility relocation coordination was required with various entities including CSX, Henrico County, Dominion Power and the Richmond Airport.

Public Relations: Myers worked together with key stakeholders to provide innovative value engineering solutions including adjusting the roadway alignment to reduce overall excavation, altering the storm water management design for ease of constructability, and shortening the length of the bridges to reduce future maintenance costs.

"Richmond Airport Connector experienced its fair share of the inevitable issues that will arise during the life of a project. What set this project apart from others was the manner in which the issues were addressed. The team managed to separate the issues from other ongoing efforts in a manner that allowed the project to continue making progress while the issue received the necessary focus." – Richard Prezioso (Recommendation letter for DBIA award)



MSE Wall Construction for a Bridge Approach



Bridge Deck Pour

SUCCESSFUL DELIVERY DETAILS

- **Schedule** – Myers initiated early coordination and approvals from third parties such as CSX, Henrico County, Dominion Power, and the Richmond Airport to expedite the project schedule. During construction, Myers reduced schedule risk by segmenting the project into manageable geographic areas. Phasing was designed so that multiple areas of the project could be constructed concurrently without negative impacts from crew stacking. Design packages were strategically broken down to expedite operations such as clearing and embankment, pile driving and MSE wall construction in settlement areas. Aggressive schedule milestones were met by managing critical path items daily and scheduling the necessary settlement periods for fills. Myers delivered the project two months ahead of schedule.
- **Safety and Mobility** – Worked a total of 152,546 man-hours with zero incidents and completed the project two months ahead of schedule.
- **Environment** – The team avoided and minimized impacts to wetlands, threatened and endangered species, and cultural resources by optimizing the requirements for the SWM basins and ROW and mitigating unsuitable soils.
- **Maintenance** – Successfully schemed work to mitigate impacts to Charles City Road and I-895. Myers' innovative value engineering solutions including adjusting the roadway alignment to reduce overall excavation, altering the storm water management design for ease of constructability, and shortening the length of the bridges to reduce future maintenance costs.



Post-Construction on Airport Connector Road

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: MD 650, Intercounty Connector B, Design-Build Location: Montgomery County, MD	Name: Kiewit/Wagman/Corman JV	Name of Client.: Maryland State Highway Administration Phone: 301-586-9267 Project Manager: Mark Coblentz Phone: 301-586-9267 Email: mcoblentz@sha.state.md.us	01/2009	10/2010	\$545,092	\$560,753	\$4,600

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 with multiple phases, segments, elements, and/or contracts shall not be considered a single project. If a project listed includes multiple phases, segments, elements, and/or contracts, the SOQ may be rendered non-responsive. In any case, only the first phase, segment, element, and/or contract listed will be evaluated.

PROJECT DESCRIPTION AND RELEVANCE

The Intercounty Connector (ICC) is an 18-mile east-west highway corridor connecting Prince George’s and Montgomery Counties, north of Washington, DC. While this was a “mega project,” much of the work required relocation and reconstruction of local and state roads. The MD 650 is a good example of a \$35M urban interchange reconstruction project through a congested area. KCI provided the final design for the Single Point Urban Interchange at MD 650 and MD 200, which was designed to accommodate the traffic volumes for MD 650 in a limited space to minimize impacts to the adjacent residential and business community. *KCI was a subconsultant for the project and DM Steve Drumm, PE served as the Lead Highway Designer responsible for sealing the plans. KCI provided design services from a co-located project office in Beltsville, MD.*

Interchange Improvements: The new ICC/MD 650 interchange required a complex multi-phased traffic controls plans. The MD 650 bridge was constructed in half width construction for the through movements as the ICC was not open to traffic. The single point interchange provides for a high volume of entrance and exit traffic with very specific design geometry for safe cross turning movements, entrance and exit radius for each corner of the bridge, and ramp merge areas required for traffic to safely weave at the ICC. The traffic analysis required capacity and queue lengths for the ICC exit lanes and balancing the phasing and green time for the capacity along MD 650.

Multiple Roadway Classifications: KCI prepared roadway, traffic, drainage, and structures plans for two types of classifications, arterial and major collector facilities. The MD 650 single point interchange required a high capacity interchange within a small footprint to avoid impact to adjacent properties. KCI managed the design of the interchange, which included the geometrics alignments of the ramp, turning movements, sight distance, storage lengths, signal timing and pole placement. MD 650 is a six-lane divided highway with the ICC crossing under the interchange. MD 650 was widened to accommodate the double left turn movements within the median and existing ROW and replacement of sidewalk on both sides of the roadway. Design for the roadway, bridge, and traffic control required close coordination to set the geometric alignments for the roadway and intersections. The existing Cape May Road intersection with MD 650 did not provide adequate intersection spacing and, with stakeholder input, was ultimately closed and traffic was diverted to the Bonifant Road and Good Hope Intersection 1000’ to the north. Additional design work included a 10’ asphalt paved pedestrian and bike path along the ICC for future connection to the counties’ trail system.

Bridges: The project included a new two-span bridge over ICC for MD 650. The structural design included retaining walls and design for a two-span steel girder bridge, with a total span of 175’ to accommodate a single point urban diamond interchange. The bridge width of 168’ has curved side framing for the for the ramps with sidewalks on each side, double turn lanes for each ramp and eight lanes of traffic, six through lanes and the opposite two left turn lanes.

Utility Coordination: The project included extensive coordination for water, gas, power and telecommunications facilities that required relocations for the new interchange. Early phase relocations for construction start and traffic control included a major Verizon telecommunications line and temporary relocation of utility poles line along SB MD 650 for phase one traffic shift. The Verizon line was in an underground conduit paralleling MD 650 and the splicing time for the relocation of the line outside of the construction limits would not fit within the tight schedule. KCI’s utility staff developed a concept that allowed for the relocation of the aerial copper and fiber facilities to be moved in a combination of transfer and new cable work, which allowed for the reduction of complete replacement of cables and the creation of new splice points in the facilities. Working with Verizon, KCI obtained approval to temporarily support the existing line while the new line was constructed and spliced into service. The SB overhead utilities were carefully located to only require a minor shifting of three poles to accommodate placement of a concrete barrier enabling all six lanes of traffic to be shifted west for construction of the new MD 650 bridge. Once the traffic was shifted, the utility staff and design team could complete and relocate the utilities as the project was built, eliminating any schedule delays.

SUCCESSFUL DELIVERY DETAILS


- **Schedule** – Key issues addressed were coordinating and relocating both overhead and underground utilities, early grading on the east side to lower the ICC grade to accommodate utilities relocations, and permits for the grading as the interchange fell within a special watershed protection area. KCI’s design and coordination efforts with Verizon to minimize schedule impacts for required relocations by reducing the complete replacement required.
- **Safety and Mobility** – A multi-phased traffic control plan was required to construct the MD 650 bridge over MD 200 while maintaining traffic on MD 650. MD 650 traffic was maintained by shifting the existing traffic from the existing northbound lanes. The roadway, drainage, and traffic plans were all coordinated with the traffic shifts along the existing alignment. In addition, a pedestrian access plan was developed to maintain a safe and continuous route through all phases of construction. Traffic volumes entering and exiting the highway are controlled by a series of two phased signals allowing opposite traffic movements to occur at the same time to improve traffic flow entering and exiting the interchange while fitting in a relatively small space.
- **Environment** – KCI was engaged in a Contractor Quality Control (CQC) delivery method to perform program management and construction management for all aspects of the environmental mitigation/stewardship projects within this segment. KCI’s on-site construction management and inspection staff identified areas for stricter budget and schedule control while ensuring contract compliance. Knowledge of environmental constraints and communication to the entire construction force was vital to minimize quality deficiencies, saving time and money. Permit conditions and project commitments included development of an environmental compliance and monitoring program, including training for all working within the right-of-way, and establishment of an environmental commitment database to ensure all compliance and commitments were adhered to during construction.
- **Maintenance** – The single point interchange design provides for a high capacity interchange with in a limited space reducing overall maintenance with its compact size. Concrete pavement was placed in the splitter island to reduce maintenance with grass or landscaping.



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-95/MD 24/MD 924 Interchange Improvements Location: Harford County, MD	Name: Allan Myers (Formerly Daisy Construction) 	Name of Client: Maryland Transportation Authority (MDTA) Project Manager: Daniel Williams Phone: (410) 537-7824 Email: dwilliams1@mdta.state.md.us	12/2006	01/2008	\$60,000	\$37,777	\$890

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 with multiple phases, segments, elements, and/or contracts shall not be considered a single project. If a project listed includes multiple phases, segments, elements, and/or contracts, the SOQ may be rendered non-responsive. In any case, only the first phase, segment, element, and/or contract listed will be evaluated.

PROJECT DESCRIPTION AND RELEVANCE

Capacity and safety had become major concerns for I-95, specifically at MD 24 where evening rush-hour traffic routinely slowed and backed up onto the interstate. The interchange is among the busiest north of the Baltimore Beltway and provides access to a major shopping hub as well as Aberdeen Proving Ground, which has experienced an influx of new jobs and families through the Base Realignment and Closure process. Less than one half mile down the road, the MD 24 intersection with MD 924 was also experiencing severe congestion and higher than normal accident rates. MDTA worked with a team of designers and contractors to tackle both challenges at the same time by upgrading the existing I-95 interchange at MD Route 24 and replacing the MD 24/MD 924 intersection with a full grade-separated urban diamond. Because the junctions are located so closely together, an integrated solution was required. The team designed improvements that would allow traffic to flow freely through the MD 24/MD 924 interchange to eliminate backups on I-95 and accommodate capacity 25 years in the future. **KCI was the prime designer and Steve Drumm, PE was the DM for this project and performed the design work from the Sparks, MD office.**



Interchange Improvements: The primary improvement consisted of capacity and safety improvements for the I-95 and MD 24 interchange for northbound traffic exiting the interstate. Design work included roadway and bridge design for separating the local MD 924 and through movement for MD 24 traffic to improve exit volume flow and back-up on to the interstate. The MD 24 through volume traffic will exit at the first Ramp A, with left turns onto MD 24 and a grade separated interchange to avoid the intersection congestion and delays. The local MD 924 traffic will exit at the second B loop ramp onto the barrier separated lanes ending at MD 924 intersection for residential and shopping center access. Design work included a grade separated interchange, roadway widening and realignments, exit and entrance ramps, drainage, new interconnected signals along MD 24, signing, lighting, pavement markings and landscaping.

Multiple Roadway Classification: KCI prepared roadway, traffic, drainage, structures plans for three types of classifications, interstate, arterial and collector facilities. Design work along I-95 included interstate widening, ramp widening and reconfiguration, ramp termini intersections redesign with signals, signing, lighting pavement marking, roadway drainage SWM and erosion controls plans phased with the traffic control plans. Design work for MD 24, a four-lane arterial, included roadway widened with barrier and raised median lanes to control traffic weave movements in separating the traffic to the MD 24 arterial, through movement from the MD 924 collector traffic accessing the local residential and shopping centers adjacent to the interchange. Design work for MD 924, a collector classification, included closed storm drainage, sidewalks, signals, ADA ramps and crosswalks, SWM and erosion controls.

Bridges: The project included a new MD 24 single-span grade separated bridge over MD 924 with MSE support walls for the approach roadway and stub abutments. Bridge foundations consisted of steel H piles driven after a 90-day settlement period for the approach roadway embankments. The MD 24 westbound two-span bridge over I-95 was widened for a new lane and shoulder to accept the exit ramp for Northbound I-95 and included lengthening of existing abutments, widening of the existing deck new parapets, and guiderail attachments.

Utility Coordination: Project included extensive coordination for water, gas, power and telecommunications lines that required both avoidance and relocations. Critical utilities that required relocations were a water and gas line crossing of MD 24 that were within the existing intersection that was being lowered by 4'. KCI provided the relocation for the water line design and coordinated with BGE for the gas line design and relocation. Phase of the water and gas line relocations were critical to the schedule to accommodate the traffic control phasing and bridge construction. Plans called for shifting the existing traffic to the north and lowering the utilities with evening lane closures followed by reconstruction of the existing intersection to the new profile grade. As this work was being done, the outside power and telecommunication poles were being relocated for the new connecting ramps between I-95 and MD 24.

SUCCESSFUL DELIVERY DETAILS

- **Schedule** – Since the project had already been bid, MDTA asked the team to complete the redesign under an accelerated schedule with a secondary goal of compressing the project's construction time line. Partnering also played a key role in minimizing impacts to the schedule caused by strained suppliers, craftsman, designers and reviewers that were also supporting the simultaneous construction of the Intercounty Connector.
- **Safety and Mobility** – Capacity and safety had become major concerns for I-95, specifically at MD 24, where evening rush-hour traffic routinely slowed and backed up onto the interstate. Critical challenges included minimizing congestion and reducing construction cost while meeting the original safety and capacity objectives. Safety and operational review included analysis of weave movements between ramps; sight stopping distance along ramps and mainline median barrier; design speed for ramps; merge lengths for the local and through traffic from I-95; and signal designs, including pedestrian and ADA compliance for intersection layout. Key design issues included truck turning movements, double left exit and entrances, shoulder widths and typical sections, minimization of right-of-way takes, and constructability.
- **Environment** – KCI performed a detailed NEPA review and developed environmental base mapping showing impacts to wetlands, waters of the US, and forest stands. Environmental impacts were coordinated with regulatory and permitting agencies and a Categorical Exclusion was prepared for FHWA approval. KCI developed the analysis for FHWA Interstate Access Point Approval for the proposed improvements to I-95/MD 24 interchange, which entailed a full traffic modeling study outlining impacts to I-95 traffic with recommended improvements.
- **Maintenance** – All sidewalks in the area were bought up to current ADA standards and low maintenance landscaping was specified for the planting plans in SWM facilities. Limited planting within the interchange and standard signal equipment were used for the project to minimize maintenance.

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: MD 355 Hoya Road to Maple/Chapman Ave. Design-Build Location: Montgomery County, MD	Name: Concrete General, Inc.	Name of Client.: Maryland State Highway Administration Phone: 410-545-8824 Project Manager: Jeff Folden Phone: 410-545-8824 Email: Jfolden@sha.state.md.us	06/2010	03/2015	\$25,421	\$25,421	\$3,050

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 with multiple phases, segments, elements, and/or contracts shall not be considered a single project. If a project listed includes multiple phases, segments, elements, and/or contracts, the SOQ may be rendered non-responsive. In any case, only the first phase, segment, element, and/or contract listed will be evaluated.

PROJECT DESCRIPTION AND RELEVANCE

This DB interchange project relocated Randolph Road slightly south to align with the recently completed Montrose Parkway and included construction of a new grade-separated interchange on Rockville Pike (MD 355). Upon completion, a congested intersection was eliminated, improving capacity along the corridor with the new relocated Montrose/Randolph Road Parkway. The project improved safety and traffic flow at the busy Rockville intersection and addressed the county's transportation needs for a high volume interchange connection to the recently constructed east-west Montrose Parkway. Construction documents included preparation of roadway alignments for MD 355, Randolph Road, and Old Georgetown Road for mainline, ramps, intersections and parking lots; drainage for storm drain, SWM, and E&SC; traffic for signals (temporary/permanent), including safety enhancements for ADA ramps with accessible pedestrian signal features, signing, pavement marking, roadway and parking lot lighting; geotechnical investigation; and final reports for pavement design, slope stabilization and structural foundations. Utility design was done for the WSSC water line and Washington gas relocations. *KCI was the prime designer and Steve Drumm, PE was the principal-in-charge for this project and performed the design work from the Sparks, MD office.*

Interchange Improvements: The primary improvement consisted of capacity and safety improvements for the MD355 and Randolph / Montrose Roads intersection. With the construction of the Montrose Road parkway, a new connection with MD 355 and Randolph Road was required with an grade separated interchange, local roadway connections, and a new park-and-ride lot. Design work included a multi-phased traffic control plan for grade separating Montrose Road under MD 335, intersection and local roadway reconfiguration for the ramp connections, exit and entrance ramp design, storm drainage and outfall construction, new interconnected signals along Montrose/Randolph, and new signal for the 200 space park-and-ride lot at Hoya Street. The interchange required cutting MD 355 in excess of 25', which impacted existing traffic, drainage, and utilities that had to remain in service as the new interchange was built.

Multiple Roadway Classifications: KCI prepared roadway, traffic, drainage, structures plans for two types of classifications, arterial and local collector facilities. Design work for MD 355 and Montrose Parkway included roadway widening for the exit and entrance ramps, ramp termini intersections redesign with pedestrian crossing, APS signals, signing, lighting, pavement marking, roadway drainage, SWM, and erosion controls plans phased with the traffic control plans. Design work for the local roadways, Hoya, Montrose, and Towne Roads, included roadway widening with new curb and gutter, sidewalks, ADA ramps and crosswalks, new turn lanes, splitter islands, and raised medians for the intersections. Additional design work included a 10' asphalt paved pedestrian and bike path along Montrose and Randolph Parkways, with a connection to MD 355 through the interchange ramps.

Bridges: The project included a new two-span bridge over Montrose Parkway for MD 355. The structural design included retaining walls and design for a two-span steel girder bridge, 82' and 93' for a total length of 175'. The bridge width is 115'-6" and carries seven lanes of traffic; three in the northbound and four in the southbound direction.

Utility Coordination: The project required extensive coordination for water, gas, power and telecommunications lines that included both avoidance and relocations. Critical utilities were an early phase gas line relocation for the MD 355 exit ramp, relocation of a WSSC water line under MD 355 in the proposed alignment of the grade separation, avoidance of a Verizon communications vault at the intersection of Montrose Parkway and Hoya Street, and adjuvant coordination for relocation of utility poles. The gas line relocations were critical to the schedule to accommodate the traffic control phasing and bridge construction, the water line relocation was performed in the later phases along the lowered Montrose Parkway, and the utility pole adjustment were minimized. The Verizon vault was a challenge as the conduits leading in and out were not as shown on the plans and required field adjustments for the water line relocation. KCI's design knowledge and experience in both Verizon and WCCS enabled the water line adjustments to be quickly design and approved with minimal delays to the contractor.



SUCCESSFUL DELIVERY DETAILS

- **Schedule** – Cutting MD 355 by 25' required relocation of the existing drainage systems for both MD 355 and relocated Montrose Parkway before major construction tasks could start. Drainage, traffic, and utility engineers worked together to carefully evaluate existing and proposed utilities for phasing and construction methods to develop an MOT plan. The team determined that by diverting MD 355 traffic to the east along the proposed route of interchange ramps, the west side of the interchange could be opened for preliminary excavation of the new parkway road bed, reducing the depth of construction for the storm drain and providing earlier access for construction for the proposed bridge. Key early action items were utility relocation for a six-inch gas line and providing a drainage outlet for the new Montrose roadway under MD 355. These items were the first work to be designed, approved, and permitted following NTP. KCI performed utility investigation to accurately locate the gas facilities, provided design plans for Washington Gas approval, and prepared traffic control and E/S control plans as the first design submissions. Concurrently with plans, KCI completed the storm drainage system layout and prepared a submission for the outfall construction.
- **Safety and Mobility** – Because of congestion and development around the existing interchange, maintaining traffic was a vital piece of the sequence of construction strategy. Special attention was given to accommodate a high volume of trucks and address traffic operational issues in the project area. Through careful planning and a complex, six-phase maintenance of traffic plan, all lanes of traffic were maintained at all times. This project improved capacity and safety and eliminated a major congested intersection. Safety enhancements were provided for both pedestrians and vehicles and provided connectivity to local shopping centers, apartments, schools and the park-and-ride lot with sidewalks and a bike path.
- **Environment** – KCI performed over 50 soil-test borings to explore the subsurface conditions. Because of the variable urban and terrain setting of the project, the group employed different types of drilling equipment during the subsurface exploration. This approach obtained design soil parameters and met environmental regulatory requirements. Prior to subsurface exploration, KCI geotechnical engineers coordinated with Miss Utility and private utility subcontractor, as well as the client, to clear all utilities within the location of the boreholes.
- **Maintenance** – All sidewalks in the area were bought up to current ADA standards, low maintenance landscaping was specified for the planting plans in SWM facilities, and standard signal equipment were used for the project to minimize maintenance.



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