

I-95 NORTHBOUND RAPPAHANNOCK **RIVER CROSSING**

STATEMENT OF QUALIFICATIONS

A DESIGN-BUILD PROJECT

FROM 1.16 MILES SOUTH OF ROUTE 3 (PLANK ROAD) TO 0.44 MILES SOUTH OF **ROUTE 8900 (CENTREPORT PARKWAY)**

STATE PROJECT No. 0095-111-270 FEDERAL PROJECT No. NHP-095-2(531)

CONTRACT ID No. C00105510DB106





BRANCH - FLATIRON JOINT VENTURE



3.2 LETTER OF SUBMITTAL

July 2, 2019



Suril R. Shah, PE, DBIA (APD Division) Commonwealth of Virginia Department of Transportation (VDOT) Central Office Mail Center | Loading Dock Entrance 1401 E. Broad Street Richmond, Virginia 23219

Re: Statement of Qualifications | I-95 Northbound Rappahannock River Crossing State Project No.: 0095-111-270 | Federal Project No.: NHP-095-2(531) | Contract ID Number: C00105510DB106

Dear Mr. Shah,

Branch-Flatiron Joint Venture (Branch-Flatiron), as the Offeror, submits to the Virginia Department of Transportation (VDOT) this Letter of Submittal and accompanying Statement of Qualifications in response to the Request for Qualifications dated May 13, 2019 for the above-referenced project. For this pursuit, Branch-Flatiron has partnered with Lead Designer **STV Incorporated dba STV Group Incorporated** (STV) to furnish a product that exceeds design and construction expectations.

- **3.2.1 Full legal name and address of the Offeror:** Branch-Flatiron Joint Venture | 442 Rutherford Ave, NE, Roanoke, VA 24016
- 3.2.2 Point of Contact for the Offeror: Mr. Donald E. Bryson, Jr., Pursuit Manager Address: 442 Rutherford Ave, NE, Roanoke, VA 24016 Tel: (704) 572-1684 | Fax: (540) 982-4217 | Email: donald.bryson@branchcivil.com
- 3.2.3 Principal Officer of the Offeror: Mr. Jason Hoyle, Vice President, Design-Build/Major Projects Address: 442 Rutherford Ave, NE, Roanoke, VA 24016 Tel: (540) 982-1678 | Fax: (540) 982-4217 | Email: jason.hoyle@branchcivil.com
- **3.2.4** Structure of the Offeror: Branch-Flatiron is an integrated joint venture of Branch Civil, Inc. and Flatiron Constructors, Inc. Branch-Flatiron will provide a single 100% performance bond and single 100% payment bond. *See Appendix for Joint Venture Bidding Agreement*.
- **3.2.5 Lead Contractor:** Branch-Flatiron Joint Venture | Lead Designer: STV Incorporated dba STV Group Incorporated
- 3.2.6 Affiliated and/or Subsidiary Companies Table (Attachment 3.2.6) is in the Appendix.
- 3.2.7 Executed Certifications Regarding Debarment (Attachments 3.2.7(a/b) are in the Appendix.
- **3.2.8 VDOT Prequalification:** Branch's Vendor ID is B319, Flatiron's Vendor ID is F319. *See Appendix for evidence and Joint Venture Bidding Agreement.*
- 3.2.9 Surety Letter is in the Appendix. Branch-Flatiron can obtain a performance and payment bond.
- 3.2.10 SCC and DPOR registration (Attachment 3.2.10) and supporting documentation is in the Appendix.
- **3.2.11 DBE Participation Goal:** Branch-Flatiron is committed to achieving a twelve percent (12%) DBE participation goal for the entire value of the contract.

Our team brings experience, innovation, quality, and attention to detail in every aspect of project delivery. We also offer the resources and commitment necessary to achieve project success with VDOT.

Respectfully submitted,

Branch-Flatiron Joint Venture

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Jason Hoyle, Vice President, Design-Build/Major Projects

3.3 OFFEROR'S TEAM STRUCTURE

3.3 OFFEROR'S TEAM STRUCTURE



Branch-Flatiron has assembled a team of industry veterans who have experience designing and building solutions to meet the project's stated goals to increase capacity, reduce congestion, and improve safety, accessibility and mobility in the region. Our D-B team offers the local resources and capacity, as well as the certifications and qualifications, to successfully complete design and construction. **STV**, serving as the lead design firm, will provide all required professional design and engineering services in support of the construction approach and schedule. Our team offers a depth of experience with D-B interstate and roadway expansion projects, bridges spanning rivers, access constraints, and construction adjacent to live traffic.

As the offeror, Branch-Flatiron will take financial responsibility for project completion, manage the entire project team, and self-perform the majority of the critical work elements. Our team composition and organization is shown on the organizational chart included on page 8.

BRANCH Branch Civil, Inc. (Branch) is a fullservice heavy highway contractor with successful projects throughout the Mid-Atlantic region. As a local contractor, Branch's offices are located in Roanoke (headquarters), Manassas, and Virginia Beach, VA along with Cary, NC. Branch continuously ranks among *Engineering-News Record's* (ENR) Top 400 Contractors in the US, currently ranked No. 195 overall nationally. As one of the largest Virginia-based contractors, Branch's experience includes civil construction, design management, and utility relocation/coordination on numerous similar D-B projects. Branch recently completed construction of the nearby I-95 Express Lanes Southern Terminus Extension (I-95 STE) project, located 10 miles north, and the I-95 Safety Improvements at Route 3 that will connect to this project.



Flatiron Constructors, Inc. (Flatiron) is a leading transportation, energy, and water infrastructure contractor, having successfully completed 23 D-B projects with a combined

value of over \$6.5 billion and 14 more under construction worth an additional \$7.4 billion. Of the completed D-B projects, 19 included major bridge structures, and 10 were award-winning bridges over water. Flatiron consistently ranks as a Top 20 Transportation Contractor (#8), Top Highway Contractor (#5), and Top 10 Bridge Builder by ENR, and brings extensive experience managing construction operations along active interstates, including the \$136 million NCDOT I-85 Yadkin River Bridge and \$134 million Knightdale Bypass projects with STV.

Trusted Relationships



Branch/Flatiron | \$291M | D-B 5. NCDOT Knightdale Bypass Flatiron/STV | \$134M | D-B







STV Incorporated (STV), as lead designer, ranks among the premier D-B consultants in the industry, and will work with project stakeholders; VDOT, adjacent projects, third parties, etc., to develop a design which support the project goals

while meeting the demands of the construction approach and schedule. STV was the Lead Designer on the recently completed VDOT GRTC Pulse D-B in Richmond, which features complex MOT along a 7.6-mile route through high-density areas, the I-581/Valley View Boulevard Interchange Phase II D-B in Roanoke, and the I-95 Bridge Replacement over Meherrin River. Also, as indicated on the page 2 graphic, STV has delivered projects of similar scope and complexity with both Branch and Flatiron.

The integrated Branch-Flatiron team is comprised of leading bridge/roadway designers and contractors who understand the project's challenges and complexities, as well as VDOT's procedures and expectations. Our project team, including key participants, have experienced similar challenges on past projects and understand the importance of *minimizing disruptions to local communities and the traveling public, while maximizing safety and the value of every dollar invested*. Each participant on this team is highly qualified to provide the services specific to their scopes of work, including the following subcontractors and subconsultants:

Firm	Role	Experience/Benefits
Subcontractors to Branch	h-Flatiron	
McDonough Bolyard Peck, Inc.	QC Manager and QC Inspection	 Inspection services on VDOT Southgate Drive Interchange Broad QC experience with VDOT D-B projects
ECS Mid-Atlantic, LLC	QC Lab	Extensive testing experience on VDOT projectsAccredited AASHTO Materials Reference Laboratory
NXL, a Division of Century Engineering, Inc. (SWaM)	QAM and QA Inspection	 QAM on VDOT I-64 Widening with Branch and I-581/Valley View Interchange D-B with STV
Froehling & Robertson (SWaM)	QA Lab	• Testing in AASHTO accredited labs in accordance with the VDOT Manual of Instruction
Diversified Property Services, Inc. (SWaM)	Right-of-Way	 VDOT D-B experience including I-64 Segment I, I-64 Exit 91, and I-66 Widening
Seventh Point Transportation PR (SWaM)	Public Relations	 VDOT I-64 Widening experience with Branch VDOT GRTC Pulse BRT D-B experience with STV
Subconsultants to STV		
A. Morton Thomas and Associates, Inc.	Design QA/Drainage/ Hydraulics/E&SC/ Survey/SUE/Utilities	 VDOT projects include Woodrow Wilson Bridge and U.S. 460 Connector Phase I 60 years of major roadway and interstate design in VA
EEE Consulting, Inc. (SWaM)	Environmental and Permitting	Multiple VDOT environmental services contractsWorked with Branch on Route 58 projects
Haley & Aldrich, Inc.	Geotechnical/ Pavement/Foundation	• Provided services on VDOT I-95 and I-495 HOT lanes and FredEx with Branch-Flatiron
Harris Miller Miller & Hanson Inc. (DBE)	Noise Analysis	 Teamed with STV on VDOT I-581/Valley View D-B Internationally recognized noise & vibration leader
Hassan Water Resources, PLC (SWaM)	River Hydraulics	VDOT experience with I-95 Southbound Rappahannock River Crossing project

3.3.1 KEY PERSONNEL

Key Personnel Resume Forms (Attachment 3.3.1) are included in the Appendix. The Branch-Flatiron team acknowledges that the individuals and entities identified on the organizational chart will remain on the team





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throughout the pursuit and contract if awarded, that job duties of Key Personnel will not be delegated to others for the contract's duration, and that all proposed personnel are currently employed full time by their respective firms. Below, we have provided brief qualifications for the key personnel outlined in the RFQ.

Key Personnel	Team Member	Company
Design-Build Project Manager (DBPM)	M. Jeff Humphreys, Jr., DBIA	Branch
Entrusted Engineer-in-Charge (EIC)	Maggie Cossman, PE	Branch
Quality Assurance Manager (QAM)	Michael Saunders, PE, CCM, DBIA	NXL
Design Manager	Michael Hooshangi, PE, DBIA	STV
Construction Manager	Bob Cross	Branch
Lead Structural Engineer	Derek Overstreet, PE, DBIA	STV

3.3.2 TEAM ORGANIZATION

Our D-B philosophy does not consider design and construction as isolated functions. Our approach is to form an integrated team of design staff, construction staff, VDOT staff, and stakeholders to expedite the exchange of information and facilitate problem solving. Our organizational chart on page 8 identifies key personnel members and depicts the team's reporting structure. Solid lines identify the direct lines of reporting from the DBPM to the design, construction, right-of-way, QA, safety, and public relations leads, as well as the EIC and Deputy DBPM. Dashed lines represent lines of communication. Furthermore, the reporting structure shows a clear separation between construction quality control and construction quality assurance duties — each with independent materials testing laboratory services.

Key Positions

BRANCH

Design-Build Project Manager (DBPM) - M. Jeff Humphreys, Jr., DBIA (Branch) will oversee the overall project, WORKING including the design, construction, quality management, contract administration and other services required by the Contract Documents, including procuring and furnishing

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all materials, equipment, services, and labor in a timely manner. Jeff's recent Interstate improvement D-B project experience includes the I-64 Widening Exit 200 to 205 project in the Richmond District, where the existing bridges over the

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Chickahominy River were widened and rehabilitated. *His D-B experience will be integral in facilitating* team partnering to make sure that appropriate and consistent communication is maintained among all parties.

As the single point of contact for VDOT, Jeff will be responsible for meeting the Design-Builder's project obligations under the contract, providing answers to questions/inquiries, overseeing the avoidance/resolution of disputes, and coordinating public outreach. The Deputy DBPM, QAM, DM, CM, EIC, Safety Manager, ROW Manager, Utility Coordination Manager, and the Public Relations Manager will all report directly to Jeff.

Entrusted Engineer-in-Charge (EIC) – Maggie Cossman, PE (Branch) is a Professional Engineer licensed in Virginia and will compile, sign, and seal the cover sheet of the aggregate collection of the final





Understanding



documents for the project. She will report directly to the DBPM and will work closely with the DM, CM, and QAM to confirm that engineering work for this complex assignment is fully integrated into the project, that engineering decisions for one component of the project are evaluated for impacts to the project as a whole, and that engineering decisions are not made by non-engineers.

Maggie has 22 years of in the field experience and is currently serving in a similar role on the adjacent I-95 FredEx D-B project. In this role, Maggie works directly with Transurban/VDOT to maintain daily success of the project. She has an established relationship with all applicable stakeholders and works with all adjacent projects currently under construction. With her role on FredEx set to wind down before this project is awarded, her current knowledge of the corridor and its unique challenges will be an immediately transferable asset to promote successful delivery for VDOT.

Quality Assurance Manager (QAM) – Michael Saunders, PE, CCM, DBIA (NXL) will serve as the single point of responsibility for QA services and *will act independently of the design and construction*

teams, reporting directly to the DBPM. He will be responsible for QA inspection and testing of all materials used and work performed on the project, including the contractor's QC program. Michael has more than 20 years of experience in the transportation construction industry, and acted as QAM on VDOT contracts including the Route 3 Widening in Culpeper; I-64/I-264 Pavement Rehabilitation in Norfolk; and the Route 36 BRAC Improvements in Richmond.



The I-64 Widening Exit 200-205 D-B highlights the ability of NXL and Branch to meet VDOT's quality standards.

Design Manager (DM) – Michael Hooshangi, PE, DBIA (STV) will manage all design activities to make sure the design is in conformance with the Contract Documents. Michael will also establish and oversee the design QA/QC program for all pertinent disciplines involved in the design of the project, including review of design, working plans, shop drawings, specifications, and constructability for the project. Michael most recently served as the DM on the recently completed VDOT GRTC Pulse D-B in Richmond, and also managed VDOT projects that improved six sections of the Fairfax County Parkway with interchanges. Michael has more than 40 years of experience in highway design, including bridges, interchanges, interstate roadway widening and reconstruction, intersection improvements, drainage systems, stormwater management, ROW, MOT, and utility relocations in Virginia. *He is well-versed in D-B delivery, including concept validation, constructability reviews, risk management, and project controls*.

Construction Manager (CM) – Bob Cross (Branch) will manage on-site personnel, including Project Controls; Project Engineer; Bridge and Roadway Superintendents; Traffic Control Coordinator; field engineers, and subcontractors. *He will be on site full time for the duration of construction operations, and will be responsible for managing the construction process*. He will coordinate with the QC Manager to oversee quality control efforts, making sure that materials and work performed meet released for construction plans and specifications and the contract requirements.

With 40 years of experience managing complex transportation construction, Bob brings VDOT project management experience including I-64 Widening D-B, Exit 200 to 205 in Henrico and New Kent Counties; and will be fully dedicated and available prior to Notice to Proceed. Bob holds a Virginia Department of Environmental Quality Responsible Land Disturber Certification and a VDOT Erosion and Sediment Control Contractor Certification. Bob will report to the DBPM and play a key role, along with the EIC and DM, in





providing constructability reviews, utility coordination, ROW acquisition, and MOT. Other responsibilities include overseeing safety, quality, and that the project adheres to all environmental requirements.

Lead Structural Engineer – Derek Overstreet, PE, DBIA (STV) reporting directly to the DM, will be responsible for the design of all structural aspects for the project. Derek will be supported by structural engineers from STV who are experienced with interstate bridges over waterways using both steel girder and prestressed concrete beam designs. As an Engineering Director for STV, Derek is responsible for delivery of all bridge and structure-related projects throughout Virginia, overseeing a staff of bridge engineers, technicians, and support personnel. Derek has more than 15 years of design management experience includes serving bridge and structure related projects, including bridge rehabilitation. His VDOT experience includes serving as Deputy Design Manager on the I-581/Valley View Boulevard Interchange Phase II D-B in Roanoke and Lead Structural Engineer on the I-95 Bridge Replacement over the Meherrin River in Emporia.

Value Added Positions

Deputy Design-Build Project Manager – Adam Mathews (Flatiron) has been added to the team due to the project's complexity and size, to assist the DBPM as needed — he is currently serving in an executive role on the adjacent I-95 FredEx D-B project. Adam has more than 23 years of construction experience, with nine in D-B delivery including serving as project manager on the NCDOT I-85 Yadkin River Bridge project with STV. Adam will assist the DBPM with project team management, job progress oversight, and proper resource allocation. His other objectives in this role include coordinating with the adjacent projects, conflict resolution, training, and mentoring.

Public Relations Manager – Windy Campbell, Seventh Point Transportation (7P), has 21 years of experience leading public outreach on major transportation projects, providing robust public affairs, community outreach, marketing, advertising, and strategic public communications programs. Windy is currently serving in a similar role on the I-64 Widening from Exit 200 to 205 D-B project with Branch as the Lead JV Partner.

Traffic Management Task Force (TMTF) –This group will consist of Branch-Flatiron, and STV staff, VDOT, as well as third-party stakeholders. The TMTF will proactively address risks associated with MOT. The TMTF will meet regularly to review the effectiveness of the MOT plan and optimize traffic safety and efficiency. Its goal is to minimize delays to the traveling public, reduce disruptions to businesses, and maximize safety. These meetings will keep stakeholders and adjacent projects up to date on project progress and alert them to any upcoming changes in the traffic pattern.

Construction Design Support – Strengthening our D-B construction capabilities, Flatiron's internal Technical Services Group (TSG) and Construction Engineering Group (CEG) connects our project teams with specialized engineering experts to enhance design and support construction operations. The TSG provides discipline experts to support innovation and optimization of design throughout the project's duration. The CEG focuses on construction support design such as shoring, falsework, trestle design, and erection plans. With more than 30 engineers located across the United States, and support from over 400 engineers from Flatiron's parent company HOCHTIEF, these groups increase our ability to optimize design, enhance safety, and reduce risk.

JV Executive Committee – Jason Hoyle (Branch) and Jim Schneiderman (Flatiron) will provide support for the JV to make sure adequate resources are available for successful project completion. Both Jason and Jim fully understand the desire of the VDOT to keep all key members of the team in place during the project.

Design & Construction Coordination

Our design and construction teams will collaborate from design through delivery. The DBPM will be





involved in all design development and construction processes to provide overall quality management, adherence to the contract, and to commit resources to meet the project schedule. Regularly scheduled discipline coordination meetings throughout design and construction are critical to project success. These focused meetings will be led by the DBPM and will serve as a conduit for disseminating project-critical information and be the central point of decision-making and communication among the project team. As an added benefit, VDOT will be invited to attend these open forums of discussion to facilitate resolution of issues, clearly define project criteria, address corridor-wide safety and constructability issues, and provide consistency in operations before impacting schedule or budget.

The I-95 Northbound Rappahannock River Crossing project will require extensive coordination and integration between the Design-Builder, Lead Designer, VDOT, stakeholders, and adjacent projects. Instruments we will use to coordinate and dissimilate information include task force meetings, progress meetings, file sharing websites, and a robust public outreach program led by Public Relations Manager Windy Campbell. Items such as safety, constructability, MOT, environmental, and schedule conformance are enhanced by early collaboration. Through this approach, we create strong relationships and truly integrated D-B functions that set the foundation to interact and partner with VDOT and third-party stakeholders, streamline reviews, eliminate potential construction field issues, and deliver the project safely and on schedule.

Design and Construction Collaboration

SharePoint will be used for real-time sharing and tracking of information between the design and construction teams such as plan reviews, RFIs, action items, and file transfers

Project Wise provides live sharing/distribution of calculations, evaluations, specifications, and plans

Task force meetings with design and construction staff to focus on design, constructability, and schedule

Weekly design team meetings to coordinate design across design disciplines and design firms

Interdisciplinary reviews provide cross checks between disciplines and contractor prior to submittals

Independent QA/QC

Construction QA: QAM, Michael Saunders, PE, CCM, DBIA (NXL), will confirm the results of QC efforts by performing tests and inspections for verification using Froehling and Robertson as a separate and independent testing laboratory. Reporting to the DBPM, he will make sure that any non-compliant work is documented and corrected using an approved method to facilitate acceptance by VDOT. He will review, comment on, and approve the monthly invoices to VDOT and facilitate preparatory inspection meetings for major elements with QA, QC, EIC, and Branch-Flatiron staff to review contract requirements pertaining to the construction, inspection, and acceptance of the work.

NXL provided independent QA for the VDOT I-581/Valley View Boulevard Interchange Phase II D-B project with STV and QA services for Branch on the Route 3 Widening D-B project. *QA services were delivered in accordance with VDOT requirements and NXL acted as a liaison between VDOT and the contractor's executive staff on quality issues.*

Construction QC: Our team will develop and implement a project-specific Quality Control Plan (QCP) that will focus on VDOT standard QC policies and procedures, and identify key staff responsibilities, guidelines for testing and sampling, and documentation procedures or non-conforming work. The QCP will confirm that all work conforms to plans and specifications. Construction QC Manager Duncan Stewart, PE, CCM, PSP (MBP) will report to the CM and will be responsible for quality oversight, will conduct regular audits of the QCP, and test/verify samples for internal QC to approve conformance with contract requirements.







TEAM MEMBERS

Branch | Flatiron | STV

BRANCH

A. Morton Thomas and Associates, Inc. (AMT) Appraisal Review Specialists, LLC (ARS) Diversified Property Services, Inc. (DPS) ECS Mid-Atlantic, LLC (ECS) EEE Consulting, Inc. (EEE) Elliott Valuation & Consulting Services, LLC (EVC) Froehling & Robertson (F&R) Haley & Aldrich, Inc. (H&A) Harris Miller Miller & Hanson Inc. (HMMH) Hassan Water Resources, PLC (HWR) McDonough Bolyard Peck, Inc. (MBP) NXL, a Division of Century Engineering, Inc. (NXL) Seventh Point Transportation PR (7P)

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Third Party StakeholdersVDOT Transportation Ops
Stafford/Spotsylvania Counties
Fredericksburg MPOCity of Frede
Local Busine
Local School
Local Reside95 Express Lanes LLC
Friends of Rappahannock
Virginia Railway Express
Stafford County EMSDepartments

City of Fredericksburg EMS Local Businesses Local Schools Local Residents Parks and Recreation Departments

Adjacent Projects

I-95 Southbound CD Lanes Rappahannock River Crossing I-95 Express Lanes Fredericksburg Extension (FredEx)

Construction Design Support

Technical Services Group, Construction Engineering Group

Traffic Management Task Force

Branch-Flatiron, STV, VDOT, and Third Party Stakeholders

Third Party Utilities

Dominion VA Power, Summit IG, Comcast, Verizon, Columbia Gas, City of Fredericksburg, Stafford County

Combined Resources
Design
Construction
3rd Parties
Quality Assurance (QA)
Quality Control (QC)
Key Staff Value-Added Staff Direct Lines of Reporting Lines of Communication

3.4 EXPERIENCE OF OFFEROR'S TEAM

Annual



3.4.1 WORK HISTORY FORMS

The Branch-Flatiron Joint Venture is currently working on the adjacent **I-95 FredEx D-B** project. This experience enhances our knowledge of the I-95 corridor, and has fostered our relationships with the relevant stakeholders and adjacent projects, allowing our team to make informed decisions that are in the best interest of VDOT and the communities it serves. The Work History Forms, Attachments 3.4.1 (a) and (b), are included in the Appendix. Below is a snapshot of projects with similar features to this I-95 Northbound Rappahannock River Crossing project.

	RF	Q Cr	iteria	a (3. 4)			Oth	er Si	mila	rities	5
Designed by STV, VDOT I-95 Bridge Replacement over the Meherrin River project was constructed with limited available space and in close proximity to live traffic. Droject Name	Coordination with Adjacent Projects	Bridge Construction in Constrained Space	Innovative Design/Construction Methods	Limiting Impacts to the Traveling Public	Minimize Congestion During Construction	On Time or Early Construction	Managing Risk to Achieve Incentives	Major Interstate Construction	Complex MOT Plan	VDOT Criteria	Design-Build	Over Waterway
Lead Contractor 3.4.1 a												
VDOT I-95 Southern Terminus Extension D-B	•		•	•	•	•	•	•	•	•	•	
VDOT I-64/Battlefield Boulevard					•	•		•	•	•		
NCDOT I-85 over the Yadkin River D-B					•	•	•	•	•		•	•
Lead Designer 3.4.1 b												
VDOT I-95 Bridge Replacement over the Meherrin River	•	•	•	•	•			•	•	•		•
VDOT I-581/Valley View Boulevard Interchange Phase II D-B	•	•	•	•	•			•	•	•	•	
NCDOT I-295 Fayetteville Outer Loop D-B								•	•		\bullet	
Other Lead Contractor Projects												
NCDOT US 220 / NC 68 Connector (Future I-73) PTI D-B				•	•	•	•	•	•		•	
NCDOT US 13/158 D-B		•		•	•	•			•		•	•
City of Chesapeake Dominion Boulevard									•	•		•
Transurban I-95 FredEx D-B								•	•	•	•	•
VDOT I-64 Widening Exit 200-205 D-B		•						•	•	•	•	•
						Not a	pplic	cable	for a	lesig	n ser	vices

3.5 PROJECT RISKS







3.5.1 THREE UNIQUE PROJECT RISKS

To identify the three critical project risks below, the Branch-Flatiron team leveraged knowledge from the adjacent I-95 FredEx, I-95 STE, and I-95/Route 3 projects to arrive at the risks identified below. If not properly mitigated, each of these risks could negatively impact schedule, cost, quality, and/or public perception.

MITIGATION: IMPACT: COORDINATION This risk has potential to impact Communication is key to coordina-WITHADJACENT design coordination, MOT, utility tion. Our current work on FredEx and relocations, subcontractors and suprelationships with adjacent contrac-**PROJECTS** tors will facilitate coordination. pliers, hauling, phasing, and staging. **IMPACT: MITIGATION:** BRIDGE This risk could adversely affect site Design and construction staff will **CONSTRUCTION** safety, schedule, and design; jeopcollaborate on a design that incorpo-IN CONSTRAINED ardizing the overall success of the rates alternative construction methods WORKSPACE and innovative bridge construction. project. **IMPACT: MITIGATION:** High traffic volumes along I-95 Execute a robust public outreach TRAFFIC SAFETY program and TMP addressing MOT, must be maintained, and disturbance AND MOBILITY incident management, and construcminimized, for safe road operations tion access points along I-95. during construction.

RISK #1: COORDINATION WITH ADJACENT PROJECTS

Risk Identification and Why it is Critical

The lack of coordinating with the adjacent I-95 Southbound Rappahannock River Crossing and I-95 FredEx adjacent projects could introduce MOT challenges, utility conflicts, conflicts with local subcontractors and suppliers, and cause redesign efforts. Without proper planning, these conditions have the potential to negatively impact safety, schedule, and cost. Coordinating with adjacent projects is a critical risk because of its potential to inhibit the Department's goals for this project.

Risk Impacts

Design: Even if the design of the adjacent projects will be completed prior to the award of this project, there is the potential for design changes resulting from value engineering, and construction field changes. The primary design scopes which require coordination with adjacent projects include roadway, bridge, hydraulics, MOT, ITS, and utilities. Impacts such as schedule delays, loss of service to the traveling public, and safety repercussions have the potential to occur if the Branch-Flatiron team does not properly incorporate the most current design/as-built information from adjacent projects.

Construction: It is essential for cross project coordination to occur for items such as construction schedules, traffic control, material staging and haul routes. Traffic delays, driver confusion (resulting from too many or complicated traffic shifts and/or inconsistent signing and road closures), delays to the project schedule, and safety repercussions are some of the impacts that could occur without proactive coordination.

Subcontractors and Suppliers: The I-95 corridor in the Fredericksburg area will have three large transportation improvement projects under construction concurrently, drawing on the demands of the local subcontractors and suppliers. Coordination with adjacent projects and major subcontractors and suppliers is critical to avoid impacts to construction progress.









Mitigation Strategies

Branch-Flatiron will use knowledge gained through successful implementation and lessons learned on our current and prior projects to coordinate with the adjacent operations. Key among these is to maintain open lines of communication and transparency, which is the foundation of our coordination efforts. Below are several solutions to mitigate the risk:

Coordination Meetings: Branch-Flatiron is currently working together to design and construct the adjacent I-95 FredEx project. This team has established a procedure to hold monthly project coordination meetings with the adjacent I-95 SB Rappahannock River Crossing (RRC) project. These meetings promote real-time coordination for design features and construction operations, including those mentioned in the impacts above, and will benefit all adjacent projects. Our coordination effort also helps commuters perceive the construction operations along this section of the I-95 corridor as one project, enhancing safety and driver satisfaction. As Branch-Flatiron is currently working on the I-95 FredEx project, we will provide a unified approach to the coordination meetings. Continuity of contractors across both projects also streamlines coordination for VDOT.

Utilities Coordination: Branch-Flatiron will collaborate with the two adjacent projects to obtain the most current utility information to minimize rework and prevent unnecessary project delays.

Design Coordination: Our project team will incorporate the most current design of the two adjacent projects into the design of the I-95 NB RRC project to enhance integration of design features.

Traffic Management Task Force (TMTF): This cross-discipline group will play a critical role in the development and implementation of the MOT plan. One of their primary purposes will be to assess and understand the MOT plans of the two adjacent projects and confirm that the plan for this project seamlessly integrates with them. Once construction begins, the TMTF will be reviewing the MOT and construction operations of all three adjacent projects and providing feedback to the team. By understanding ongoing issues and upcoming operations among all of the projects, the TMTF will recommend highly informed changes to the existing MOT plan to minimize traffic impacts and keep commuters and construction personnel safe.

Subcontractor Coordination: Between the I-95 NB RRC, I-95 SB RRC, and I-95 FredEx projects, many subcontractors will be needed. The project teams will have the opportunity to balance the workload and timing of the subcontractors to prevent delays. During the procurement of I-95 NB RRC, we will begin the communication efforts with the local subcontractors to understand their workload and capacity. Strategic decisions will be made to make sure that the subcontracted work among all projects can be performed to meet the quality and schedule expectations of both projects.

Role of VDOT/Other Agencies

VDOT's role will be to facilitate partnering between contractors and third parties to promote proactive coordination solutions for all adjacent projects.

RISK #2: BRIDGE CONSTRUCTION IN CONSTRAINED WORKSPACE

Risk Identification and Why it is Critical

Construction of the proposed bridge is a major component of the I-95 NB RRC project. With the proposed SB structure and existing NB structure in close proximity to the proposed new NB structure, construction access using conventional methods such as constructing a temporary work trestle or causeway outside the footprint of the bridge will not be an option. Therefore, innovative access/construction methods for restricted workspace must be considered.

This risk is critical because if it is not planned, designed, and managed properly by an experienced team, bridge







construction in a restricted workspace could adversely affect safety, schedule, and overall project success.

Risk Impact

If mitigation measures for the risk of working within this constrained workspace are not properly planned and implemented, the impacts could include:

Design Impacts: Design of the bridge components may be governed by the selected erection method. Design and construction engineering teams must collaborate during the development of the design to incorporate the means and methods into the design of the bridge components. Worker and commuter safety impacts due to the failure of a component or the erection equipment during construction, as well as schedule impacts due to redesign or rework, are possible.

Construction Impacts: Working in a constrained space presents greater risk to the safety of construction personnel and to the traveling public, as they generally require the use of alternate construction methods. This presents unique construction and processes for which construction personnel are not accustomed, thereby increasing safety risk. Impacts to the safety of the traveling public are greater due to the close proximity of adjacent construction. There is also an increased risk to distract commuters due to the exposure to construction equipment such as cranes operating immediately adjacent to travel ways. Safety of both construction personnel and the traveling public is our top priority and will be a continuous focus throughout the project.

Also, due to the alternative construction methods associated with construction in a constrained workspace, improper planning and/or coordination of these construction methods, specialized/custom equipment (including its fabrication), and project approach have the potential to adversely impact the schedule. It is critical that the project team execute proper planning, staging, and sequencing of materials within the constrained space to avoid schedule impacts.

Mitigation Strategies

The Branch-Flatiron team understands the challenges of bridge construction within a constrained work space and our experience overcoming them provides the basis for the mitigation strategies below so that the bridge can be completed safely and on time. Our construction team and our lead designer, STV, have extensive

experience with difficult and unique bridge construction projects. Risk mitigation strategies include:

Constructability Reviews: During pre-construction, it will be a priority for design and construction staff to collaborate through an iterative process to arrive at a design that accommodates the alternative access/construction method selected. We will also use the expertise of our internal construction engineering support groups to participate and contribute towards the design and construction approach of the bridge.



The I-95 NB Rappahannock River Crossing project presents safety, schedule, design, and environmental impacts due to the limited bridge construction space.





Examples of projects where we provided an innovative bridge construction method include US 17 Washington Bypass (1-right), US 29/70 Bridge over Yadkin River (see Work History Form) (2-right), and NC 12 – Rodanthe Bridge (3-right), in North Carolina, where innovative top down techniques were used to mitigate the risk of construction in a constrained workspace. On the Athabasca River Bridge and Kicking Horse Canyon (4-right) projects, both in Canada, steel girders for the superstructure were incrementally launched from the one end of the bridge to avoid having equipment below. All of these innovative techniques were contained primarily within the footprint of the superstructure and would be applicable to the challenges of this project.

Planning, Scheduling, and Safety: To provide safety and schedule compliance during operations, our CM, Bridge Superintendent, and Safety Manager will oversee the planning and sequencing of the efficient staging, and the utilization of materials and equipment. They will also be responsible for making sure that any specialized equipment needed for the selected method is designed, fabricated, tested, delivered, and operational before it is needed.

Our Safety Manager and construction team will be trained on the proper use of any specialized equipment. Additionally, all personnel working on the bridge construction will be made aware of the safe operating procedures and hazards associated with these means and methods through weekly safety meetings and daily huddles, which will highlight the proximity of the adjacent structures.

Role of VDOT/Other Agencies

Branch-Flatiron will coordinate with VDOT and other pertinent third parties in advance of key activities that have the potential to impact the traveling public. We will encourage VDOT's participation to provide comments and suggestions on our design and means and methods.

RISK #3: TRAFFIC SAFETY AND MOBILITY

Risk Identification and Why it is Critical

Keeping the traveling public moving safely and efficiently through the corridor at all times is paramount to maintaining the schedule and a positive public perception of the project. This corridor serves numerous populations within the region and is the primary route between the northeast and the southeast US. Users of this facility include national defense, commercial traffic, tourism economies, and those traveling to and from our nation's capital, Washington,

Alternative Bridge Construction Methods



The projects above featured alternative bridge construction methods to mitigate the risks associated with bridge construction in a constrained space.

D.C. Additionally, this area has a crash rate that is above the statewide average and has a level of service of D or worse throughout the corridor. Without a properly executed TMP, safety and mobility will be substantially impacted throughout the corridor, and is therefore a critical risk.







Risk Impact

The impacts of this risk are to the schedule, the safety of workers and the traveling public, and the commerce and economic health of the region. The severity of these impacts are compounded due to commuter fatigue for all users of this highly traveled roadway that has been undergoing capacity improvements for the last 20 years.

Impacts to the construction efforts include slower productivity due to the inability to get materials and workers to and from the work zone, and increased traffic incidents diverting the attention of the construction crews to attend to the incidents.

This stretch of I-95 has frequent delays and a crash rate higher than the statewide average, which could be exacerbated by the construction of this project. As such, there are several potential local and commuter impacts which are discussed below:

- If mobility through the corridor is not maintained, the schedule will be negatively impacted by a public that will demand changes in the traffic patterns and available lanes, causing redesign and/or significant changes to the TMP
- Many commercial and retail businesses, including the notable Central Park/Central Virginia Complex and the Spotsylvania Towne Centre, could be negatively impacted
- Vehicles entering and leaving the work zones from the Interstate, primary, or secondary roads will slow traffic affecting the entire flow of the roadway if entrances and exits are not clearly marked, there is the possibility of the public inadvertently entering the work zone
- Traffic congestion heightens the risk of traffic incidents, especially rear-end and chain reaction collisions as traffic slows
- Changing traffic patterns during phased construction introduces safety concerns due to drivers being unaware of a shift in roadway alignment
- Failure to meet driver expectations due to the extended delays and or confusing traffic patterns can lead to an increase in traffic incidents

Mitigation Strategies

To mitigate the impacts of this risk, Branch-Flatiron will incorporate lessons learned from constructing the I-95 Southern Terminus Extension project, which we are currently implementing on the adjacent I-95 FredEx project, to provide safe and efficient mobility through the project corridor.

Public Outreach and Awareness: Following contract award, Branch-Flatiron will conduct the first TMTF meeting; which would be an initial partnering meeting with VDOT, third-party stakeholders, and the project team, to review project requirements and discuss traffic issues related to construction. From this initial meeting, we will develop a checklist of responsibilities and timelines for achieving mutually agreeable activities/ goals for a successful TMP. Additional public outreach activities will include:

- Citizens informational meetings will be conducted to inform the public of project activities and solicit project feedback to incorporate into our TMP
- "Pardon Our Dust" meetings to inform the public of construction activities
- A public communications plan will be established by team member Seventh Point Transportation PR and the DBPM to establish and maintain connection with the public
- Work with first responders to obtain their input on our TMP



Project-Specific TMP: Our project-specific TMP includes the following:

MOT Plan: Phasing of construction will be integral to the development of effective MOT. We will develop a construction phasing plan to minimize the number of traffic shifts necessary to construct the auxiliary and C/D lanes, with careful attention to separating the work zone from travel lanes. The MOT plan will incorporate temporary roadway and signage to safely shift traffic and coordinate with construction. This will maintain efficient traffic flow, allowing access to commercial and retail businesses. Additional elements our MOT approach include:

- Portable changeable message signs
- Radar speed signs
- Law enforcement presence
- Raised reflective temporary pavement markers

Incident Management Plan: Our team will prepare a comprehensive Incident Management Plan (IMP), as we have done on several recent similar VDOT projects, including I-95 STE and I-95 FredEx. See the IMP graphic on the right for details.

Construction Access Plan: Entrance and exit points within the work zone will be in areas of high visibility and at an adequate sight distance. Full acceleration/deceleration lengths will be constructed to allow for slow construction traffic to interact with commuters. These entry/exit points will be maintained and

Elements of our IMP

- Provide a TMTF team member who is dedicated to responding to incidents
- Coordinate with VDOT to establish pre-planned detour routes, including communications and public outreach
- Maintain specific incident pull-offs throughout the construction zone
- Monitor Google[®] Maps and WAZE[®] for incidents or debris to expedite response
- Have wrecker services available to quickly remove disabled vehicles from the roadway
- Use Changeable Message Signs (CMS) to provide advance warning
- Provide up-to-date information for construction progress, work zone changes, and incident reports
- Provide a hotline for the public during construction to express concerns
- Initiate formal partnering with VDOT, local municipalities, and first responders to review the MOT, construction schedules, and incident response plans

coordinated with adjacent projects to minimize driver confusion (see detail below):



Role of VDOT/Other Agencies

Branch-Flatiron will handle and manage the risks associated with the MOT and constructability issues. VDOT's role in this risk will be limited to posting appropriate messages to VDOT's traveler information systems in cooperation with our team. We anticipate no significant role from other agencies in these issues.





APPENDIX



Attachment 3.1.2 – SOQ Checklist

Project: 0095-111-270 STATEMENT OF QUALIFICATIONS CHECKLIST AND CONTENTS

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

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

Project: 0095-111-270 STATEMENT OF QUALIFICATIONS CHECKLIST AND CONTENTS

Statement of Qualifications Component	Form (if any)	RFQ Cross reference	Included within 15- page limit?	SOQ Page Reference
SCC and DPOR registration documentation (Appendix)	Attachment 3.2.10	Section 3.2.10	no	Appendix
Full size copies of SCC Registration	NA	Section 3.2.10.1	no	Appendix
Full size copies of DPOR Registration (Offices)	NA	Section 3.2.10.2	no	Appendix
Full size copies of DPOR Registration (Key Personnel)	NA	Section 3.2.10.3	no	Appendix
Full size copies of DPOR Registration (Non-APELSCIDLA)	NA	Section 3.2.10.4	no	NA
DBE statement within Letter of Submittal confirming Offeror is committed to achieving the required DBE goal	NA	Section 3.2.11	yes	Page 1
Offeror's Team Structure				Pages 2-8
Identity of and qualifications of Key Personnel	NA	Section 3.3.1	yes	Pages 3-4
Key Personnel Resume – DB Project Manager	Attachment 3.3.1	Section 3.3.1.1	no	Appendix
Key Personnel Resume – Entrusted Engineer In charge	Attachment 3.3.1	Section 3.3.1.2	no	Appendix
Key Personnel Resume – Quality Assurance Manager	Attachment 3.3.1	Section 3.3.1.3		Appendix
Key Personnel Resume – Design Manager	Attachment 3.3.1	Section 3.3.1.4	no	Appendix
Key Personnel Resume – Construction Manager	Attachment 3.3.1	Section 3.3.1.5	no	Appendix
Key Personnel Resume – Lead Structural Engineer	Attachment 3.3.1	Section 3.3.1.6	no	Appendix
Organizational chart	NA	Section 3.3.2	yes	Page 8
Organizational chart narrative	NA	Section 3.3.2	yes	Pages 4-7

Project: 0095-111-270 STATEMENT OF QUALIFICATIONS CHECKLIST AND CONTENTS

Statement of Qualifications Component	Form (if any)	RFQ Cross reference	Included within 15- page limit?	SOQ Page Reference
Experience of Offeror's Team				Page 9
Lead Contractor Work History Form	Attachment 3.4.1(a)	Section 3.4	no	Appendix
Lead Designer Work History Form	Attachment 3.4.1(b)	Section 3.4	no	Appendix
Project Risk				Pages 10-15
Identify and discuss three critical risks for the Project	NA	Section 3.5.1	yes	Pages 10-15

Attachment 2.10 – Acknowledgement of RFQ, Revisions and/or Addenda Attachment

Form C-78-RFQ

ATTACHMENT 2.10

COMMONWEALTH OF VIRGINIA DEPARTMENT OF TRANSPORTATION

RFQ NO.	C00101510DB106
PROJECT NO .:	0095-111-270

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 <u>RFQ – May 13, 2019</u> (Date)	
2. Cover letter of(Date)	
3. Cover letter of	
Jan Hand SIGNATURE	<u>6-26-2019</u> DATE
DASON HOYLE PRINTED NAME	NICE PRESIDENT, DESIGN-BUILD / MAJOR PROJECTS

3.2.4 – Joint Venture Bidding Agreement

Joint Venture Bidding Agreement
BRANCH CIVIL, INC. and the following Joint Venturers:
FLATIRON CONSTRUCTORS, THAT C.
This Joint Venture Bidding Agreement is entered into between:
BRANCH CIVIL, INC. Located at 442 RUTHERFORD AVE., N.E., RONNOKE, VA 290 Kand
FLATIFON CONSTRUCTORS, Tr. Located at 385 TATERLOCKEN CRESCENT, SUITE 900 and BROOM FIELD, CO BOOZI
on this 13 day of JUNE, 2019 as the Joint Venture Name: BEANCH - FLATIPON JOINT VENTURE
The Joint Venture, BRANCH - FLATIREN JOINT VENTURIN ill be using the following Tax Id # 82-4307978
The purpose of this Joint Venture is to bid on upon a solicitation/Contract issued by <u>The Virginia Department of Transportation</u> , and if successfully awarded to provide services as listed under the following contract:
I-95 NORTHBOUND RAPPAHANNOCK RIVER CROSSING
BRANCH CINIL FAC., the Managing Venturer, will submit all required bid documents and act as point of
contact on behalf of this Joint Venture during the bidding process.
Lead Venturer: BEANCH CIVIL, FNC. Vendor#: B319
Address: 442 RUTHEFFORD ANE., N.E., ROANOFE, VA 24016
Authorized Signature: Date: Da
Printed Name of Authorized Officer: (First, Middle, Last names spelled out):
Title: NICE PRESIDENT Driver's License #/State Issued: BG9714937 / VA
Lead Tax ID#: 54-1393148 Percentage of Joint Venture: 60%
Lead Contact Phone #: (540) 982-1678 Fax#: (540) 982-4217 Email: jason. hoy lec branchcivil. com
State of Virginia
County of Itenrico
On this 13th day of 20 19, before me, the undersigned officer, personally appeared
<u>Jascu Hayle</u> known and proven to me to be the person(s) whose name(s) are subscribed to within the
instrument and acknowledged that they executed the same for the purposes therein contained.
Lead Authorized Signature: Om Officer's Title: Vice President, Designa-Buice
Lead Firm: Branch Civil, Inc
In witness whereof I hereunto set my hand and official seal. Notary Public:
My commission expires: 10-31-2020 Merz O Revo

Revision 12/05/2018

Joint Venture Bidding Agreement (continued)

Joint Venture Vendor # Address Authorized Signature: Date: Printed Name of Authonized Officer: (First, Middle, Last names spelled out) Title: Driver's License #/State Issued: Venturer Tax ID# Percentage of Joint Venture: hneiderman@tlatironcorp.com Email: Fax# Venturer Contact Phone #: State of County of 20 before me, the undersigned officer, personally appeared On this day of rman known and proven to me to be the person(s) whose name(s) are subscribed to within the instrument and acknowledged that they executed the same for the purposes therein contained. Venturer Authorized Signature: **Officer's Tit** Venturer Firm: In witness whereof I hereunto set my hand and official seal. Notary Public: [Notary Signature/Seal] MIMIMUM My commission expires MARIA COELHO Please submit a current copy of all authorized officers' Drivers Sicense. The Joint Venture officer must be listed in the Prequalified firm's Form C-32, page 2, Confidential Structure Page to transact business for the firm.

Also include a Form C-32 page 3, Firm to Firm Relationships for each Joint Venture firm and page 4, Immediate Family Member Business Relationships for each JV Authorized Officer.

Bright, Andrew

From:	sfr.lucas@vdot.virginia.gov on behalf of VDOT-Prequalification, rr
	<prequalification@vdot.virginia.gov></prequalification@vdot.virginia.gov>
Sent:	Thursday, June 27, 2019 1:30 PM
То:	Jason Hoyle; Schneiderman, James
Cc:	Wendy Ramsey; Harold Caples
Subject:	Your assigned Joint Venture # is JV096

Branch Civil, Inc., Flatiron Constructors, Inc.,

Thank you for submitting the Joint Venture Agreement for **Branch-Flatiron Joint Venture** to the Prequalification Office.

We have processed the paperwork to assign a JV number. This Joint Venture is assigned the # JV096

Please feel free to contact me if there are any concerns.

Thank-you

Suzanne Lucas

Prequalification Supervisor

Construction Division Virginia Department of Transportation <u>1401 East Broad Street</u> <u>Richmond, Virginia 23219</u>

(804)-786-2941

Email: Prequalification@VDOT.Virginia.gov

Webpage: http://www.virginiadot.org/business/const/prequal.asp

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3.2.6 – Affiliated and Subsidiary Companies Attachment

State Project No. 0095-111-270

Affiliated and Subsidiary Companies of the Offeror

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

☐ The Offeror does not have any affiliated or subsidiary companies.
 ☑ Affiliated and/ or subsidiary companies of the Offeror are listed below.

Relationship with Offeror (Affiliate or Subsidiary)	Full Legal Name	Address
Affiliate (Parent Company to Branch Civil, Inc.)	The Branch Group, Inc.	PO BOX 40004 Roanoke, VA 24022
Affiliate	Branch & Associates, Inc.	PO BOX 40051 Roanoke, VA 24022
Affiliate	Branch Builds, Inc.	5732 Airport Road NW Roanoke, VA 24012
Affiliate	G.J. Hopkins, Inc.	PO BOX 12467 Roanoke, VA 24025
Affiliate	Corman – E.V. Williams, a Joint Venture	12001 Guilford Road Annapolis Junction, MD 20701
Affiliate	Balfour Beatty Infrastructure, Inc./ E.V. Williams, Inc. JV	430 Eastwood Road Wilmington, NC 28403
Affiliate	Flatiron Branch, a Joint Venture	385 Interlocken Crescent, Suite 900 Broomfield, CO 80021
Affiliate	Flatiron Branch II, a Joint Venture	385 Interlocken Crescent, Suite 900 Broomfield, CO 80021
Affiliate	Branch-Flatiron, a Joint Venture	442 Rutherford Avenue NE Roanoke, VA 24016
Affiliate	Corman-Branch, a Joint Venture	442 Rutherford Avenue NE Roanoke, VA 24016

State Project No. Contract ID# Affiliated and Subsidiary Companies of the Offeror

Relationship with Offeror (Affiliate or Subsidiary)	Full Legal Name	Address
Affiliate (Parent Company)	Flatiron Construction Corp.	385 Interlocken Crescent, Suite 900, Broomfield, CO 80021
Subsidiary	Flatiron West, Inc.	2100 Goodyear Rd., Benicia, CA 94510
Subsidiary	FECO Equipment LLC	385 Interlocken Crescent, Suite 900, Broomfield, CO 80021
Subsidiary	Flatiron Electric Group, Inc.	13355 Fairfield Ranch Road, Suite 200 Chino Hills, CA 91709
Subsidiary	Flatiron Constructors Canada Limited	385 Interlocken Crescent, Suite 900, Broomfield, CO 80021
Subsidiary	Flatiron Equipment Company Canada Limited	385 Interlocken Crescent, Suite 900, Broomfield, CO 80021
Affiliate	E.E. Cruz & Company, Inc.	32 6th Ave, New York, NY 10013
Affiliate	Flatiron Constructors Inc-Blythe Development Co., A Joint Venture	PO BOX 892, Winston-Salem, NC 27102
Affiliate	Flatiron Beaver, LLC	385 Interlocken Crescent, Suite 900, Broomfield, CO 80021
Affiliate	Flatiron-Zachry, a JV	385 Interlocken Crescent, Suite 900, Broomfield, CO 80021
Affiliate	Flatiron/AECOM, LLC	7852 South Elati Street Littleton, CO 80120
Affiliate	Flatiron Dragados	385 Interlocken Crescent, Suite 900, Broomfield, CO 80021
Affiliate	Turner-Flatiron, A Joint Venture	5500 Greenwood Plaza Blvd, Suite 220 Greenwood Village, CO 80111
Affiliate	Flatiron Branch, a Joint Venture	385 Interlocken Crescent, Suite 900, Broomfield, CO 80021
Affiliate	Flatiron Branch II, a Joint Venture	385 Interlocken Crescent, Suite 900, Broomfield, CO 80021
Affiliate	Branch Flatiron, a Joint Venture	442 Rutherford Avenue NE, Roanoke, VA 24016
Affiliate	Flatiron/Dragados LLC	385 Interlocken Crescent, Suite 900, Broomfield, CO 80021
Affiliate	Dragados / Flatiron JV	1775 Park Street, Bldg 75, Selma, CA 93662
Affiliate	Dragados / Flatiron JV	810 Seventh Ave. 9th Floor New York, NY 10019
Affiliate	Flatiron / Kiewit JV	1051 Edie Road, San Francisco, CA, 94129

State Project No. Contract ID# Affiliated and Subsidiary Companies of the Offeror

Affiliate	Turner/ Goodfellow Topgrade / Flatiron JV	1111 Broadway, Suite 2100, Oakland, CA 94607
Affiliate	Flatiron-Lane, a JV	385 Interlocken Crescent, Suite 900, Broomfield, CO 80021
Affiliate	Hampton Roads Connector Partners	810 Seventh Ave., 9th Floor New York, NY 10019
Affiliate	Turner/PCL/Flatiron	385 Interlocken Crescent, Suite 900, Broomfield, CO 80021
Affiliate	Flatiron/Parsons, a Joint Venture	385 Interlocken Crescent, Suite 900, Broomfield, CO 80021
Affiliate	Fluor Flatiron Balfour Beatty Dragados	385 Interlocken Crescent, Suite 900, Broomfield, CO 80021
Affiliate	Flatiron/H&H, a Joint Venture	1770 La Costa Meadows Drive San Marcos, CA 92078
Affiliate	Flatiron/Hardy & Harper, a Joint Venture	1770 La Costa Meadows Drive San Marcos, CA 92078
Affiliate	Flatiron/Sukut, a Joint Venture	1770 La Costa Meadows Drive San Marcos, CA 92078
Affiliate	Flatiron West – DeSilva Gates, a Joint Venture	1770 La Costa Meadows Drive San Marcos, CA 92078
Affiliate	Flatiron-Skanska-Stacy and Witbeck, a Joint Venture	1770 La Costa Meadows Drive San Marcos, CA 92078
Affiliate	Flatiron/Security, a Joint Venture	1770 La Costa Meadows Drive San Marcos, CA 92078
Affiliate	DeSilva Gates – Flatiron West, a Joint Venture	2100 Goodyear Road, Benicia, CA 94510
Affiliate	Dragados USA Inc. / Flatiron West, Inc. / Sukut Construction Inc., a Joint Venture	2100 Goodyear Road, Benicia, CA 94510
Affiliate	Goodfellow Top Grade / Flatiron JV	2100 Goodyear Road, Benicia, CA 94510
Affiliate	Goodfellow Top Grade / Flatiron / Gallagher & Burk JV	2100 Goodyear Road, Benicia, CA 94510
Affiliate	Sukut/Flatiron Joint Venture	4010 West Chandler Avenue, Santa Ana, CA 92704
Affiliate	LAX Integrated Express Solutions Contractors (LINX Constructors)	3 Polaris Way, Aliso Viejo, CA 92656
Affiliate	Teichert / Flatiron A Joint Venture	2100 Goodyear Road, Benicia, CA 94510
Affiliate	Gulf Coast Connectors	810 Seventh Ave. 9th Floor New York, NY 10019
Affiliate	Flatiron-Graham-Parsons, a Joint Venture	210-4020 Viking Way Richmond, BC V6V 2N2

State Project No. Contract ID# Affiliated and Subsidiary Companies of the Offeror

Affiliate	Flatiron-Graham, a Joint Venture	4020 Viking Way Richmond, BC V6V 2N2
Affiliate	Flatiron/Dragados/Aecon/Lafarge Joint Venture	12009 Meridan Street NE Edmonton, AB T6S 1B8
Affiliate	Flatiron-Dragados, a Joint Venture	10400 Hayward Street Mission BC V4S 1H8
Affiliate	Graham-Flatiron Joint Venture	10909 27⋼ Street SE Calgary, AB T2H 2G7
Affiliate	Rokstad/Flatiron Joint Venture	80 Golden Dr. Coquitlam, BC V3K 6T1
Affiliate	Kiewit Flatiron General Partnership	#310, 4350 Still Creek Drive Burnaby, BC V5C 0G5
Affiliate	Trans-Park Highway Constructors	210-4020 Viking Way Richmond, BC V6V 2N2
Affiliate	Stoney Trail Constructors	210-4020 Viking Way Richmond, BC V6V 2N2
Affiliate	Signature on the Saint Lawrence General Partnership	8, Place du Commerce, Bureau 300 Verdun, QC H3E 1N3
3.2.7(a) – Primary Tier Debarment Form Attachment

CERTIFICATION REGARDING DEBARMENT PRIMARY COVERED TRANSACTIONS

Project No.: 0095-111-270

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

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

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

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

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

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

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

for Hay <u>6-12-2019</u> Vice President, Design-Build/Major Projects Title

Branch Civil, Inc.

<u>CERTIFICATION REGARDING DEBARMENT</u> <u>PRIMARY COVERED TRANSACTIONS</u>

Project No.: 0095-111-270

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

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

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

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

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

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

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

Signatu

6/21/2019 Date Vice President Title

Flatiron Constructors, Inc.

3.2.7(b) – Lower Tier Debarment Forms

CERTIFICATION REGARDING DEBARMENT LOWER TIER COVERED TRANSACTIONS

Project No.: 0095-111-270

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

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

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

hard Cert

Signature E. Richard Capps, Jr., P.E. 5/17/19 Date Senior Vice President Title

STV Incorporated dba STV Group Incorporated

CERTIFICATION REGARDING DEBARMENT LOWER TIER COVERED TRANSACTIONS

Project No.: 0095-111-270

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

- CUIA PRINCIPAL Date Title Signature

NOTITON THOMAS & ARSOCIATES, INC

Name of Firm

<u>CERTIFICATION REGARDING DEBARMENT</u> <u>LOWER TIER COVERED TRANSACTIONS</u>

Project No.: 0095-111-270

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

with de June 28, Date 2019 Managing Partner Signature Title 1

Appraisal Review Specialists, LLC Name of Firm

CERTIFICATION REGARDING DEBARMENT LOWER TIER COVERED TRANSACTIONS

Project No.: 0095-111-270

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aE. Bublist 6/6/2019 Signature

Date

President Title

Diversified Property Services, Inc.

CERTIFICATION REGARDING DEBARMENT LOWER TIER COVERED TRANSACTIONS

Project No.: 0095-111-270

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<u>Signature</u> <u>6/4/19</u> <u>VICE PRESIDENT</u> <u>Title</u>

ECS MID-ATLANTIC, LLC

<u>CERTIFICATION REGARDING DEBARMENT</u> <u>LOWER TIER COVERED TRANSACTIONS</u>

Project No.: 0095-111-270

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Senior Vice President June 5, 2019 Title Date ignature

EEE Consulting, Inc

<u>CERTIFICATION REGARDING DEBARMENT</u> <u>LOWER TIER COVERED TRANSACTIONS</u>

Project No.: 0095-111-270

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

6/28/2019

Vresident

Title

Elliott Voluation + Consulting Services, LLC Name of F

<u>CERTIFICATION REGARDING DEBARMENT</u> <u>LOWER TIER COVERED TRANSACTIONS</u>

Project No.: 0095-111-270

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William Westerman Will have 6/05/2019 **Branch Manager** Signature Title

Froehling and Robertson, Inc. Name of Firm

<u>CERTIFICATION REGARDING DEBARMENT</u> <u>LOWER TIER COVERED TRANSACTIONS</u>

Project No.: 0095-111-270

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In Alemani 4 June 2019 Senior Vice President Title Signature

Haley & Aldrich, Inc.

CERTIFICATION REGARDING DEBARMENT LOWER TIER COVERED TRANSACTIONS

Project No.: 0095-111-270

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19 Signature

Milles Milles \$ 47 2nson Inc.

<u>CERTIFICATION REGARDING DEBARMENT</u> <u>LOWER TIER COVERED TRANSACTIONS</u>

Project No.: 0095-111-270

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ui ABBan gnature

6/4/2019 Date President

Hassan Water Resources, PLC

CERTIFICATION REGARDING DEBARMENT LOWER TIER COVERED TRANSACTIONS

Project No.: 0095-111-270

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Ki B	2	6/	7/19	V	ie	President
Signature		Date		Title		
McDonough	Bolyan	Peck,	lnc.	(MBP)		
Name of Firm						

CERTIFICATION REGARDING DEBARMENT LOWER TIER COVERED TRANSACTIONS

Project No.: 0095-111-270

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Mayculula 712/19 Senior Vice President Signature Date Title

NXL, a division of century Engineenna, Inc.

<u>CERTIFICATION REGARDING DEBARMENT</u> <u>LOWER TIER COVERED TRANSACTIONS</u>

Project No.: 0095-111-270

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ture Date Public Relations Specialist

Seventh Point Transportation PR

Name of Firm

3.2.8 VDOT Prequalification Certificate



DOT

VDDT					
Virginia Dep	artment of Transportation		Date Printed:	06/17/2	019
	Department's Lis	t of Prequalified Vendor	S	12:00	AM
	Includes All Qualif	ed Levels As Of 6/17/20	19	Page	154
Vendor ID: Vendor Name: Prequal Level: Prequal Exp:	F319 FLATIRON CONSTRUCTORS, Prequalified (Currently Inactive) 05/31/2020	INC.			
PREQ Addre 385 INTERLOC BROOMFIELD, Phone: (720)49 Fax: (720)494-8	ess CKEN CRESCENT #900 , CO 80504 14-8095 8095	Work Classes (Listed But No 003 - MAJOR STRUCTUF 054 - MARINE CONSTRU 055 - BRIDGE REPAIRS 101 - EXCAVATING	ot Limited To) RES ICTION		
Bus. Contact: Email:	KIRK, THEODORE JOSEPH TKIRK@FLATIRONCORP.COM				
	DBE	E Information			
DBE Type: DBE Contact:	N/A N/A				
Vendor ID: Vendor Name: Prequal Level: Prequal Exp:	F031 FLIPPO CONSTRUCTION COM Prequalified 07/31/2019	IPANY, INC.			
PREQ Addre 3820 PENN BE FORRESTVILL Phone: (301)96 Fax: (301)736-2	ess ELT PLACE E, MD 20747-0000 67-6800 2138	Work Classes (Listed But No 003 - MAJOR STRUCTUR 005 - DRAINAGE STRUC 045 - UNDERGROUND U 101 - EXCAVATING	ot Limited To) RES TURES TILITIES		
Bus. Contact: Email:	MORGAN, JOHN JOSEPH JMORGAN@FLIPPO.COM				
	DBE	E Information			
DBE Type: DBE Contact:	N/A N/A				

From: Caples, Harold <<u>harold.caples@vdot.virginia.gov</u>>
Sent: Thursday, June 20, 2019 3:05 PM
To: DePorter, Katie <<u>KDeporter@flatironcorp.com</u>>
Cc: rr VDOT-Prequalification <<u>prequalification@vdot.virginia.gov</u>>
Subject: Re: Request for Waiver on the I-95 NB Rappahannock

Katie,

I have reviewed the qualifications of FlatIron Constructors Inc. and I find them acceptable for the purpose of bidding the referenced project. Therefore, I hereby waive the bidding restriction on your firm for this project.

This waiver is predicated on your compliance with the Rules Governing Prequalification. The rules state that you are limited to no more than three projects at any given time, each of these contracts will be limited to a maximum contract value of \$2 million not exceeding a total value of \$6 million (aggregate). This waiver allows you to bid beyond that dollar limit, but should you be successful on this project, you may be ineligible for any further VDOT work as a prime contractor until your receive a satisfactory VDOT performance evaluation.

VDOT looks forward to your submission.

Harold R. Caples, P.E., VCCO

Assistant State Construction Engineer Virginia Department of Transportation 1401 East Broad Street Richmond, Virginia 23219 (804) 786-1630 - Office (804) 371-7896 - Fax

3.2.9 Surety Letter Attachment

June 27, 2019

Alternative Project Delivery Division Virginia Department of Transportation 1401 East Broad Street Richmond, VA 23219 Attn: Suril R. Shah, P.E., DBIA

Re: Branch-Flatiron Joint Venture

Request For Qualifications May 13, 2019 – I-95 Northbound Rappahannock River Crossing From: 1.16 miles South of Rte. 3 (Plank Road) To: 0.44 Miles South of Rte. 8900 (Centreport Parkway) Spotsylvania County, City of Fredericksburg, Stafford County Virginia Design-Build Project – State Project No.: 0095-111-270, Federal Project No.: NHP-095-2(531), Contract ID No. C00105510DB106 – Estimated Contract Value: \$126,500,000.00

This letter confirms that Branch-Flatiron Joint Venture comprised of Branch Civil, Inc. and Flatiron Constructors, Inc. is supported by the following co-sureties, Liberty Mutual Insurance Company, Travelers Casualty and Surety Company of America, Zurich American Insurance Company, Federal Insurance Company, The Continental Insurance Company, Berkshire Hathaway Specialty Insurance Company and Hartford Fire Insurance Company. All Sureties are listed in the U.S. Treasury Circular 570 dated July 1, 2018 and licensed to do business in all States.

The undersigned sureties agree that, Branch-Flatiron Joint Venture is well qualified to perform the above captioned project. Furthermore, the undersigned sureties confirm the joint venture is capable of obtaining a 100% Performance Bond and 100% Labor and Materials Payment Bond in the amount of the anticipated cost of construction referenced in Section 2.1 of the RFQ , currently estimated in the amount of \$126,500,000.00 Million, 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. Further, should the Branch-Flatiron Joint Venture be awarded the project and they accept, both Branch Civil and Flatiron as well as the sureties will all be joint and severally bound to the Obligee.

The standard underwriting procedures in the surety industry would be performed prior to any final approvals and would be contingent on the satisfactory review of contract documents, confirmation of financing, acceptable payment provisions, acceptable bond forms, etc. As this letter is provided to document the abilities of the Branch-Flatiron Joint Venture, we assume no liability to third parties or to you by issuance of this letter.

We are pleased to share with you our favorable experience and high regard for Branch-Flatiron Joint Venture.

Sincerely,

Liberty Mutual Insurance Company – A.M. Best Rating A XV 175 Berkeley Street, Boston, MA 02116 (Massachusetts Corporation)

Travelers Casualty and Surety Company of America – A.M. Best Rating A++ XV Construction Services, One Tower Square, Hartford, CT 06183 (Connecticut Corporation)

Zurich American Insurance Company – A.M. Best A+ XV 1299 Zurich Way, Schaumburg, IL 60196 (New York Corporation)

Federal Insurance Company – A.M. Best rating – A++ XV 202B Hall's Mill Road, Whitehouse Station, NJ 08889 (Indiana Corporation)

The Continental Insurance Company – A.M. Best Rating – A XV 151 N Franklin Street, Chicago, IL 60606 (Pennsylvania Corporation)

Berkshire Hathaway Specialty Insurance Company – A.M. Best Rating A++ XV 100 Federal Street, 20th Floor, Boston, MA 02110 (Nebraska Corporation)

Hartford Fire Insurance Company – A.M. Best Rating – A+ XV One Hartford Plaza, Hartford, CT 06155-0001 (A Connecticut Corporation)

Elliott W. Wolffe, Attorney-In-Fact

CORPORATE ACKNOWLEDGMENT

Form 152

STATE OF NEW JERSEY COUNTY OF BERGEN

2019 On this 27th day of June before me personally came . Elliott W. Wolffe to me known, who, being by me duly sworn, did depose and say that she/he resides in Livingston, New Jersey that she/he is the ATTORNEY IN FACT of the LIBERTY MUTUAL INSURANCE COMPANY, TRAVELERS CASUALTY AND SURETY COMPANY OF AMERICA, ZURICH AMERICAN INSURANCE COMPANY, FEDERAL INSURANCE COMPANY, THE CONTINENTAL INSURANCE COMPANY, BERKSHIRE HATHAWAY SPECIALTY INSURANCE COMPANY, HARTFORD FIRE INSURANCE COMPANY, the corporation described in and which executed the above instrument that she/he knows the seal of said corporation; that the seal affixed to said instrument is such corporate seal; that it was so affixed by order of the Board of Directors of said corporation, and that she/he signed her/his name thereto by like order. (SEAL)

KRISTA A. BURKE NOTARY PUBLIC, STATE OF NEW JERSEY MY COMMISSION EXPIRES DECEMBER 07, 2022



LIBERTY MUTUAL INSURANCE COMPANY

FINANCIAL STATEMENT — DECEMBER 31, 2018

Assets

|--|

Cash and Bank Deposits	\$464,341,712
*Bonds — U.S Government	2,259,714,810
*Other Bonds	11,864,776,740
*Stocks	16,527,715,226
Real Estate	255,809,551
Agents' Balances or Uncollected Premiums	5,817,927,234
Accrued Interest and Rents	108,139,840
Other Admitted Assets	11,532,139,744

Total Admitted Assets...... <u>\$48,830,564,857</u>

Unearned Premiums	\$7,851,429,449
Reserve for Claims and Claims Expense	20,165,209,300
Funds Held Under Reinsurance Treaties	384,795,327
Reserve for Dividends to Policyholders	1,111,529
Additional Statutory Reserve	62,866,000
Reserve for Commissions, Taxes and	
Other Liabilities	3,999,822,802
Total	\$32,465,234,407
Special Surplus Funds \$43,108,583	
Capital Stock 10,000,000	
Paid in Surplus 10,044,912,727	
Unassigned Surplus 6,267,309,139	
Surplus to Policyholders	16,365,330,449
Total Liabilities and Surplus	<u>\$48,830,564,856</u>



* Bonds are stated at amortized or investment value; Stocks at Association Market Values. The foregoing financial information is taken from Liberty Mutual Insurance Company's financial statement filed with the state of Massachusetts Department of Insurance.

I, TIM MIKOLAJEWSKI, Assistant Secretary of Liberty Mutual Insurance Company, do hereby certify that the foregoing is a true, and correct statement of the Assets and Liabilities of said Corporation, as of December 31, 2018, to the best of my knowledge and belief.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the seal of said Corporation at Seattle, Washington, this 22nd day of March, 2019.

TAMiholajewski

Assistant Secretary



This Power of Attorney limits the acts of those named herein, and they have no authority to bind the Company except in the manner and to the extent herein stated.

> Liberty Mutual Insurance Company The Ohio Casualty Insurance Company West American Insurance Company

Certificate No: 8200349-974450

on any business day

POWER OF ATTORNEY

KNOWN ALL PERSONS BY THESE PRESENTS: That The Ohio Casualty Insurance Company is a corporation duly organized under the laws of the State of New Hampshire, that Liberty Mutual Insurance Company is a corporation duly organized under the laws of the State of Massachusetts, and West American Insurance Company is a corporation duly organized under the laws of the State of Indiana (herein collectively called the "Companies"), pursuant to and by authority herein set forth, does hereby name, constitute and appoint, Sherryanne M. DePirro; Mary R. McKee; James Baldassare, Jr.; Krista A. Burke; Vincent C. Miseo; Charo J. Rosemond; Lisa M. Scavetta; Maria L. Spadaccini; Nicholas F. Walsh; Elliott W. Wolffe

all of the city of Paramus state of NJ each individually if there be more than one named, its true and lawful attorney-in-fact to make, execute, seal, acknowledge and deliver, for and on its behalf as surety and as its act and deed, any and all undertakings, bonds, recognizances and other surety obligations, in pursuance of these presents and shall be as binding upon the Companies as if they have been duly signed by the president and attested by the secretary of the Companies in their own proper persons.

IN WITNESS WHEREOF, this Power of Attorney has been subscribed by an authorized officer or official of the Companies and the corporate seals of the Companies have been affixed thereto this 24th day of January , 2019





The Ohio Casualty Insurance Company West American Insurance Company

Liberty Mutual Insurance Company

Bv:

David M. Carey, Assistant Secretary

State of PENNSYLVANIA SS County of MONTGOMERY

On this 2019 before me personally appeared David M. Carey, who acknowledged himself to be the Assistant Secretary of Liberty Mutual Insurance 24th day of January Company, The Ohio Casualty Company, and West American Insurance Company, and that he, as such, being authorized so to do, execute the foregoing instrument for the purposes therein contained by signing on behalf of the corporations by himself as a duly authorized officer. this Power of Attorney 9:00 am and 4:30 pm

IN WITNESS WHEREOF, I have hereunto subscribed my name and affixed my notarial seal at King of Prussia, Pennsylvania, on the day and year first above written,

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1919

PAS ONW ٥ř TARY PUR

Notarial Seal Teresa Pastella, Notary Public Upper Merion Twp., Montgomery County My Commission Expires March 28, 2021 Member, Pennsylvania Association of Notaries

COMMONWEALTH OF PENNSYLVANIA

By: Teresa Pastella

This Power of Attorney is made and executed pursuant to and by authority of the following By-laws and Authorizations of The Ohio Casualty Insurance Company, Liberty Mutua Insurance Company, and West American Insurance Company which resolutions are now in full force and effect reading as follows:

ARTICLE IV - OFFICERS: Section 12. Power of Attorney.

1 the validity of the -8240 between Any officer or other official of the Corporation authorized for that purpose in writing by the Chairman or the President, and subject to such limitation as the Chairman or the President may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Corporation to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact, subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Corporation by their signature and execution of any such instruments and to attach thereto the seal of the Corporation. When so executed, such To confirm 1-610-832-8 instruments shall be as binding as if signed by the President and attested to by the Secretary. Any power or authority granted to any representative or attorney-in-fact under the provisions of this article may be revoked at any time by the Board, the Chairman, the President or by the officer or officers granting such power or authority.

ARTICLE XIII - Execution of Contracts: Section 5. Surety Bonds and Undertakings.

Any officer of the Company authorized for that purpose in writing by the chairman or the president, and subject to such limitations as the chairman or the president may prescribe shall appoint such attorneys in fact, as may be necessary to act in behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys in-fact subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Company by their signature and execution of any such instruments and to attach thereto the seal of the Company. When so executed such instruments shall be as binding as if signed by the president and attested by the secretary.

Certificate of Designation - The President of the Company, acting pursuant to the Bylaws of the Company, authorizes David M. Carey, Assistant Secretary to appoint such attorneys-infact as may be necessary to act on behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations.

Authorization - By unanimous consent of the Company's Board of Directors, the Company consents that facsimile or mechanically reproduced signature of any assistant secretary of the Company, wherever appearing upon a certified copy of any power of attorney issued by the Company in connection with surety bonds, shall be valid and binding upon the Company with the same force and effect as though manually affixed.

I, Renee C. Llewellyn, the undersigned, Assistant Secretary, The Ohio Casualty Insurance Company, Liberty Mutual Insurance Company, and West American Insurance Company do hereby certify that the original power of attorney of which the foregoing is a full, true and correct copy of the Power of Attorney executed by said Companies, is in full force and effect and has not been revoked.

day of June 2019 IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the seals of said Companies this 27 th



TRAVELERS CASUALTY AND SURETY COMPANY OF AMERICA

HARTFORD, CONNECTICUT 06183

FINANCIAL STATEMENT AS OF DECEMBER 31, 2018

CAPITAL STOCK \$ 6,480,000

ASSETS		LIABILITIES & SURPLUS				
CASH AND INVESTED CASH BONDS STOCKS INVESTMENT INCOME DUE AND ACCRUED OTHER INVESTED ASSETS PREMIUM BALANCES NET DEFERRED TAX ASSET REINSURANCE RECOVERABLE SECURITIES LENDING REINVESTED COLLATERAL ASSETS RECEIVABLES FROM PARENT, SUBSIDIARIES AND AFFILIATES ASSUMED REINSURANCE RECEIVABLE AND PAYABLE OTHER ASSETS	\$ 36,728,596 3,507,432,239 294,199,598 38,287,129 3,507,839 250,478,792 48,781,239 29,278,755 14,277,262 27,813,266 626,488 4,936,229	UNEARNED PREMIUMS LOSSES LOSS ADJUSTMENT EXPENSES COMMISSIONS TAXES, LICENSES AND FEES OTHER EXPENSES CURRENT FEDERAL AND FOREIGN INCOME TAXES REMITTANCES AND ITEMS NOT ALLOCATED AMOUNTS WITHHELD / RETAINED BY COMPANY FOR OTHERS RETROACTIVE REINSURANCE RESERVE ASSUMED POLICYHOLDER DIVIDENDS PROVISION FOR REINSURANCE ADVANCE PREMIUM REINSURANCE PAYABLE ON PAID LOSSES & LOSS ADJ, EXPENSES PAYABLE FOR SECURITIES LENDING CEDED REINSURANCE NET PREMIUMS PAYABLE OTHER ACCRUED EXPENSES AND LIABILITIES TOTAL LIABILITIES CAPITAL STOCK PAID IN SURPLUS OTHER SURPLUS TO POLICYHOLDERS	 \$ 979,007,378 750,995,504 166,673,871 45,868,584 14,584,663 43,858,534 10,143,037 21,277,153 30,289,553 810,360 10,410,755 7,641,356 1,608,777 868,002 14,277,262 46,449,976 335,489 \$ 2,145,120,254 \$ 6,480,000 433,803,760 1,670,943,418 \$ 2,111,227,178 			
TOTAL ASSETS	\$ 4,256,347,432	TOTAL LIABILITIES & SURPLUS	\$ 4,256,347,432			

STATE OF CONNECTICUT)
COUNTY OF HARTFORD) SS.
CITY OF HARTFORD)

MICHAEL J. DOODY, BEING DULY SWORN, SAYS THAT HE IS SECOND VICE PRESIDENT, OF TRAVELERS CASUALTY AND SURETY COMPANY OF AMERICA, AND THAT TO THE BEST OF HIS KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT STATEMENT OF THE FINANCIAL CONDITION OF SAID COMPANY AS OF THE 31ST DAY OF DECEMBER, 2018.

Michael Torry

SUBSCRIBED AND SWORN TO BEFORE ME THIS 28TH DAY OF MARCH, 2019

SUSAN M. WEISSLEDER Notary Public My Commission Expires November 30, 2022

NOTARY PUBLIC



TRAVELERŜ

Travelers Casualty and Surety Company of America Travelers Casualty and Surety Company St. Paul Fire and Marine Insurance Company

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS: That Travelers Casualty and Surety Company of America, Travelers Casualty and Surety Company, and St. Paul Fire and Marine Insurance Company are corporations duly organized under the laws of the State of Connecticut (herein collectively called the "Companies"), and that the Companies do hereby make, constitute and appoint Elliott W. Wolffe of Paramus, New Jersey, their true and lawful Attorney-in-Fact tosign, execute, seal and acknowledge any and all bonds, recognizances, conditional undertakings and other writings obligatory in the nature thereof on behalf of the Companies in their business of guaranteeing the fidelity of persons, guaranteeing the performance of contracts and executing or guaranteeing bonds and undertakings required or permitted in any actions or proceedings allowed by law.

IN WITNESS WHEREOF, the Companies have caused this instrument to be signed, and their corporate seals to be hereto affixed, this 3rd day of February, 2017.

State of Connecticut

City of Hartford ss.



Vice President

On this the 3rd day of February, 2017, before me personally appeared Robert L. Raney, who acknowledged himself to be the Senior Vice President of Travelers Casualty and Surety Company of America, Travelers Casualty and Surety Company, and St. Paul Fire and Marine Insurance Company, and that he, as such, being authorized so to do, executed the foregoing instrument for the purposes therein contained by signing on behalf of the corporations by himself as a duly authorized officer.

In Witness Whereof, I hereunto set my hand and official seal.

My Commission expires the 30th day of June, 2021



Marie C. Jetreault, Notary Public

This Power of Attorney is granted under and by the authority of the following resolutions adopted by the Boards of Directors of Travelers Casualty and Surety Company of America, Travelers Casualty and Surety Company, and St. Paul Fire and Marine Insurance Company, which resolutions are now in full force and effect, reading as follows:

RESOLVED, that the Chairman, the President, any Vice Chairman, any Executive Vice President, any Senior Vice President, any Vice President, any Second Vice President, the Treasurer, any Assistant Treasurer, the Corporate Secretary or any Assistant Secretary may appoint Attorneys-in-Fact and Agents to act for and on behalf of the Company and may give such appointee such authority as his or her certificate of authority may prescribe to sign with the Company's name and seal with the Company's seal bonds, recognizances, contracts of indemnity, and other writings obligatory in the nature of a bond, recognizance, or conditional undertaking, and any of said officers or the Board of Directors at any time may remove any such appointee and revoke the power given him or her; and it is

FURTHER RESOLVED, that the Chairman, the President, any Vice Chairman, any Executive Vice President, any Senior Vice President or any Vice President may delegate all or any part of the foregoing authority to one or more officers or employees of this Company, provided that each such delegation is in writing and a copy thereof is filed in the office of the Secretary; and it is

FURTHER RESOLVED, that any bond, recognizance, contract of indemnity, or writing obligatory in the nature of a bond, recognizance, or conditional undertaking shall be valid and binding upon the Company when (a) signed by the President, any Vice Chairman, any Executive Vice President, any Senior Vice President or any Vice President, any Second Vice President, the Treasurer, any Assistant Treasurer, the Corporate Secretary or any Assistant Secretary and duly attested and sealed with the Company's seal by a Secretary or Assistant Secretary; or (b) duly executed (under seal, if required) by one or more Attorneys-in-Fact and Agents pursuant to the power prescribed in his or her certificate or their certificates of authority or by one or more Company officers pursuant to a written delegation of authority; and it is

FURTHER RESOLVED, that the signature of each of the following officers: President, any Executive Vice President, any Senior Vice President, any Vice President, any Assistant Vice President, any Secretary, any Assistant Secretary, and the seal of the Company may be affixed by facsimile to any Power of Attorney or to any certificate relating thereto appointing Resident Vice Presidents, Resident Assistant Secretaries or Attorneys-in-Fact for purposes only of executing and attesting bonds and undertakings and other writings obligatory in the nature thereof, and any such Power of Altorney or certificate bearing such facsimile signature or facsimile seal shall be valid and binding upon the Company and any such power so executed and certified by such facsimile signature and facsimile seal shall be valid and binding on the Company in the future with respect to any bond or understanding to which it is attached.

I, Kevin E. Hughes, the undersigned, Assistant Secretary of Travelers Casualty and Surety Company of America, Travelers Casualty and Surety Company, and St. Paul Fire and Marine 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 remains in full force and effect.



Kan E. Huytan Kevin E. Hughes, Assistant Secretary

To verify the authenticity of this Power of Attorney, please call us at 1-800-421-3880. Please refer to the above-named Attorney-in-Fact and the details of the bond to which the power is attached.

ZURICH AMERICAN INSURANCE COMPANY COMPARATIVE BALANCE SHEET 4 WORLD TRADE CENTER, 150 GREENWICH STREET, NEW YORK, NY 10007 As of December 31, 2018 and December 31, 2017

		12/31/2018		12/31/2017
Assets				
Bonds	S	17,540,109,648	S	17,304,611,032
Preterred Stock		•		-
Common Stock		3,132,639,174		3,336,061,932
Real Estate		1,373,151,270		1,169,333,479
Other Invested Assets		1,113,225,492		1,398,151,991
Derivatives		642,656		34,100
Short-term Investments		24,895,313		122,752,224
Receivable for securities		75,504,004		216,911,554
Cash and cash equivalents		(38,621,060)		623,989,513
Securities lending reinvested collateral assets		47,379,583		142,251,002
Employee Trust for Deferred Compensation Plan		142,053,861	<u> </u>	154,154,004
Total Cash and Invested Assets	\$	23,410,979,940	\$	24,468,250,829
Premiums Receivable	s	4,800,865,144	s	4,853,380,227
Funds Held with Reinsurers		371,693		289,784
Reinsurance Recoverable		1,298,188,705		648,465,014
Accrued investment income		126,363,306		132,373,174
Federal Income Tax Recoverable		503,312,859		477,481,846
Due from Affiliates		205,170,893		407,585,927
Other Assets	-	602,852,006		594,128,929
Total Assets	\$	30,948,104,546	5	31,581,955,729
Liabilities and Policyholders' Surplus				
Liabilities:				
Loss and LAE Reserves	S	13,849,911,195	S	14,125,301,895
Uncarned Premium Reserve		3,819,936,876		4,274,053,819
Funds Held with Reinsurers		559,639,569		637,809,938
Loss In Course of Payment		959,528,132		888,528,099
Commission Reserve		120,056,749		112,790,522
Federal Income Tax Payable		-		88,988,756
Remittances and Items Unallocated		19,668,701		161,295,880
Payable to parent, subs and affiliates		106,578,289		221,304,753
Provision for Reinsurance		213,799,231		169,995,451
Ceded Reinsurance Premiums Payable		1,939,296,998		1,000,276,567
Securities Lending Collateral Liability		47,379,583		142,251,002
Other Liabilities		2,136,803,941		2,140,323,174
Total Liabilities	\$	23,772,599,265	\$	23,962,919,856
Policyholders' Surplus:				
Common Capital Stock	S	5,000,000	\$	5 000 000
Paid-In and Contributed Surplus		4 394,131,321	Ŷ	4 394 131 371
Surplus Notes				1,001,010,000
Special Surplus Funds		5,106,000		49 800 000
Cumulative Unrealized Gain		52 396 417		283 605 517
Unassigned Surplus		2 718 871 543		2 886 310 035
Total Policyholders' Surplus	S	7,175,505,281	\$	7,619,035,873
Total Liabilities and Policyholders' Surplus	\$	30,948,104,546	5	31,581,955,729

I, Dennis F. Kerrigan, Corporate Secretary of ZURICH AMERICAN INSURANCE COMPANY do hereby certify that the foregoing statement is a correct exhibit of the assets and liabilities of the said Company, on the 31st day of December, 2018, according to the best of my information, knowledge and belief.

Corporate Secretary } SS:

State of Illinois

County of Cook

Subscribed and sworn to, before me, a Notary Public of the State of Illinois, in the City of Schaumburg, this 20th day of March, 2019.

KATHERINE R SCHULTZ Official Seal Notary Public - State of Illinois My Commission Expires Nov 16, 2019

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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 Illinois, and the FIDELITY AND DEPOSIT COMPANY OF MARYLAND a corporation of the State of Illinois (herein collectively called the "Companies"), by **Robert D. Murray, 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 Mary R. MCKEE, Maria L. SPADACCINI, Sherryanne M. DEPIRRO, Nicholas F. WALSH, Lisa M. SCAVETTA, Elliott W. WOLFFE, James BALDASSARE, Jr., Krista A. BURKE and Charo J. ROSEMOND, all of Paramus, New Jersey, 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 25th day of February, A.D. 2019.



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

By: Robert D. Murray Vice President

Dawn & Grown

By: Dawn E. Brown Secretary

State of Maryland County of Baltimore

On this 25th day of February, A.D. 2019, before the subscriber, a Notary Public of the State of Maryland, duly commissioned and qualified, **Robert D. Murray**, Vice President and Dawn E. Brown, 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. Dum

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

EXTRACT FROM BY-LAWS OF THE COMPANIES

"Article V, Section 8, <u>Attorneys-in-Fact</u>. 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 of revoke any such appointment or authority at any time."

CERTIFICATE

I, the undersigned, Secretary 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 27th day of June , 2019.



Bruen Hodges

By: Brian M. Hodges Vice President

TO REPORT A CLAIM WITH REGARD TO A SURETY BOND, PLEASE SUBMIT A COMPLETE DESCRIPTION OF THE CLAIM INCLUDING THE PRINCIPAL ON THE BOND, THE BOND NUMBER, AND YOUR CONTACT INFORMATION TO:

Zurich Surety Claims 1299 Zurich Way Schaumburg, IL 60196-1056 www.reportsfclaims@zurichna.com 800-626-4577

FEDERAL INSURANCE COMPANY

STATEMENT OF ASSETS, LIABILITIES AND SURPLUS TO POLICYHOLDERS

Statutory Basis

DECEMBER 31, 2018

(in thousands)

ASSETS		LIABILITIES AND SURPLUS TO POLICYHOLDERS			
Cash and Short Term Investments United States Government, State and Municipal Bonds Other Bonds Stocks Other Invested Assets	\$ (360,335) 5,738,426 3,916,616 100,774 <u>959,127</u>	, Outstanding Losses and Loss Expenses Reinsurance Payable on Losses and Expenses Unearned Premiums Ceded Reinsurance Premiums Payable Other Liabilities	\$ 8,523,482 1,490,981 1,914,190 405,271 565,865		
TOTAL INVESTMENTS	10,354,608	TOTAL LIABILITIES	10,899,789		
Investments in Affiliates: Great Northem Ins. Co. Vigilant Ins. Co. Chubb Indemnity Ins. Co. Chubb National Ins. Co. Chubb European Inv. Holdings, SLP Other Affiliates Premiums Receivable Other Assets	384,987 333,743 176,202 176,647 120,469 99,299 1,281,368 2,762,308	Capital Stock Paid-In Surplus Unassigned Funds SURPLUS TO POLICYHOLDERS	20,980 2,711,474 2,057,388 4,789,842		
TOTAL ADMITTED ASSETS	\$ <u>15,689,631</u>	TOTAL LIABILITIES AND SURPLUS	\$15,689,631		

Investments are valued in accordance with requirements of the National Association of Insurance Commissioners, At December 31, 2018, investments with a carrying value of \$566,806,856 were deposited with government authorities as required by law.

STATE OF PENNSYLVANIA

COUNTY OF PHILADELPHIA

John Taylor, being duly swom, says that he is Senior Vice President of Federal Insurance Company and that to the best of his knowledge and belief the foregoing is a frue and correct statement of the said Company's financial condition as of the 31 st day of December, 2018.

9

march 19 201 Sworn before me this dan' Senior Notary Public

COMMONWEALTH OF PENNSYLVANIA NOTARIAL SEAL Diane Wright, Notary Public City of Philadelphia, Philadelphia County My Commission Expires Aug. 8, 2019 MEMBER, PENNSYLVANIA ASSOCIATION OF NOTARIES

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Power of Attorney

Federal Insurance Company | Vigilant Insurance Company | Pacific Indemnity Company

Know All by These Presents, That FEDERAL INSURANCE COMPANY, an Indiana corporation, VIGLANT INSURANCE COMPANY, a New York corporation, and PACIFIC INDEMNITY COMPANY, a Wisconsin corporation, do each hereby constitute and appoint James Baldassare Jr., Krista A. Burke, Sherryanne M. DePirro, Mary R. McKee, Charo J. Rosemond, Lisa M. Scavetta, Maria L. Spadaccini, Nicholas F. Walsh and Elliott W. Wolffe of Paramus, New Jersey------

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

In Witness Whereof, said FEDERAL INSURANCE COMPANY, VIGILANT INSURANCE COMPANY, and PACIFIC INDEMNITY COMPANY have each executed and attested these presents and affixed their corporate seals on this 22nd day of January, 2019.

Stephen M. Haney, Vice Presider

Down m. Chlores

Dawn M. Chloros, Assistant Secretary



STATE OF NEW JERSEY

County of Hunterdon

On this 22^{ad} day of January,2019, before me, a Notary Public of New Jersey, personally came Dawn M. Chloros, to me known to be Assistant Secretary of FEDERAL INSURANCE COMPANY, VIGILANT INSURANCE COMPANY, and PACIFIC INDEMNITY COMPANY, the companies which executed the foregoing Power of Attorney, and the said Dawn M. Chloros, being by me duly sworn, did depose and say that she is Assistant Secretary of FEDERAL INSURANCE COMPANY, VIGILANT INSURANCE COMPANY, and PACIFIC INDEMNITY COMPANY and knows the corporate seals thereof, that the seals affixed to the foregoing Power of Attorney are such corporate seals and were thereto affixed by authority of said Companies; and that she signed said Power of Attorney as Assistant Secretary of Stephen M. Haney, subscribed to said Power of Attorney is in the genuine handwriting of Stephen M. Haney, and was thereto subscribed by authority of said Companies and in deponent's presence.

Notarial Seal



SS.

KATHERINE J, ADELAAR NOTARY PUBLIC OF NEW JERSEY No. 2318865 Commission Expressiony 18, 2019

Hut flat Noter Public

CERTIFICATION

Resolutions adopted by the Boards of Directors of FEDERAL INSURANCE COMPANY, VIGILANT INSURANCE COMPANY, and PACIFIC INDEMNITY COMPANY on August 30, 2016: "RESOLVED, that the following authorizations relate to the execution, for and on behalf of the Company, of bonds, undertakings, recognizances, contracts and other written commitments of the Company entered into in the ordinary course of business (each a "Written Commitment"):

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

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

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

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

Given under my hand and seals of said Companies at Whitehouse Station, NJ, this 27th day of June



Dawn M. Chloros, Assistant Secretary

2019

IN THE EVENT YOU WISH TO VERIFY THE AUTHENTICITY OF THIS BOND OR NOTIFY US OF ANY OTHER MATTER, PLEASE CONTACT US AT: Telephone (508) 903-3493 Fax (308) 903-3656 e-mail: surety@chubb.com

THE CONTINENTAL INSURANCE COMPANY Radnor, Pennsylvania Statement of Net Admitted Assets and Liabilities December 31, 2018

ASSETS

Bonds			\$	1,403,281,908
Stocks				145,692,045
Cash and short-term investments				74,015,970
Receivables for securities				195
Investment income due and accrued				16,191,215
Amounts recoverable from reinsurers				77,051,871
Funds held by or deposited with reinsured companies				1,527,520
Current federal and foreign income tax recoverable and inte	rest thereon			2,103
Net deferred tax asset				35,034,688
Premiums and considerations				33,985,586
Other assets				6,604,666
Total Assets			\$	1.793,387,767
LIABILITIE	S AND SURPLUS	5		
Losses		-	s	700.310.216
Loss adjustment expense			-	35.184.857
Uncarned premiums				
Other expenses				-
Ceded reinsurance premiums payable (net of ceding commis	ssions)			53,284,799
Funds held by company under reinsurance treaties	-			2,919,616
Provision for reinsurance				61,000,000
Other liabilities				(659.374.857)
Total Liabilities			\$	193,324,631
Surplus Account:				
Capital paid up	S	53,566,360		
Gross paid in and contributed surplus		1,423,436,994		
Special Surplus		301,906,976		
Unassigned funds		(178,844,194)		
Surplus as regards policyholders			Ś.	1,600,066,136
Total Liabilities and Capital			\$	1,793,390,767
				A CONTRACTOR OF

I, Victoria Baltrus, Vice President of Continental Insurance Company hereby certify that the above is an accurate representation of the financial statement of the Company dated December 31, 2018, as filed with the various Insurance Departments and is a true and correct statement of the condition of Continental Insurance Company as of that date.

THE CONTINENTAL INSURANCE COMPANY

By Victoria & Bartnes

Vice President

Subscribed and sworn to me this Zrday of March 2019 My commission expires:

"OFFICIAL SEAL" CHRISTOPHER LOPATOWSKI Notary Public, State of Illinois My Commission Expires 01/14/2020 ð *********

By Christopher Lopaton Notary Public

POWER OF ATTORNEY APPOINTING INDIVIDUAL ATTORNEY-IN-FACT

Know All Men By These Presents, That The Continental Insurance Company, a Pennsylvania insurance company, is a duly organized and existing insurance company having its principal office in the City of Chicago, and State of Illinois, and that it does by virtue of the signature and seal herein affixed hereby make, constitute and appoint

Elliott W Wolffe, Maria L Spadaccini, James Baldassare Jr, Mary R McKee, Krista A Burke, Charo J Rosemond, Sherryanne M DePirro, Lisa M Scavetta, Nicholas F Walsh, Individually

of Paramus, NJ, its true and lawful Attorney(s)-in-Fact with full power and authority hereby conferred to sign, seal and execute for and on its behalf bonds, undertakings and other obligatory instruments of similar nature

- In Unlimited Amounts -

and to bind them thereby as fully and to the same extent as if such instruments were signed by a duly authorized officer of the insurance company and all the acts of said Attorney, pursuant to the authority hereby given is hereby ratified and confirmed.

This Power of Attorney is made and executed pursuant to and by authority of the By-Law and Resolutions, printed on the reverse hereof, duly adopted, as indicated, by the Board of Directors of the insurance company.

In Witness Whereof, The Continental Insurance Company has caused these presents to be signed by its Vice President and its corporate seal to be hereto affixed on this 11th day of February, 2019.



Paul T. Bruflat

ice President



State of South Dakota, County of Minnehaha, ss:

On this 11th day of February, 2019, before me personally came Paul T. Bruflat to me known, who, being by me duly sworn, did depose and say: that he resides in the City of Sioux Falls, State of South Dakota; that he is a Vice President of The Continental Insurance Company, a Pennsylvania insurance company, described in and which executed the above instrument; that he knows the seal of said insurance company; that the seal affixed to the said instrument is such corporate seal; that it was so affixed pursuant to authority given by the Board of Directors of said insurance company and that he signed his name thereto pursuant to like authority, and acknowledges same to be the act and deed of said insurance company.

J. MOHR NOTARY PUBLIC

My Commission Expires June 23, 2021

J. Mohr

Notary Public

CERTIFICATE

I, D. Johnson, Assistant Secretary of The Continental Insurance Company, a Pennsylvania insurance company, do hereby certify that the Power of Attorney herein above set forth is still in force, and further certify that the By-Law and Resolution of the Board of Directors of the insurance company printed on the reverse hereof is still in force. In testimony whereof I have hereunto subscribed my name and affixed the seal of the said insurance company this 27th day of June 2019



The Continental Insurance Company

D. Johnson

Assistant Secretary

Form F6850-4/2012

Go to www.cnasurety.com > Owner / Obligee Services > Validate Bond Coverage, if you want to verify bond authenticity.
Authorizing By-Laws and Resolutions

ADOPTED BY THE BOARD OF DIRECTORS OF THE CONTINENTAL INSURANCE COMPANY:

This Power of Attorney is made and executed pursuant to and by authority of the following By-Law duly adopted by the Board of Directors of the Company at a meeting held on May 10, 1995.

"RESOLVED: That any Group Vice President may authorize an officer to sign specific documents, agreements and instruments on behalf of the Company provided that the name of such authorized officer and a description of the documents, agreements or instruments that such officer may sign will be provided in writing by the Group Vice President to the Secretary of the Company prior to such execution becoming effective.

This Power of Attorney is signed by Paul T. Bruflat, Vice President, who has been authorized pursuant to the above resolution to execution power of attorneys on behalf of The Continental Insurance Company.

This Power of Attorney is signed and sealed by facsimile under and by the authority of the following Resolution adopted by the Board of Directors of the Company by unanimous written consent dated the 25th day of April, 2012.

"Whereas, the bylaws of the Company or specific resolution of the Board of Directors has authorized various officers (the "Authorized Officers") to execute various policies, bonds, undertakings and other obligatory instruments of like nature; and

Whereas, from time to time, the signature of the Authorized Officers, in addition to being provided in original, hard copy format, may be provided via facsimile or otherwise in an electronic format (collectively, "Electronic Signatures"), Now therefore be it resolved: that the Electronic Signature of any Authorized Officer shall be valid and binding on the Company."

BERKSHIRE HATHAWAY SPECIALTY INSURANCE COMPANY

1314 Douglas Street, Suite 1400, Omaha, Nebraska 68102

ADMITTED ASSETS*

		12/31/2018	9/30/2018	12/31/2017
Total invested assets	\$	4,313,185,189	\$ 4,690,203,484	\$ 4,516,104,907
Premium & agent balances (net)		301,849,144	311,427,850	297,141,264
All other assets	The description	140,930,406	151,665,559	137,220,394
Total Admitted Assets	\$	4,755,964,739	\$ 5,153,296,893	\$ 4,950,466,565

LIABILITIES & SURPLUS*

	12/31/2018		<u>9/30/2018</u>	<u>12/31/2017</u>
Loss & loss exp. unpaid	\$ 463,103,223	\$	439,336,367	\$ 327,823,391
Unearned premiums	241,835,588		236,336,863	209,113,536
All other liabilities	 570,628,148		723,445,065	663,892,150
Total Liabilities	1,275,566,959	_	1,399,118,295	1,200,829,077
Total Policyholders' Surplus	 3,480,397,780		3,754,178,598	3,749,637,488
Total Liabilities & Surplus	\$ 4,755,964,739	\$	5,153,296,893	\$ 4,950,466,565

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

A.M. Best: A++ Rating

Standard & Poor's: AA+ Rating



Power Of Attorney

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

Know all men by these presents, that BERKSHIRE HATHAWAY SPECIALTY INSURANCE COMPANY, a corporation existing under and by virtue of the laws of the State of Nebraska and having an office at One Lincoln Street, 23rd Floor, Boston, Massachusetts 02111, NATIONAL INDEMNITY COMPANY, a corporation existing under and by virtue of the laws of the State of Nebraska and having an office at 3024 Harney Street, Omaha, Nebraska 68131 and NATIONAL LIABILITY & FIRE INSURANCE COMPANY, a corporation existing under and by virtue of the laws of the State of Connecticut and having an office at 100 First Stamford Place, Stamford, Connecticut 06902 (hereinafter collectively the "Companies"), pursuant to and by the authority granted as set forth herein, do hereby name, constitute and appoint: Krista A. Burke, Sherryanne M. DePirro, Elliott W. Wolffe, Charo J. Rosemond, Mary R. McKee, Andrew Waterbury, James Baldassare, Jr., Maria L. Spadaccini, Nicholas F. Walsh, Lisa M. Scavetta, 650 From Road of the city of Paramus State of New Jersey, their true and lawful attorney(s)-in-fact to make, execute, seal, acknowledge, and deliver, for and on their behalf as surety and as their act and deed, any and all undertakings, bonds, or other such writings obligatory in the nature thereof, in pursuance of these presents, the execution of which shall be as binding upon the Companies as if it has been duly signed and executed by their regularly elected officers in their own proper persons. This authority for the Attorney-in-Fact shall be limited to the execution of the attached bond(s) or other such writings obligatory in the nature thereof.

In witness whereof, this Power of Attorney has been subscribed by an authorized officer of the Companies, and the corporate seals of the Companies have been affixed hereto this date of December 20, 2018. This Power of Attorney is made and executed pursuant to and by authority of the Bylaws, Resolutions of the Board of Directors, and other Authorizations of BERKSHIRE HATHAWAY SPECIALTY INSURANCE COMPANY, NATIONAL INDEMNITY COMPANY and NATIONAL LIABILITY & FIRE INSURANCE COMPANY, which are in full force and effect, each reading as appears on the back page of this Power of Attorney, respectively.

By:

NATIONAL INDEMNITY COMPANY,

David Fields, Vice President

EMN

SURETY

NATIONAL LIABILITY & FIRE INSURANCE COMPANY,

BERKSHIRE HATHAWAY SPECIALTY INSURANCE COMPANY,

By:

David Fields, Executive Vice President



NOTARY

State of Massachusetts, County of Suffolk, ss:

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

[Notary Seal]



Dopy Dilinio

Notary Public

I, Ralph Tortorella, the undersigned, Officer of BERKSHIRE HATHAWAY SPECIALTY INSURANCE COMPANY, NATIONAL INDEMNITY COMPANY and NATIONAL LIABILITY & FIRE INSURANCE COMPANY, do hereby certify that the above and foregoing is a true and correct copy of the Power of Attorney executed by said Companies which is in full force and effect and has not been revoked. IN TESTIMONY WHEREOF, see hereunto affixed the seals of said Companies this June 27, 2019.







Officer

or via mail.

via fax to (617) 507-8259,

claimsnotice@bhspecialty.com,

at

email

via 9675, 1 THIS

(855) 453-

at

number

free toll 1

our 24-hour

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contact

please (

us of a claim

notify Boston, I

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02111 | (770) 625-2516 or by email at Jennifer.Porter@bhspecialty.com

To verify the authenticity of this Power of Attorney

MA

please contact us at: BHSI Surety Department, Berkshire Hathaway Specialty Insurance Company, One Lincoln Street, 23rd Floor

POWER OF ATTORNEY IS VOID IF ALTERED

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 Attorneysin-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 Attorneysin-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.

HARTFORD FIRE INSURANCE COMPANY

Hartford, Connecticut

Financial Statement, December 31, 2018 Statutory Basis

ASSETS

LIABILITIES

U.S. Government Bonds	\$	442,265,403	Reserve for Claims	\$	
Bonds of Other Governments		129,979,076	and Claim Expense		8,845,153,352
State, County Municipal			Reserve for Unearned Premiums		2,094,533,642
Miscellaneous Bonds		5,862,114,698	Reserve for Taxes, License		
Stocks		5,548,592,711	and Fees		52,262,120
Short Term Investments	_	116,077,507	Miscellaneous Liabilities		2,084,882,679
	\$	12,099,029,395	Total Liabilities	\$_	13,076,831,793
Real Estate	\$	331,574,149	Capital Paid In \$ 55,320,000		
Cash		58,641,379	Surplus		
Agents' Balances (Under 90 Day)		3,017,198,060			
Other Invested Assets		3,341,398,040	Surplus as regards Policyhoiders	\$	8,655,212,094
Miscellaneous		2,884,202,864	Total Liabilities, Capital	-	
Total Admitted Assets	\$_	21,732,043,887	and Surplus	\$_	21,732,043,887

STATE OF CONNECTICUT COUNTY OF HARTFORD CITY OF HARTFORD

SS.

Allison G. Niderno, Vice President and Controller, and Allen R. Craig, Assistant Secretary of the Hartford Fire Insurance Company, being duly sworn, each deposes and say that the foregoing is a true and correct statement of the said company's financial condition as of December 31, 2018.

Subscribed and sworn to before me this 18th day of March, 2019.

Notary Public



Form CS-19-37 HF printed in U.S.A.

Vice President and Controller

(T) Assistant Secretary

POWER OF ATTORNEY

Direct Inquiries/Claims to: THE HARTFORD BOND, T-12 One Hartford Plaza Hartford, Connecticut 06155 Bond.Claims@thehartford.com call: 888-266-3488 or fax: 860-757-5835

KNOW ALL PERSONS BY THESE PRESENTS THAT:

Agency Name: TURNER SURETY & INS BROKERAGE INC Agency Code: 13-653035

Hartford Fire Insurance Company, a corporation duly organized under the laws of the State of Connecticut
 Hartford Casualty Insurance Company, a corporation duly organized under the laws of the State of Indiana
 Hartford Accident and Indemnity Company, a corporation duly organized under the laws of the State of Connecticut
 Hartford Underwriters Insurance Company, a corporation duly organized under the laws of the State of Connecticut
 Twin City Fire Insurance Company, a corporation duly organized under the laws of the State of Indiana
 Hartford Insurance Company of Illinois, a corporation duly organized under the laws of the State of Illinois
 Hartford Insurance Company of the Midwest, a corporation duly organized under the laws of the State of Indiana
 Hartford Insurance Company of the Southeast, a corporation duly organized under the laws of the State of Indiana

having their home office in Hartford, Connecticut, (hereinafter collectively referred to as the "Companies") do hereby make, constitute and appoint, up to the amount of Unlimited :

Sherryanne M. DePirro, Mary R. McKee, Vincent C. Miseo, Lisa M. Scavetta, Maria L. Spadaccini, Nicholas F. Walsh, Elliott W. Wolffe of PARAMUS, New Jersey

Hartford

their true and lawful Attorney(s)-in-Fact, each in their separate capacity if more than one is named above, to sign its name as surety(ies) only as delineated above by 🖾, and to execute, seal and acknowledge any and all bonds, undertakings, contracts and other written instruments in the nature thereof, on behalf of the Companies in their business of guaranteeing the fidelity of persons, guaranteeing the performance of contracts and executing or guaranteeing bonds and undertakings required or permitted in any actions or proceedings allowed by law.

In Witness Whereof, and as authorized by a Resolution of the Board of Directors of the Companies on May 6, 2015 the Companies have caused these presents to be signed by its Senior Vice President and its corporate seals to be hereto affixed, duly attested by its Assistant Secretary. Further, pursuant to Resolution of the Board of Directors of the Companies, the Companies hereby unambiguously affirm that they are and will be bound by any mechanically applied signatures applied to this Power of Attorney.



STATE OF CONNECTICUT

COUNTY OF HARTFORD

On this 11th day of January, 2016, before me personally came M. Ross Fisher, to me known, who being by me duly sworn, did depose and say: that he resides in the County of Hartford, State of Connecticut; that he is the Senior Vice President of the Companies, the corporations described in and which executed the above instrument; that he knows the seals of the said corporations; that the seals affixed to the said instrument are such corporate seals; that they were so affixed by authority of the Boards of Directors of said corporations and that he signed his name thereto by like authority.



Nora M. Štranko Notary Public My Commission Expires March 31, 2018

I, the undersigned, Assistant Vice President of the Companies, 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 still in full force effective as of June 27, 2019 Signed and sealed at the City of Hartford.



an Kevin Heckman, Assistant Vice President

3.2.10 – SCC and DPOR Registration/Documentation Attachment

State Project No. 0095-111-270

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)							
	SCC In	formation (3.2.10	D.1)	DPOR Information (3.2.10.2)			
Business Name	SCC Number	SCC Type of Corporation	SCC Status	DPOR Registered Address	DPOR Registration Type	DPOR Registration Number	DPOR Expiration Date
Branch Civil, Inc.	02956183	Corporation	Active	442 Rutherford Ave., Roanoke, VA 24016	Contractor	2701029434	03/31/21
Flatiron Constructors, Inc.	F1787565	Foreign Corporation	Active	385 Interlocken Crescent 900, Broomfield, CO 80021	Contractor	2705142856	09/30/19
STV Incorporated dba STV Group Incorporated	F0253452	Foreign Corporation	Active	205 West Welsh Dr., Douglassville, PA 19518	Business Entity Registration	0407003505	12/31/19
STV Incorporated dba STV Group Incorporated	F0253452	Foreign Corporation	Active	2701 Prosperity Ave., STE 305, Fairfax, VA 33031	Business Entity Branch Office Registration	0411000661	02/29/20
STV Incorporated dba STV Group Incorporated	F0253452	Foreign Corporation	Active	10800 Midlothian Tnpk, STE 302 Richmond, VA 23235	Business Entity Branch Office Registration	0402011415	06/30/21
A. Morton Thomas and Associates, Inc.	F0494312	Foreign Corporation	Active	1166 Jamestown Rd. Williamsburg, VA 23185	Business Entity Registration	0407003077	12/31/19
A. Morton Thomas and Associates, Inc.	F0494312	Foreign Corporation	Active	100 Gateway Centre Parkway, STE 200 Richmond, VA 23235	Business Entity Branch Office Registration	0411000587	02/29/20

State Project No. 0095-111-270

SCC and DPOR Information

A. Morton Thomas and Associates, Inc.	F0494312	Foreign Corporation	Active	14555 Avion Parkway, STE 150 Chantilly, VA 20151	Business Entity Branch Office Registration	0411000586	02/29/20
A. Morton Thomas and Associates, Inc.	F0494312	Foreign Corporation	Active	1520 Breezeport Way, STE 500 Suffolk, VA 23435	Business Entity Branch Office Registration	0411000693	02/29/20
A. Morton Thomas and Associates, Inc.	F0494312	Foreign Corporation	Active	800 King Farm Blvd,, 4th Floor Rockville, MD 20850	Business Entity Branch Office Registration	0407003077	12/31/19
Diversified Property Services, Inc.	F1304106	Foreign Corporation	Active	20 E. Timonium Road STE 111, Timonium, MD 21093	Appraisal Business Registration	4008001190	11/30/20
Appraisal Review Specialists, LLC	T0490682	Foreign Limited Liability Company	Active	7288 Hanover Green Dr., Mechanicsville, VA 23111	Appraisal Business Registration	4008001735	4/30/20
ECS Mid-Atlantic, LLC	S1208216	Limited Liability Company	Active	14026 Thunderbolt PI., STE 100, Chantilly, VA 20151	Business Entity Registration	0407004628	12/31/19
ECS Mid-Atlantic, LLC	S1208216	Limited Liability Company	Active	915 Maple Grove Dr., STE 100, Fredericksburg, VA 22407	Business Entity Branch Office Registration	0411000383	02/29/20
ECS Mid-Atlantic, LLC	S1208216	Limited Liability Company	Active	2119-D North Hamilton St., Richmond, VA 23230	Business Entity Branch Office Registration	0411000384	02/29/20
EEE Consulting, Inc.	05049416	Corporation	Active	8525 Bell Creek Rd., Mechanicsville, VA 23111	Business Entity Registration	0407003798	12/31/19

State Project No. 0095-111-270

SCC and DPOR Information

Elliott Valuation & Consulting Services, LLC	T0669434	Foreign Limited Liability Company	Active	1683 Union St. Spartanburg, SC 29302	Appraisal Business Registration	4008001888	09/30/20
Froehling & Robertson	00272112	Corporation	Active	3015 Dumbarton Rd., Richmond, VA 23228	Business Entity Registration	0407000098	12/31/19
Froehling & Robertson	00272112	Corporation	Active	10909 Houser Dr., Fredericksburg, VA 22408	Business Entity Branch Office Registration	0411000050	12/31/20
Haley & Aldrich, Inc.	F1088188	Foreign Corporation	Active	7601 Lewinsville Rd., STE 101, McLean, VA 22102	Business Entity Registration	0407003076	12/31/19
Harris Miller Miller & Hanson Inc.	F1451857	Foreign Corporation	Active	NA	NA	NA	NA
Hassan Water Resources, PLC	S2293282	Limited Liability Company	Active	2255 Parkers Hill Drive, Maidens, VA, 23102	Professional Limited Liability Company	0413000299	12/31/19
McDonough Bolyard Peck	03518008	Corporation	Active	3040 Williams Drive, STE 300, Fairfax, VA, 22031	Business Entity Registration	0407002955	12/31/19
NXL, a Division of Century Engineering, Inc.	03497427	Corporation	Active	114 E. Cary St., STE 200, Richmond, VA 23219	Business Entity Registration	0407003031	12/31/19
Seventh Point Transportation PR	02675411	Corporation	Active	NA	NA	NA	NA

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

State Project No. 0095-111-270

SCC and DPOR Information

STV Incorporated	Derek Overstreet	Richmond, VA	Chesterfield, VA 23838	Professional Engineer License	0402043698	01/31/20
STV Incorporated	Michael Hooshangi	Fairfax, VA	Fairfax, VA 22080	Professional Engineer License	0402019827	10/31/20
Branch Civil, Inc.	Margaret Cossman	Roanoke, VA	Forest, VA 24551	Professional Engineer License	0402036400	01/31/20
NXL, a Division of Century Engineering, Inc.	Michael Saunders	Chesterfield, VA	Chesterfield, VA 23832	Professional Engineer License	0402041295	12/31/19
Appraisal Review Specialists, LLC	Rayman Scott Barber	Mechanicsville, VA	Hurricane, WV 25526	Certified General RE Appraiser	4001012258	03/31/21
Elliott Valuation & Consulting Services, LLC	Robert Elliott	Spartanburg, SC	Spartanburg, SC	Certified General RE Appraiser	4001015749	10/31/19

DPOR FLATIRON CONSTRUCTORS, INC.

DPOR License Lookup License Number 2705142856

License Details

Name	FLATIRON C
License Number	2705142856
License Description	Contractor
Firm Type	Corporation
Rank ¹	Class A
Address	385 INTERLO
	BROOMFIEL
Specialties ²	Highway / He
Initial Certification Date	2011-09-19
Expiration Date	2019-09-30

FLATIRON CONSTRUCTORS INC 2705142856 Contractor Corporation Class A 385 INTERLOCKEN CRESCENT 900, BROOMFIELD, CO 80021 Highway / Heavy (H/H) 2011-09-19 2019-09-30

BRANCH CIVIL, INC.

DPOR License Lookup License Number 2701029434

Name	BRANCH CIVIL INC
License Number	2701029434
License Description	Contractor
Firm Type	Corporation
Rank ¹	Class A
Address	442 RUTHERFORD AVE, ROANOKE, VA 24016
Specialties ²	Highway / Heavy (H/H)
Initial Certification Date	1987-03-12
Expiration Date	2021-03-31

Maggie Cossman P.E. DPOR License Lookup License Number 0402036400

License Details

NameCOSSMAN, MARGARET HELENLicense Number0402036400License DescriptionProfessional Engineer LicenseRankProfessional EngineerAddressFOREST, VA 24551Initial Certification Date2002-01-08Expiration Date2020-01-31

STV INCORPORATED

DPOR License Lookup License Number 0407003505

License Details

Name	STV INCORPORATED
DBA Name	STV GROUP INCORPORATED
License Number	0407003505
License Description	Business Entity Registration
Rank	Business Entity
Address	205 WEST WELSH DR, DOUGLASSVILLE, PA 19518
Initial Certification Date	1996-04-17
Expiration Date	2019-12-31

DPOR License Lookup License Number 0411000661

Name	STV INCORPORATED
DBA Name	STV GROUP INCORPORATED
License Number	0411000661
License Description	Business Entity Branch Office Registration
Rank	Business Entity Branch Office
Address	2701 PROSPERITY AVE STE 305, FAIRFAX, VA
	22031
Initial Certification Date	2009-09-11
Expiration Date	2020-02-29

DPOR License Lookup License Number 0411000462

License Details

Name	STV INCORPORATED DBA STV GROUP INC
DBA Name	STV GROUP INC
License Number	0411000462
License Description	Business Entity Branch Office Registration
Rank	Business Entity Branch Office
Address	10800 MIDLOTHIAN TNPK SUITE 302, RICHMOND,
	VA 23235
Initial Certification Date	2006-11-15
Expiration Date	2020-02-29

Michael Hooshangi P.E.

DPOR License Lookup License Number 0402019827

License Details

Name License Number 0402019827 Initial Certification Date 1989-06-14 Expiration Date 2020-10-31

HOOSHANGI, MICHAEL M License Description Professional Engineer License Rank Professional Engineer Address FAIRFAX, VA 22030

Derek Overstreet P.E.

DPOR License Lookup License Number 0402043698

License Details

Name License Number Rank Address Initial Certification Date Expiration Date 2020-01-31

OVERSTREET, DEREK BRANDON 0402043698 License Description Professional Engineer License Professional Engineer CHESTERFIELD, VA 23838 2008-01-02

A. MORTON THOMAS AND ASSOCIATES, INC.

DPOR License Lookup License Number 0407003077

License Details

Name	A MORTON THOMAS AND ASSOCIATES INC
License Number	0407003077
License Description	Business Entity Registration
Firm Type	Corporation
Rank	Business Entity
Address	1166 JAMESTOWN RD, WILLIAMSBURG, VA 23185
Initial Certification Date	1992-04-28
Expiration Date	2019-12-31

DPOR License Lookup License Number 0411000587

License Details

Name	A MORTON THOMAS AND ASSOCIATES INC
License Number	0411000587
License Description	Business Entity Branch Office Registration
Business Type	Corporation
Rank	Business Entity Branch Office
Address	100 GATEWAY CENTRE PKWY SUITE 200,
	RICHMOND, VA 23235
Initial Certification Date	2009-05-13
Expiration Date	2020-02-29

DPOR License Lookup License Number 0411000586

Name	A MORTON THOMAS AND ASSOCIATES INC
License Number	0411000586
License Description	Business Entity Branch Office Registration
Business Type	Corporation
Rank	Business Entity Branch Office
Address	14555 AVION PKWY STE 150, CHANTILLY, VA
	20151
Initial Certification Date	2009-05-13
Expiration Date	2020-02-29

DPOR License Lookup License Number 0411000693

License Details

Name	A MORTON THOMAS AND ASSOCIATES INC
License Number	0411000693
License Description	Business Entity Branch Office Registration
Business Type	Corporation
Rank	Business Entity Branch Office
Address	1520 BREEZEPORT WAY STE 500, SUFFOLK, VA
	23435
Initial Certification Date	2009-12-21
Expiration Date	2020-02-29



APPRAISAL REVIEW SPECIALISTS, LLC

DPOR License Lookup License Number 4008001735

Name	APPRAISAL REVIEW SPECIALISTS LLC
License Number	4008001735
License Description	Appraisal Business Registration
Firm Type	LLC - Limited Liability Company
Rank	Business Entity
Address	3058 MOUNT VERNON ROAD SUITE 12,
	HURRICANE, WV 25523
Initial Certification Date	2012-04-05
Expiration Date	2020-04-30

DPOR License Lookup License Number 4001012258

License Details

Name	BARBER, RAYMAN SCOTT
License Number	4001012258
License Description	Real Estate Appraiser License
Status	Active
Rank	Certified General RE Appraiser
Address	HURRICANE, WV 25526
Initial Certification Date	2007-03-27
Expiration Date	2021-03-31

DIVERSIFIED PROPERTY SERVICES, INC.

DPOR License Lookup License Number 4008001190

Name	DIVERSIFIED PROPERTY SERVICES OF VIRGINIA
	INC
License Number	4008001190
License Description	Appraisal Business Registration
Firm Type	Corporation
Rank	Business Entity
Address	20 E TIMONIUM ROAD SUITE 111, TIMONIUM, MD
	21093-0000
Initial Certification Date	2000-11-29
Expiration Date	2020-11-30

ECS MID ATLANTIC, LLC

DPOR License Lookup License Number 0407004628

License Details

Name	ECS-MID-ATLANTIC LLC
DBA Name	LEO J TITUS JR PE
License Number	0407004628
License Description	Business Entity Registration
Firm Type	LLC - Limited Liability Company
Rank	Business Entity
Address	14026 THUNDERBOLT PL STE 100, CHANTILLY, VA
	20151
Initial Certification Date	2004-12-10
Expiration Date	2019-12-31

DPOR License Lookup License Number 0411000383

License Details

Name License Number License Description Rank

Initial Certification Date Expiration Date

ECS-MID-ATLANTIC LLC 0411000383 **Business Entity Branch Office Registration Business Entity Branch Office** Address 915 MAPLE GROVE DR STE 100, FREDERICKSBURG, VA 22407-6935 2004-12-10 2020-02-29

DPOR License Lookup License Number 0411000384

Name	ECS MID-ATLANTIC LLC
License Number	0411000384
License Description	Business Entity Branch Office Registration
Rank	Business Entity Branch Office
Address	2119-D NORTH HAMILTON ST, RICHMOND, VA
	23230
Initial Certification Date	2004-12-10
Expiration Date	2020-02-29

EEE CONSULTING, INC.

DPOR License Lookup License Number 0407003798

License Details

EEE CONSULTING INC
0407003798
Business Entity Registration
Corporation
Business Entity
8525 BELL CREEK RD, MECHANICSVILLE, VA
23111
1998-08-24
2019-12-31

ELLIOTT VALUATION & CONSULTING SERVICES, LLC

DPOR License Lookup License Number 4008001888

Name	ELLIOTT VALUATION & CONSULTING SERVICES
	LLC
License Number	4008001888
License Description	Appraisal Business Registration
Firm Type	LLC - Limited Liability Company
Rank	Business Entity
Address	1683 UNION STREET, SPARTANBURG, SC 29302
Initial Certification Date	2016-09-20
Expiration Date	2020-09-30

DPOR License Lookup License Number 4001015749

License Details

Name	ELLIOTT, ROBERT RHYNE JR
License Number	4001015749
License Description	Real Estate Appraiser License
Status	Active
Rank	Certified General RE Appraiser
Address	SPARTANBURG, SC 29307
Initial Certification Date	2011-10-13
Expiration Date	2019-10-31

FROEHLING & ROBERTSON, INC.

DPOR License Lookup License Number 0407000098

Name	FROEHLING & ROBERTSON, INC
License Number	0407000098
License Description	Business Entity Registration
Firm Type	Corporation
Rank	Business Entity
Address	3015 DUMBARTON ROAD, RICHMOND, VA 23228
Initial Certification Date	1982-08-05
Expiration Date	2019-12-31

DPOR License Lookup License Number 0411000050

License Details

Name	FROEHLING & ROBERTSON, INC
License Number	0411000050
License Description	Business Entity Branch Office Registration
Business Type	Corporation
Rank	Business Entity Branch Office
Address	10909 HOUSER DR, FREDERICKSBURG, VA 22408
Initial Certification Date	1992-04-08
Expiration Date	2020-02-29

HALEY & ALDRICH, INC.

DPOR License Lookup License Number 0407003076

Name	HALEY & ALDRICH, INC
License Number	0407003076
License Description	Business Entity Registration
Firm Type	Corporation
Rank	Business Entity
Address	7601 LEWINSVILLE RD SUITE 101, MCLEAN, VA
	22102
Initial Certification Date	1992-04-20
Expiration Date	2019-12-31

HASSAN WATER RESOURCES, PLC

DPOR License Lookup License Number 0413000299

License Details

HASSAN WATER RESOURCES PLC
HWR
0413000299
Professional Limited Liability Company
Professional Limited Liability Company
2255 PARKERS HILL DRIVE, MAIDENS, VA 23102-
2244
2009-07-06
2019-12-31

MCDONOUGH BOLYARD PECK, INC.

DPOR License Lookup License Number 0407002955

Name	MCDONOUGH BOLYARD PECK INC
License Number	0407002955
License Description	Business Entity Registration
Firm Type	Corporation
Rank	Business Entity
Address	3040 WILLIAMS DR., STE 300, FAIRFAX, VA 22031
Initial Certification Date	1990-03-28
Expiration Date	2019-12-31

NXL, A DIVISION OF CENTURY ENGINEERING, INC.

DPOR License Lookup License Number 0407006223

License Details

Name	CENTURY ENGINEERING, INC
DBA Name	CENTURY ENGINEERING INC A MARYLAND
	BASED CORPORATION
License Number	0407006223
License Description	Business Entity Registration
Firm Type	Corporation
Rank	Business Entity
Address	10710 GILROY RD, HUNT VALLEY, MD 21031
Initial Certification Date	2012-12-18
Expiration Date	2019-12-31

Michael Saunders P.E., CCM, DBIA

DPOR License Lookup License Number 0402041295

Name	SAUNDERS, MICHAEL WILLIAM
License Number	0402041295
License Description	Professional Engineer License
Rank	Professional Engineer
Address	CHESTERFIELD, VA 23832
Initial Certification Date	2005-12-29
Expiration Date	2019-12-31

SCC BRANCH CIVIL, INC.



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Additional Services

Branch Civil, Inc.

General

SCC ID: 02956183 Entity Type: Corporation Jurisdiction of Formation: VA Date of Formation/Registration: 11/25/1986 Status: Active Shares Authorized: 5000

Principal Office

P O BOX 40004 442 RUTHERFORD AVE NE ROANOKE VA24016

Registered Agent/Registered Office

C T CORPORATION SYSTEM 4701 Cox Rd Ste 285 Glen Allen VA 23060 HENRICO COUNTY 143 Status: Active Effective Date: 10/18/2017 SCC eFile Business Entity Details



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Select an action

File a registered office address change Resign as registered agent File an annual report Pay annual registration fee Order a certificate of good standing Submit a PDF for processing (What can I submit?) View eFile transaction history Manage email notifications

FLATIRON, CONSTRUCTORS, INC.



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Flatiron Constructors, Inc.

General

SCC ID: F1787565 Entity Type: Foreign Corporation Jurisdiction of Formation: DE Date of Formation/Registration: 4/16/2009 Status: Active Shares Authorized: 1000

Principal Office

385 INTERLOCKEN CRESCENT #900 BROOMFIELD CO80021

Registered Agent/Registered Office

CORPORATION SERVICE COMPANY 100 Shockoe Slip Fl 2 Richmond VA 23219 RICHMOND CITY 216 Status: Active Effective Date: 1/1/2018 SCC eFile Business Entity Details



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STV INCORPORATED



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STV GROUP INCORPORATED (USED IN VA. BY: STVINCORPORATED)

General

SCC ID: F0253452 Entity Type: Foreign Corporation Jurisdiction of Formation: NY Date of Formation/Registration: 8/9/1999 Status: Active Shares Authorized: 2000

Principal Office

225 PARK AVENUE SOUTH NEW YORK NY10003

Registered Agent/Registered Office

CORPORATION SERVICE COMPANY 100 Shockoe Slip Fl 2 Richmond VA 23219 RICHMOND CITY 216 Status: Active Effective Date: 1/1/2018

Select an action

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A. MORTON THOMAS AND ASSOCIATES, INC.



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A. MORTON THOMAS & ASSOCIATES, INC.

General

SCC ID: F0494312 Entity Type: Foreign Corporation Jurisdiction of Formation: MD Date of Formation/Registration: 11/26/1997 Status: Active Shares Authorized: 52000

– Principal Office

800 KING FARM BOULEVARD 4TH FL ROCKVILLE MD20850

Registered Agent/Registered Office

COGENCY GLOBAL INC. 250 Browns Hill Ct Midlothian VA 23114 CHESTERFIELD COUNTY 120 Status: Active Effective Date: 6/2/2017

Select an action

File a registered agent change File a registered office address change Resign as registered agent File an annual report Pay annual registration fee Order a certificate of good standing View eFile transaction history Manage email notifications

APPRAISAL REVIEW SPECIALISTS, LLC



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Appraisal Review Specialists, LLC

General —

SCC ID: T0490682

Entity Type: Foreign Limited Liability Company Jurisdiction of Formation: WV Date of Formation/Registration: 2/3/2012 Status: Active

Principal Office

3058 MOUNT VERNON RD HURRICANE WV25526

Registered Agent/Registered Office

INCORP SERVICES, INC. 7288 HANOVER GREEN DR MECHANICSVILLE VA 231111 HANOVER COUNTY 142 Status: Active Effective Date: 2/3/2012

Select an action

File a registered agent change File a registered office address change Resign as registered agent File a principal office address change Pay annual registration fee Order a certificate of fact of registration in Virginia Submit a PDF for processing (What can I submit?) View eFile transaction history, Manage email notifications

DIVERSIFIED PROPERTY SERVICES, INC.



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DIVERSIFIED PROPERTY SERVICES OF VIRGINIA, INC.(USED IN VA BY: DIVERSIFIED PROPERTY SERVICES, INC

General

SCC ID: F1304106 Entity Type: Foreign Corporation Jurisdiction of Formation: MD Date of Formation/Registration: 8/5/1997 Status: Active Shares Authorized: 5000

- Principal Office

20 E TIMONIUM RD SUITE 111 TIMONIUM MD21093

Registered Agent/Registered Office

BRENDAN R HANTZES 3771 VERMACCHIA DR CHANTILLY VA 20151 FAIRFAX COUNTY 129 Status: Active Effective Date: 8/9/2002

Select an action

File a registered agent change File a registered office address change Resign as registered agent File an annual report Pay annual registration fee Order a certificate of good standing View eFile transaction history Manage email notifications

ECS MID-ATLANTIC, LLC



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ECS Mid-Atlantic, LLC

General —

SCC ID: S1208216 Entity Type: Limited Liability Company Jurisdiction of Formation: VA Date of Formation/Registration: 4/16/2004 Status: Active

Principal Office

14026 THUNDERBOLT PL STE 100 CHANTILLY VA20151

Registered Agent/Registered Office

JAMES A ECKERT 14026 THUNDERBOLT PL STE 100 CHANTILLY VA 20151 FAIRFAX COUNTY Status: Active Effective Date: 4/16/2004 Select an action

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EEE CONSULTING, INC.



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UCC or Tax Liens)
Court Services)
Additional Services)

EEE Consulting, Inc.

General –

SCC ID: 05049416 Entity Type: Corporation Jurisdiction of Formation: VA Date of Formation/Registration: 6/23/1998 Status: Active Shares Authorized: 333000

Principal Office

8525 BELL CREEK RD MECHANICSVILLE VA23116

Registered Agent/Registered Office

C T CORPORATION SYSTEM 4701 Cox Rd Ste 285 Glen Allen VA 23060 HENRICO COUNTY 143 Status: Active Effective Date: 10/4/2013

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ELLIOTT VALUATION & CONSULTING SERVICES, LLC



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ELLIOTT VALUATION & CONSULTING SERVICES, LLC

General

SCC ID: T0669434

Entity Type: Foreign Limited Liability Company Jurisdiction of Formation: SC Date of Formation/Registration: 9/9/2016 Status: Active

Principal Office

234 HARRELL DR SPARTANBURG SC29307

Registered Agent/Registered Office -

REGISTERED AGENTS INC. 4445 CORPORATION LN STE 264 VIRGINIA BEACH VA 23462 VIRGINIA BEACH CITY 228 Status: Active Effective Date: 9/9/2016

Screen ID: e1000

Select an action

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FROEHLING & ROBERTSON



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FROEHLING & ROBERTSON, INCORPORATED

General

SCC ID: 00272112 Entity Type: Corporation Jurisdiction of Formation: VA Date of Formation/Registration: 10/11/1924 Status: Active Shares Authorized: 1100000

Principal Office

3015 DUMBARTON ROAD HENRICO VA23228

Registered Agent/Registered Office

WILLIAM H HOOFNAGLE III 1900 ONE JAMES CENTER 901 E CARY ST RICHMOND VA 23219 RICHMOND CITY 216 Status: Active Effective Date: 9/21/2011

Select an action

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HALEY & ALDRICH, INC.



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HALEY & ALDRICH, INC.

General

SCC ID: F1088188 Entity Type: Foreign Corporation Jurisdiction of Formation: MA Date of Formation/Registration: 5/13/1999 Status: Active Shares Authorized: 200000

Principal Office

70 BLANCHARD RD STE 204 BURLINGTON MA01803

Registered Agent/Registered Office

CORPORATION SERVICE COMPANY 100 Shockoe Slip Fl 2 Richmond VA 23219 RICHMOND CITY 216 Status: Active Effective Date: 1/1/2018 SCC eFile Business Entity Details



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HARRIS MILLER MILLER & HANSON INC.



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SCC eFile



Harris Miller Miller & Hanson Inc.

General

SCC ID: F1451857 Entity Type: Foreign Corporation Jurisdiction of Formation: MA Date of Formation/Registration: 12/6/2000 Status: Active Shares Authorized: 300000

Principal Office

77 SOUTH BEDFORD STREET BURLINGTON MA01803

Registered Agent/Registered Office

C T CORPORATION SYSTEM 4701 Cox Rd Ste 285 Glen Allen VA 23060 HENRICO COUNTY 143 Status: Active Effective Date: 6/12/2015

Select an action

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HASSAN WATER RESOURCES, PLC



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SCC eFile Business Entity Details



Hassan Water Resources, PLC

SCC ID: S2293282 Entity Type: Limited Liability Company Jurisdiction of Formation: VA Date of Formation/Registration: 7/16/2007 Status: Active

Principal Office

General

2255 PARKERS HILL DR MAIDENS VA23102

Registered Agent/Registered Office —

GAMAL E HASSAN 2255 PARKERS HILL DR MAIDENS VA 23102 GOOCHLAND COUNTY Status: Active Effective Date: 5/4/2010

Select an action

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MCDONOUGH BOLYARD PECK



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McDonough Bolyard Peck, Inc.

General

SCC ID: 03518008 Entity Type: Corporation Jurisdiction of Formation: VA Date of Formation/Registration: 12/29/1989 Status: Active Shares Authorized: 250000

Principal Office

3040 WILLIAMS DR SUITE 300 FAIRFAX VA22031

Registered Agent/Registered Office

REES BROOME, PC 1900 GALLOWS RD STE 700 TYSONS CORNER VA 22182 FAIRFAX COUNTY 129 Status: Active Effective Date: 9/1/2012

Select an action

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NXL, A DIVISION OF CENTURY ENGINEERING, INC.



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SCC eFile Business Entity Details



Century Engineering Inc., a Maryland basedcorporation (USED IN VA BY: Century Engineering, I

General

SCC ID: F1909839 Entity Type: Foreign Corporation Jurisdiction of Formation: MD Date of Formation/Registration: 10/5/2012 Status: Active Shares Authorized: 1300000

– Principal Office

10710 GILROY RD HUNT VALLEY MD21031

Registered Agent/Registered Office

INCORP SERVICES, INC. 7288 HANOVER GREEN DRIVE MECHANICSVILLE VA 23111 HANOVER COUNTY 142 Status: Active Effective Date: 6/12/2013

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SEVENTH POINT TRANSPORTATION PR



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Seventh Point, Inc.

General

SCC ID: 02675411 Entity Type: Corporation Jurisdiction of Formation: VA Date of Formation/Registration: 3/4/1985 Status: Active Shares Authorized: 5000

Principal Office

4752 EUCLID ROAD VIRGINIA BEACH VA23462

Registered Agent/Registered Office

ALBERT H POOLE 4705 COLUMBUS ST VIRGINIA BEACH VA 23462 VIRGINIA BEACH CITY 228 Status: Active Effective Date: 3/24/1998 SCC eFile Business Entity Details



Select an action

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3.3.1 – Key Personnel Resumes Attachment



KEY PERSONNEL RESUME FORM

Brief Resume of Key Personnel anticipated for the Project.

a. Name & Title: M. Jeff Humphreys, Jr., DBIA, Project Executive

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): **Branch Civil, Inc. (Full Time)**

d. Employment History: With this Firm 2 Years With Other Firms 37 Years

Please list chronologically (most recent first) your employment history, position, general responsibilities, and duration of employment for the last fifteen (15) years. (NOTE: If you have less than 15 years of employment history, please list the history for those years you have worked. Project specific experience shall be included in Section (g) below):

Branch Civil, Inc., Project Executive (2017 – Present) Leads project teams prior to beginning work to develop a plan of operation to achieve project success. His involvement with the project continues throughout construction until project completion. His responsibilities include oversight of the relationship with the owner, subcontractors, and suppliers. Jeff monitors each project to confirm that construction is in accordance with the schedule and contract. When change orders or revisions to the contract occur, Jeff oversees the Project Manager and Superintendent on needed actions and maintains lines of communication with all appropriate stakeholders. Additionally, Jeff makes sure that construction schedules are developed, base-lined, monitored and updated. Jeff establishes an appropriate construction budget for each project and confirms that all materials meet contract requirements and quality standards.

Allan Myers, Design-Build Project Manager/Senior Estimator (2009 – 2017) Responsibilities consisted of overall management of the design and construction process, including project planning, scheduling work activities, engineering, submittals, pay estimates, profit and loss, and safety. Jeff was responsible for coordination with owners, subcontractors, suppliers, and other stakeholders. He monitored quality control to confirm that the materials used, and work performed, met contract requirements as well as the "approved for construction" plans and specifications.

Joseph B. Fay Company, Senior Estimator/General Superintendent (2005 – 2009) Responsible for project procurement, estimating, project management, scheduling, negotiations, recruitment, owner and public relations, and the safe and successful project delivery for the Mid-Atlantic Division.

Gemini Drilling & Foundations, District Superintendent (2005 – 2005) Responsible for the safe and successful development, operation and profit of all corporate projects. He successfully completed drilled shaft construction activities on various VDOT, NCDOT, and SCDOT projects.

Key Constructors, Inc., Vice President, Structures Division Manager (2003 – 2005) Oversaw, estimated, and managed the procurement and safe construction of all bridge projects in Virginia and North Carolina.

- e. Education: Name & Location of Institution(s)/Degree(s)/Year/Specialization: Nelson County High School, Lovingston, VA / General Studies / 1980 / Building Trades Penn State University, State College, PA / 1986 / 2 CEU's in Supervisor Training Virginia Polytechnic Institute and State University, Blacksburg, VA / 2019 / Transportation Construction Management Institute (Certificate)
- f. Active Registration: Year First Registered/ Discipline/VA Registration #: 1994 / VDOT Erosion & Sediment Control Contractor / Contract Certification #1-04983
- g. Document the extent and depth of your experience and qualifications relevant to the Project.
 - 1. Note your role, responsibility, and specific job duties for each project, not those of the firm.
 - 2. Note whether experience is with current firm or with other firm.
 - 3. Provide beginning and end dates for each project; projects older than fifteen (15) years will not be considered for evaluation.

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

VDOT I-64 Widening Design-Build, Exit 200 to 205, Henrico and new Kent Counties, VA – Design-Build Project Manager

Responsibilities: Responsible for overall design and construction of the project and authorized representative for the Design-Builder. Responsibilities include oversight of the design, construction quality, coordination, ROW acquisitions, utility relocation activities, permitting and environmental monitoring, QA/QC procedures and implementation and construction management. This project will improve the serviceability and safety of the I-64 corridor for the traveling public by widening the existing roadway while maintaining the existing travel lanes. Jeff leads the project team in partnering with VDOT and third-party stakeholders, and additionally is responsible for subcontractor and supplier procurement, project tracking, and reporting. (8/17 - Present, Branch)

Relevancy: VDOT D-B project, roadway, survey, hydraulics, ROW acquisitions, signing and pavement markings, SWM and erosion and sediment control, retaining walls, environmental, bridge construction and pier protection, utility relocations, geotechnical, traffic control devices, TMP, public involvement/relations, third-party/stakeholder coordination, QA/QC, construction engineering and inspection, and project management.

VDOT I-581/Elm Avenue Interchange Improvements Design-Build, Roanoke, VA – Design-Build Project Manager

Responsibilities: Oversaw design and construction of the project and was responsible for construction quality management, contract administration, estimating, constructability review of plans, and safety of the project. Led the project partnering efforts early in the project design and throughout construction, led public relations efforts to make sure that stakeholders were informed, and worked with designers and field personal to confirm constructability and safe operations while widening and reconstructing two bridges. The project consisted of the construction of the Elm Avenue bridges over I-581 and Norfolk Southern Railway, I-581 off-ramp improvements, and improvements to Elm Avenue, which required phased construction to allow motor and pedestrian traffic on Elm Avenue to continue during construction. Elm Avenue is the main access point to downtown Roanoke from I-581 and Route 220 and the preferred access route to the hospital from the west side of the city. Worked with the designer to build retaining walls that required minimal support of excavation and limited disruption to the traveling public. Also led the effort to reconfigure the two overhead sign structures into a single overhead sign structure built on the center pier of the I-581 bridge. This revised overhead sign structure improved site distance for motorists, reduced confusion, and limited signage. (8/12 - 8/15, Allan Myers)

Relevancy: VDOT D-B project, roadway, bridge construction, survey, environmental, geotechnical, hydraulics, traffic control devices, TMP, ROW, SWM, utilities, public involvement/relations, third-party/stakeholder coordination, QA/QC, ITS, construction engineering and inspection, and project management.

VDOT Middle Ground Boulevard Extension Design-Build, Newport News, VA – Assistant Design-Build Project Manager

Responsibilities: The project consisted of construction of a 1.2-mile connector road from Warwick Boulevard to Jefferson Avenue, which included a two-span concrete girder bridge over the CSXT Railroad. Jeff managed design and preconstruction activities and was heavily involved in developing the MOT plans, which led to minimizing traffic shifts and reduced the traffic control measures required to construct the project. Performed constructability reviews to prevent delays during design and construction. His involvement in the project startup phase expedited the start of construction to include operations on the critical path, helping to reduce impacts to the project schedule. Worked with the environmental team to coordinate soil and water sampling to determine the potential for hazardous materials early in the design process to mitigate potential risk. Coordinated partnering relationships with USACE and VA DEQ to provide early stream and wetland delineation to support roadway design. Worked closely with the CSXT Railroad during design to construct a structure that allowed for their future expansion needs and led the construction scheduling efforts to work around the railroads heavy train traffic at this location. (5/11 - 12/14, Allan Myers)

Relevancy: VDOT D-B project, roadway; bridge construction, survey, environmental, geotechnical, hydraulics, traffic control devices, TMP, ROW, utilities, public involvement/relations, third-party/stakeholder coordination, QA/QC, and project management.

* 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 and for Quality Assurance Manager (QAM), provide a current list of assignments, role, and the anticipated duration of each assignment.

As the Design-Build Project Manager, Jeff will not be required to be on site full time.



KEY PERSONNEL RESUME FORM

Brief Resume of Key Personnel anticipated for the Project.

a. Name & Title: Maggie H. Cossman, PE, Senior Project Manager

b. Project Assignment: Entrusted Engineer-in-Charge

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): **Branch Civil, Inc. (Full Time)**

d. Employment History: With this Firm 2 Years With Other Firms 20 Years

Please list chronologically (most recent first) your employment history, position, general responsibilities, and duration of employment for the last fifteen (15) years. (NOTE: If you have less than 15 years of employment history, please list the history for those years you have worked. Project specific experience shall be included in Section (g) below):

Branch Civil, Inc., Senior Project Manager (2017 – Current)

Responsible for oversight and direction of the company's project activities. Responsibilities include managing the construction process, contract administration, project management, implementing the quality control process to confirm that materials used and work performed meet contract requirements and conformance with the plans and specifications. Also responsible for coordinating with owner's representatives, third-party stakeholders, subcontractors, and vendors to maintain clear lines of communication among project stakeholders. Maggie is currently assigned as the Design-Build Coordinator for the Branch-Flatiron Joint Venture (JV) on the I-95 Express Lanes Fredericksburg Extension Design-Build (D-B) project, and is responsible for working as a direct liaison among the owner, 95 Express, LLC, VDOT, and the entire project team, including the public relations and safety teams, to address owner issues on behalf of the JV. She is working directly with the D-B Project Manager to advance the project from the early works period, to Limited Notice to Proceed (NTP), to design NTP, and finally to construction NTP. Throughout this process she maintains checklists and monitors team progress to see that each milestone is successfully achieved.

City of Lynchburg, Transportation Engineer (2016 to 2017)

Responsible for planning, designing, and maintenance of Lynchburg's transportation network. She supervised signal, sign, and pavement marking shops, and was responsible for maintaining signals, signage, and pavement markings within the 49 square miles of the City limits. She managed transportation related capital improvement projects from conception to construction. She prepared and presented transportation related issues to Lynchburg City Council, City Planning Commission, Region 2000 Local Government Council, VDOT, and the public. Additional responsibilities included administering the city's on-street parking system and developing and modifying traffic engineering policies to confirm that traffic control devices were compliant with FHWA/VDOT requirements. Maggie worked with developers, contractors, and utility companies to review and approve all work within the city's ROW from permanent improvements to temporary work zones.

Liberty University, Inc., Corporate Engineer (2009 to 2016)

Responsible for campus master planning, managing consulting engineering firms, supervising construction document development, construction administration, and contract management, as well as the overall supervision of all site construction including roads, parking lots, sidewalks, utilities, landscaping, grading, drainage, and erosion and sediment control from preliminary conceptual plans through design, bidding, construction administration, and project closeout. Established project budgets, prepared invitations to bid, solicited bids, selected bidders, prepared contracts, reviewed and approved change orders, approved pay applications, and maintained budgets and aggressive schedules. Responsible for on-site inspections, troubleshooting, value engineering, and compliance and reporting in accordance with local jurisdictional requirements. Maintained active VSMP permits to confirm Liberty University's stormwater grandfathering, served as responsible land disturber for projects performed in-house, and acted as a liaison between Liberty University and the City of Lynchburg, Campbell County, Bedford County, VDOT, DEQ, DCR, and the US Army Corps of Engineers for planning, zoning, stormwater, and erosion and sediment control issues.

Perkins & Orrison, Inc., Project Manager (2003 to 2009)

Responsible for all aspects of projects including proposal, fee negotiations, preliminary engineering reports, construction estimating, design, contract documents, technical specifications, project bidding, contract and construction administration, and project closeout. Responsible for civil engineering services for building projects and was an integral part of coordination between disciplines for final design while making sure that all projects were completed on schedule and within budget.

e. Education: Name & Location of Institution(s)/Degree(s)/Year/Specialization: University of Dayton, Dayton, OH / Bachelor of Science / 1997 / Civil Engineering

f. Active Registration: Year First Registered/ Discipline/VA Registration #: 2002 / Professional Engineer / Virginia # 0402-036400

- g. Document the extent and depth of your experience and qualifications relevant to the Project.
 - 1. Note your role, responsibility, and specific job duties for each project, not those of the firm.
 - 2. Note whether experience is with current firm or with other firm.
 - 3. Provide beginning and end dates for each project; projects older than fifteen (15) years will not be considered for evaluation.

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

Transurban I-95 Express Lanes Fredericksburg Extension Design-Build, Stafford County, VA – Design-Build Coordinator

Responsibilities: Working as a direct report to the DBPM, with direct lines of communication to the Design Manager, Design Integration Manager, Construction Manager, Quality Assurance Manager, Safety Manager and Public Relations Manager. Responsible for constant coordination with the design team to confirm that all engineering work is fully integrated into a single effective working design. Facilitates weekly management team meetings with 95 Express, LLC (the Concessionaire), VDOT and Branch-Flatiron JV leadership to discuss, track, and resolve issues, including contract compliance, coordination with VDOT on adjacent projects, potential change orders, safety issues, and the progress of project milestones. Following meetings, she is responsible for following-up on action items, maintaining project insurance and bonds, and finalizing early works scope and cost. Also responsible for subcontractor compliance, including DBE/SWaM contract projections and compliance. This project will extend the I-95 Express Lanes approximately 10 miles south of Route 610 (Garrisonville Road) in Stafford County to the vicinity of Route 17 (I-95 Exit 133). Two reversible high-occupancy toll lanes will be built in the existing median of I-95. The lanes will connect to the I-95 Southbound Rappahannock River Crossing project and the I-95 Northbound Rappahannock River Crossing project. Additional access to the I-95 Express Lanes will be added near the Route 17 and Route 630 (Courthouse Road) I-95 interchanges in Stafford, and near the Russell Road interchange at Quantico Marine Corps Base in Prince William County. (2018 – Present, Branch)

Relevancy: Adjacent D-B project, roadway, survey; hydraulics, environmental, geotechnical, traffic control devices, TMP, public involvement/relations, QA/QC, construction engineering and inspection, and project management.

Liberty University Campus Core Rebuild (Construction Management-at-Risk), Lynchburg, VA – Project Manager

Responsibilities: Managed the design and construction of all site work associated with Liberty University's Campus Core Rebuild. Solicited proposals and managed the site design and construction, coordinated with the University stakeholders, City of Lynchburg, and other regulatory agencies. Responsible for value engineering and managing aggressive schedules and frequent changes in design direction and budgets. The buildings were constructed within a 38-acre area requiring over 400,000 CY of material to be moved. (2011 – 2015, Liberty University)

Relevancy: Roadway design, design coordination, survey, utility coordination hydraulics, public involvement/relations, third-party/stakeholder coordination, project management, and QA/QC.

Liberty University College of Osteopathic Medicine (Construction Management-at-Risk), Lynchburg, VA – Project Manager

Led the roadway and site design and construction for the 14-acre Liberty University College of Osteopathic Medicine Campus, which includes a 140,000 SF facility served by a 500-car parking lot and over a mile of new access roads. Worked with the construction management team to optimize the design, which included a redesign to avoid streams and wetlands to reduce permitting requirements and construction duration. Confirmed that design and construction were executed per VDOT standards so the University could solicit VDOT to accept the road network into the state system in the future. (2012 - 2014, Liberty University)

Relevancy: Roadway design, design coordination, survey, utility coordination hydraulics, public involvement/relations, third-party/stakeholder coordination, project management, and QA/QC.

* 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 and for Quality Assurance Manager (QAM), provide a current list of assignments, role, and the anticipated duration of each assignment.

As the Entrusted Engineer-in-Charge, Maggie will not be required to be on site full time.



KEY PERSONNEL RESUME FORM

Brief Resume of Key Personnel anticipated for the Project.

a. Name & Title: Michael Saunders, PE, CCM, DBIA, VP, Director of Construction

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): NXL NXL, a Division of Century Engineering, Inc. (Full Time)

d. Employment History: With this Firm 8 Years With Other Firms 10 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):

NXL NXL, a Division of Century Engineering, Inc., Senior Vice President (2011-Present)

Currently managing and coordinating the workload of in-house staff and subconsultants, including overseeing prime VDOT districtwide contracts. Providing consistency and coordination across all assigned tasks, coordinating progress meetings and establishing regular communication with clients, as well as continuing to provide project review and Quality Assurance/Quality Control (QA/QC) management.

Virginia Department of Transportation (VDOT), Various Positions (2001-2011)

VDOT, Project Control/Area Construction Engineer (2011 to 2011)

Responsible for design-build and locally administered projects in Richmond, Virginia. Coordinated constructability reviews, which included developing pre-advertisement schedules and sequence of construction as well as coordination of post-award schedule reviews and district-wide schedule impact analysis. Also performed district-wide NOI and claims analysis. Oversaw other day-to-day activities as directed by the District construction engineer and was assigned as responsible charge engineer for various D-B projects throughout the Richmond District. The assignments included serving on the selection panel in the procurement phase and serving as project manager of the construction phase. Responsibilities included attending weekly progress meetings and multiple design meetings, and ultimately served as the responsible charge engineer.

VDOT, Area Construction Engineer/Southern Area Construction (2007 to 2011)

Responsible for executing the six-year program to include managing all aspects of construction/maintenance contracts safely and providing responsible charge supervision and technical guidance to construction managers and inspectors. Supervised all phases of multi-operational roadway and structural construction projects and was responsible for producing a three-year outlook manpower plan for VDOT and consultant inspectors needs on upcoming projects. Coordinated with the appropriate staff in preparation and review of work orders, NOI's, and claims to validate the necessity of work and level of federal participation if the Federal Highway Administration was involved. Performed responsible charge duties and assisted the Fredericksburg District with the administration of a regional D-B bridge replacement project.

VDOT, Construction Project Manager Salem District (2005 to 2007)

Supervised all phases of multi-operational roadway and structural construction projects along with multiple construction inspectors' work and career development. Prepared and presented the project showings and pre-construction conferences, prepared and submitted work orders, and tracked project costs to make sure projects remained within the designated budget. Conducted on-site field visits and interpreted plans, schedules, and contract requirements to provide technical advice to contractors, design and construction engineers, and others involved with the project. In addition, established guidelines, procedures, and policies, and performed construction project manager duties.

VDOT, Permits/Subdivision Supervisor Christiansburg Residency (2004 to 2005)

Responsible for the supervision and administration of the subdivision, rural streets, and lane use permits programs including direct responsibility for supervising performance and development of three staff members.

e. Education: Name & Location of Institution(s)/Degree(s)/Year/Specialization:

Virginia Polytechnic Institute and State University, Blacksburg, VA / 2001 / Bachelor of Civil Engineering

f. Active Registration: Year First Registered/Discipline/VA Registration #: 2005 / Professional Engineer / Virginia # 0402-041295

g. Document the extent and depth of your experience and qualifications relevant to the Project.
1. Note your role, responsibility, and specific job duties for each project, not those of the firm.

- 2. Note whether experience is with current firm or with other firm.
- 3. Provide beginning and end dates for each project; projects older than fifteen (15) years will not be considered for evaluation.

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

VDOT I-64 Widening, Exit 200-205 D-B, Henrico and New Kent Counties, VA – Quality Assurance Manager *Responsibilities:* Responsible for preparing the project's quality assurance and quality control plan as well as the oversight of the project's QA procedures and plans. Also responsible for the performance and coordination of the QA testing and inspection in accordance with VDOT's D-B guidelines throughout the project. Other responsibilities include the monitoring of contractor's QC program and serving as the liaison with the Department with respect to project compliance to confirm that IA/IV testing is being performed, approves QC inspection and staffing assignments, and the QC frequency testing plan before submission to VDOT. Responsible for the preparation, maintenance, and submissions of associated project documentation including but not limited to, diaries, EEO, materials notebook and documentation, as-built sketches, approval or monthly pay packages, and the preparation/submission of final records. In addition, he is also responsible for managing project QA staff and making sure that sufficient staffing is enforced to maintain compliance with the contract, plans, and specifications. This is a part-time role; Michael is working with DBPM Jeff Humphreys and CM Bob Cross on this project. (2014 – Present, NXL)

Relevancy: VDOT D-B; roadway; survey; bridge and retaining walls; environmental permitting; geotechnical; erosion and sediment control; hydraulics and stormwater management; landscaping; roadway lighting; traffic control devices; ITS; transportation management plan; ROW; utility relocations; stakeholder coordination; public involvement/public relations; QA/QC; construction engineering and inspections; RFI's; as-built drawings.

VDOT I-64/I-264 Pavement Rehabilitation D-B, Norfolk, VA – Quality Assurance Manager

Responsibilities: Prepared the OA/OC Plan and oversaw OA procedures and plan for this project that included major restoration and pavement rehabilitation of roadway on I-64 and I-264 totaling 10 miles or 67 lane-miles. Responsible for the performance and coordination of QA testing and inspection per VDOT's Design-Build guidelines, monitored the contractor's QC program and was the liaison with the Department regarding compliance to ensure IA/IV testing was being performed. Approved QC inspection, staffing assignments, and the QC frequency testing plan before submitting to VDOT. Managed the QA staff, including sufficient staffing, for contract, plan, and specification compliance. Handled the preparation, maintenance, and submission of documentation, including diaries, EEO. materials/notebook/documentation, as-built sketches, the approval of monthly pay packages, and preparation/submission of final records. (2014 - 2015, NXL)

Relevancy: VDOT D-B, interstate roadway, survey, environmental, geotechnical, traffic control devices, TMP, public involvement/relations, QA/QC, construction engineering and inspection, and project management.

VDOT Route 3 Widening D-B, Culpeper, VA – Quality Assurance Manager

Responsibilities: Responsible for the oversight of the QA procedures and plan for this project that improved Route 36 and Route 144 totaling approximately 1.5 miles. Responsible for the performance and coordination of QA testing and inspection per VDOT's D-B guidelines, monitored the contractor's QC program and was the liaison with the Department regarding compliance to confirm that IA/IV testing was being performed. Approved QC inspection, staffing assignments, and the QC frequency testing plan before submitting to VDOT. Managed the QA staff, including sufficient staffing, plan, and specification compliance. Mr. Saunders handled the preparation, maintenance, and submission of documentation, including diaries, EEO, materials/notebook/documentation, as-built sketches, approval of monthly pay packages, and the preparation/submission of final records. (2011 - 2012, NXL)

Relevancy: Construction VDOT D-B, roadway, survey, structures, environmental, geotechnical, hydraulics, traffic control devices, TMP, ROW, utilities, public involvement/relations, QA/QC, ITS, construction engineering and inspection, and project management.

* 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 and for Quality Assurance Manager (QAM), provide a current list of assignments, role, and the anticipated duration of each assignment.

I-64 Widening, Exit 200 to 205 / QAM (part time) / End Date: October 6, 2019



KEY PERSONNEL RESUME FORM

Brief Resume of Key Personnel anticipated for the Project.

a. Name & Title: Michael Hooshangi, PE, DBIA, Senior Associate/Engineering Chief

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): **STV Incorporated (Full Time)**

d. Employment History: With this Firm 6 Years With Other Firms 34 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):

STV Incorporated, Senior Associate/Engineering Chief (April 2013-Present)

As a Senior Associate and Engineering Chief of STV's Mid-Atlantic Transportation Group, Michael has more than 35 years of experience designing and managing transportation infrastructure projects in Virginia. He is responsible for the quality execution of design for design-build (D-B) for roadway, bridge, interchange projects, and transit in the Mid-Atlantic region. Michael provides strategic planning, team management, and design; monitors schedules and budgets; and develops quality management plans.

AECOM, Senior Program Director, Civil Department Manager (October 2000-April 2013)

- In this role, Michael was responsible for overseeing design and providing quality control for civil engineering projects.
- Education: Name & Location of Institution(s)/Degree(s)/Year/Specialization: Marshall University, Huntington, WV / Master of Science / 1978 / Civil Engineering West Virginia University Institute of Technology, Beckley, WV / BS / 1977 / Civil Engineering
- f. Active Registration: Year First Registered/ Discipline/VA Registration #:
- 1989 / Professional Engineer / Virginia #0402-019827

g. Document the extent and depth of your experience and qualifications relevant to the Project.

- 1. Note your role, responsibility, and specific job duties for each project, not those of the firm.
- 2. Note whether experience is with current firm or with other firm.
- 3. Provide beginning and end dates for each project; projects older than fifteen (15) years will not be considered for evaluation.

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

VDOT I-581/Valley View Boulevard Interchange Phase II Design-Build, Roanoke, VA – Design Manager

Responsibilities: Michael served as the design manager for a diverging diamond interchange (DDI) in Roanoke, VA, to facilitate high-volume left-turn movements from Valley View Boulevard onto I-581. Michael oversaw the delivery of a complete, accurate, and buildable set of plans while providing quality control and oversight of all engineering details and design features, including the creation of project-specific DDI criteria using national best practices. Michael conducted regular meetings to facilitate continuous communication among all the engineering disciplines, the contractor, and VDOT to make sure that decisions were timely and consistent with the overall goals and objectives of the project. He was also responsible for reviewing the entire project for quality and completeness. Michael was responsible for establishing and overseeing a design QA/QC program for all disciplines involved in the design, including review of design, working plans, shop drawings, specifications, and constructability. Specifically, Michael managed the development of the design plans to widen and rehabilitate the bridge carrying Valley View Boulevard over I-581, oversaw the preparation of an IMR, and coordinated with VDOT, FHWA, the City of Roanoke, utility owners, and other stakeholders. Michael has led many outreach efforts, including Citizen Information Meetings and public hearings. Along with the roadway and bridge structures, he was responsible for overseeing the design of retaining walls, sound walls, sidewalks and trails, utilities, permitting, drainage, stormwater management, erosion and sediment control, temporary traffic control devices, the Transportation Management Plan (TMP), pavement markings, signals and communications, signs, lighting, a parking lot relocation, and landscape architecture. He also oversaw geotechnical investigation, borings and analysis, materials analysis, hydraulic and hydrologic analysis, and significant traffic analysis. Michael provided very timely and responsive support to VDOT and the contractor throughout the construction period on all construction administration requests. In many recent conferences and industry forums, VDOT has presented on this project, showcasing it as a model for D-B for VDOT, highlighting the successful value engineering process. (4/13 - 12/17, STV)Project Relevance: This project illustrates Michael's ability to coordinate all design disciplines, including subconsultants, and make sure that the overall project design is completed in conformance with the contract documents. The value engineering exercise saved VDOT millions of dollars by providing a DDI that reduced the overall footprint of the interchange, reduced the required width of the bridge carrying Valley View Boulevard over I-581 by 37.5 feet, and reduced the southbound I-581 deceleration lane by 900 feet. The DDI also eliminated over 900-lf of stream relocation work, significantly reduced impacts to existing utilities, and eliminated the need for the acquisition/demolition of five residential structures, which significantly reduced project risk. Michael led the STV team to facilitate safe and efficient movement of vehicles, pedestrians, and bicyclists during construction and provided appropriate protection for workers and equipment within work zones. The development of the TMP involved extensive coordination and input from various design disciplines, members of the construction team, VDOT, FHWA, the City of Roanoke, and other stakeholders. Traffic was maintained at all times through staged construction and the use of permanent pavement in conjunction with temporary pavement to shift traffic.

DDOT 11th St. Bridges over Anacostia River/Interchanges Design-Build, Washington, D.C. - Highway Lead

Responsibilities: Michael led design and highway engineering efforts for the District's largest construction project, a \$375 million D-B project along the 11th Street corridor for the replacement of two existing bridges across the Anacostia River in Washington, D.C., for the District Department of Transportation (DDOT). Michael was responsible for the entire project for all roadway and highway design, including all ramps, interchanges and roadways on both sides of the Anacostia River. He also oversaw the design of all the structures north of the Anacostia River, including six bridges. Michael also oversaw a new bridge carrying two-way local traffic across the Anacostia River connecting the Capitol Hill and Anacostia neighborhoods. The project involved reconstructing and reconfiguring the interchanges at I-295, Anacostia River crossings, and connections to the Southeast/Southwest Freeway. Michael had the primary responsibility for producing a complete, accurate, and buildable set of plans for all roadways and highways and seven bridges. He worked closely with other engineering disciplines so that decisions were timely and consistent with the overall goals and objectives of the project. He maintained continuous communication with the project team concerning project issues, progress, deadlines, and cost. Michael was responsible for the preparation of roadway plans for the new interchange, including realignment of inbound I-295, new ramps, retaining walls, signage, and pavement markings. He also oversaw development of a complex maintenance of traffic (MOT) scheme, which included a detailed TMP. (12/05 – 4/13, AECOM)

Project Relevance: This project illustrates Michael's ability to coordinate with other design disciplines to make sure the design is in conformance with contract documents. The 11th Street project included extensive MOT plans for roadways that carry over 150,000 vehicles daily, including a TMP plan and significant utility relocations. The MOT and TMP plans helped confirm constructability of the utility relocations and the project itself, while maintaining access throughout the site. To mitigate the frequency of utility conflicts and the impact on the actual construction work, Michael developed a strategy to identify the impacts and coordinate stormwater management facilities; permitting; signing, striping, and pavement marking; right-of-way; utilities; landscaping; stakeholder/third party coordination; public involvement/relations; QA/QC; and overall project management. Innovative/cost-effective design/construction saved DDOT a total of \$85 million from the original engineer's estimate. Innovative design also resulted in 70% of the project being constructed without major interruption to vehicular traffic, thereby limiting impacts to the traveling public for an extended period of construction. The project included extensive public relations and communications work, including soliciting feedback from the community during stakeholder meetings and modifying the design to accommodate benefits to nearby neighborhoods based on the input received by the team.

VDOT Route 50 Courthouse Road and 10th Street Interchanges, Arlington, VA - Design Manager

Responsibilities: Michael served as design manager and lead highway engineer for development of the construction plans to replace two major interchanges of Route 50 (Arlington Boulevard) with 10th Street and Courthouse Road in Arlington County, VA, at an estimated total cost of \$42 million for VDOT. Michael supervised design of the new interchange, which includes two new collector distribution roads, ramps, three traffic signals, TMP, 13 mechanically stabilized earth retaining walls, two bridges, interchange lighting, and pedestrian improvements. He was responsible for all design, project scheduling, client and subconsultant coordination, and implementation of QA/QC procedures.

Project Relevance: This project illustrates Michael's ability to coordinate all design disciplines, including subconsultants, and make sure that the overall project design is completed in conformance with the contract documents. The scope of work included new roads, new signals, the development of a TMP, and pedestrian improvements. The westbound multipurpose trail was relocated and extended under the 10th Street Bridge. Roadway improvements included milling and overlay of existing pavement; hydraulics; storm drainage and stormwater management facilities; geotechnical; signing, striping, and pavement marking; right-of-way; utilities; landscaping; stakeholder and third-party coordination; public involvement/relations; QA/QC; construction engineering and inspection; and overall project management. The project was constructed in a congested urban area in Arlington, VA, with high traffic volume, significant utility conflicts, and complex right-of-way acquisitions from businesses and residential areas. Michael led the development of an effective TMP that included traffic controls to minimize work zone impacts by using advanced signage and detour plans. Strategies used to mitigate and identify the impacts of utilities included early coordination, regular meetings with utility companies, and use of nightshift work. (12/05 – 4/13, AECOM)

* 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 and for Quality Assurance Manager (QAM), provide a current list of assignments, role, and the anticipated duration of each assignment.

As the Design Manager, Michael will not be required to be on site full time.



KEY PERSONNEL RESUME FORM

Brief Resume of Key Personnel anticipated for the Project.

- a. Name & Title: Bob Cross, 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): **Branch Civil, Inc. (Full Time)**

d. Employment History: With this Firm <1 Years With Other Firms 39 Years

Please list chronologically (most recent first) your employment history, position, general responsibilities, and duration of employment for the last fifteen (15) years. (NOTE: If you have less than 15 years of employment history, please list the history for those years you have worked. Project specific experience shall be included in Section (g) below):

Branch Civil, Inc., Construction Manager (2019 – Current)

Responsible for managing all phases of the construction process, including quality control (QC), planning, organizing, staffing, directing, controlling, and executing work. Projects include design-build, construction of highways, bridges, and heavy civil work for state departments of transportation, federal government agencies, and private corporations. His responsibilities include scheduling and supervising manpower and equipment, owner/subcontractor/supplier contact and coordination, modification/extra work estimating, pricing and negotiation, claims management, EEO compliance and enforcement, and compliance with corporate safety regulations, including training.

LANE Construction Corporation, Construction Manager (2006 to 2019)

Performed constructability reviews of design drawings, developed and maintained the project schedule, and coordinated contractor/subcontractor activities. He was responsible for overseeing all QC activities on the project site and confirmed that materials used, and work performed, complied with contract requirements and "approved for construction" plans and specifications.

Moore Brothers, General Superintendent (2005 to 2006)

Served as general superintendent on the 1-66 HOV project between Route 234 and the Prince William Parkway interchanges. He supervised all aspects of construction, including highway widening, geotechnical work, hydraulics, hydrology and erosion control, permitting, and utility coordination. Additionally, he performed QC activities to confirm contract requirements were met and that "approved for construction" plans and specifications were met.

Archer Western Contractors, General Superintendent (2003 to 2005)

Served as general superintendent on the Springfield Interchange, Phases VI & VII project. He performed constructability reviews of design drawings, developed and maintained project schedule, coordinated contractor and subcontractors' activities. He supervised all aspects of construction including QC assessments and measures.

e. Education: Name & Location of Institution(s)/Degree(s)/Year/Specialization:

Langley High School, McLean, VA / 1972 / High School Diploma

f. Active Registration: Year First Registered/ Discipline/VA Registration #:

2015 / Virginia DEQ Responsible Land Disturber (RLD) Certification / VA Registration #11339

2005 / VDOT Erosion and Sediment Control Contractor (ESCCC) Certification / VA Registration #3-00641 2008 / OSHA 10-Hour National Designation / Registration #001355323

- g. Document the extent and depth of your experience and qualifications relevant to the Project.
 - 1. Note your role, responsibility, and specific job duties for each project, not those of the firm.
 - 2. Note whether experience is with current firm or with other firm.
 - 3. Provide beginning and end dates for each project; projects older than fifteen (15) years will not be considered for evaluation.

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

VDOT I-64 Widening Design-Build, Exit 200-205, Richmond, VA – General Superintendent

Responsibilities: As a general superintendent of this \$46.5 million D-B, Bob oversees all phases of the construction process, from initial planning to completion. His daily responsibilities include QC activities to confirm that materials used and work performed meet contract requirements and the "approved for construction" plans and specifications. He is also responsible for general human resource functions, supervision of construction activities, cost accounting functions, coordination of daily work activities, and making sure that project staff have the proper training. This project

will improve the serviceability and safety of the I-64 corridor for the traveling public by widening the existing roadway while maintaining the existing travel lanes. The scope includes widening/adding a new inside lane of traffic and shoulder of both EB and WB I-64 for approximately 3.5 miles as well as two existing bridges over the Chickahominy River, and included: new asphalt pavement, grading, new drainage, new roadway lighting at EB and WB weigh stations, ITS system updates and re-routing, new roadway signing (overhead and post-based), box culvert extensions, rehabilitation to the two existing bridges as well as repairs to existing substructure/superstructure and replacement of existing decks, and construction of 1.25 miles of noise barrier walls on I-64 WB. (2019 – Present, Branch)

Relevancy: VDOT D-B project, widening of existing roadway, survey, hydraulics, bridge construction, environmental, geotechnical, traffic control devices, TMP, public involvement/relations, QA/QC, construction engineering and inspection, and project management.

VDOT I-66/Route 15 Interchange Design-Build, Haymarket, VA – Construction Manager

Responsibilities: Managed the entire construction process on this \$40 million D-B project. He coordinated subcontractors' schedules, created progress schedules to maintain cost-effective delivery, and communicated with QC staff for inspections and daily routines. He was responsible and accountable for planning, scheduling, cost, and QC. He coordinated with and monitored contract progress with VDOT and subcontractors (including adherence to contractual requirements and specifications) and oversaw the overall safety and quality control programs. (2014 – 2017, LANE Construction Corporation)

Relevancy: VDOT D-B project, widening of existing roadway, utility relocation, ROW acquisition, sign structures, public involvement/relations, QA/QC, overall project management, construction of a new service road, and replacement of bridges.

VDOT I-95 Express Lanes Design-Build, Prince William and Stafford Counties, VA - Project Manager

Responsible for the management of the construction process, which included the QC program, project schedules, cost control, subcontractor coordination, work plans, and specific means/methods for carrying out the work. He confirmed that the materials used and work performed met contract requirements and the "approved for construction" plans and specifications. Bob had extensive involvement with the complex MOT plans and implementation. relocation, adjustments, and coordination of utilities, and helped address environmental concerns. (2018 – 2019, LANE Construction Corporation)

Relevancy: VDOT D-B project, structures and bridge construction, roadway, utility relocation, MOT survey, hydraulics, environmental, geotechnical, traffic control devices, TMP, public involvement/relations, stakeholder coordination, QA/QC, construction engineering and inspection, and project management.

* 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 and for Quality Assurance Manager (QAM), provide a current list of assignments, role, and the anticipated duration of each assignment.

I-64 Widening Exit 200-205 Design-Build / General Superintendent / End Date: October 6, 2019 Bob will be available on site full time at the start of construction of the I-95 Northbound Rappahannock River Crossing project.



KEY PERSONNEL RESUME FORM

Brief Resume of Key Personnel anticipated for the Project.

a. Name & Title: Derek Overstreet, PE, DBIA, Associate/Engineering Director

b. Project Assignment: Lead Structural Engineer

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): **STV Incorporated (Full Time)**

d. Employment History: With this Firm 13 Years With Other Firms 2 Years

Please list chronologically (most recent first) your employment history, position, general responsibilities, and duration of employment for the last fifteen (15) years. (NOTE: If you have less than 15 years of employment history, please list the history for those years you have worked. Project specific experience shall be included in Section (g) below):

STV Incorporated, Associate/Engineering Director (August 2005-Present)

As Engineering Director and an Associate of STV, Derek is responsible for the successful delivery of all bridge and structure related projects throughout Virginia. He also serves as the Branch Manager for STV's Richmond, VA office and oversees a staff of bridge engineers, technicians, and support personnel. He is serving as Project Manager for three bridge replacement projects, including roadway approaches, under a Limited Services Term Contract in the Salem District. Derek has more than 10 years of project management experience overseeing bridge projects, including the replacement and widening of interstate bridges, the design of massive cast-in-place concrete bridge components, and the review of complex bridge girder/beam erection plans.

Banker Steel Company, Project Manager (May 2003-August 2005)

In this role, Derek was responsible for managing the fabrication and erection of structural steel projects throughout the Mid-Atlantic and Northeast regions. His management responsibilities included the development of erection plans, structural steel shop drawings, connection designs, purchasing, and shipment of structural steel. Derek also oversaw the QA/QC processes during fabrication and was responsible for developing fabrication and erection schedules.

e. Education: Name & Location of Institution(s)/Degree(s)/Year/Specialization:

University of Virginia, Charlottesville, VA / Master of Engineering / 2011 / Civil Engineering

Virginia Military Institute, Lexington, VA / BS / 2003 / Civil Engineering

f. Active Registration: Year First Registered/Discipline/VA Registration #:

2008 / Professional Engineer / Virginia #0402-043698

- g. Document the extent and depth of your experience and qualifications relevant to the Project.
 - 1. Note your role, responsibility, and specific job duties for each project, not those of the firm.
 - 2. Note whether experience is with current firm or with other firm.
 - 3. Provide beginning and end dates for each project; projects older than fifteen (15) years will not be considered for evaluation.

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

VDOT I-581/Valley View Boulevard Interchange Phase II Design-Build, Roanoke, VA – Deputy Design Manager Responsibilities: Derek oversaw the structural designs of all bridges, culvert modifications, and retaining walls for the I-581/Valley View Boulevard Interchange Phase II Design-Build project in Roanoke, VA. The project included the implementation of a diverging diamond interchange (DDI) by modifying the existing partial cloverleaf interchange. The structural components of this \$38.9 million D-B project included a widening and rehabilitation of the existing bridge carrying Valley View Boulevard over I-581, a new shared use path bridge over I-581 and ramps W and X, three retaining walls, an extension of an existing box culvert, three overhead sign structures, one dynamic message sign structure, and more than 6,000 linear feet of new noise barrier walls. Derek was also responsible for the as-designed and as-built bridge load ratings for both bridges. The bridge carrying Valley View Boulevard is a 2-span 240-foot continuous steel plate girder bridge and was modified to eliminate deck joints by using deck slab extensions. The existing superstructure was also modified and strengthened to meet current LRFD requirements. Staged construction was used for the bridge widening, modification, and rehabilitation work. The shared use path bridge is a 2-span, 251-foot continuous steel plate girder bridge with a composite reinforced concrete deck and mechanically stabilized earth retaining walls. Derek was responsible for conducting interdisciplinary reviews for consistency among disciplines (e.g., geotechnical with bridge foundations, maintenance of traffic with bridge construction activities). For example, he coordinated with the structural, drainage, and geotechnical disciplines to implement appropriate mitigation strategies due to the karst geology. During construction Derek was responsible for the review of working plans, shop drawings, RFI's, non-conformance reports, review of the girder erection plans, and design changes during construction. Following construction Derek oversaw the preparation of as-built plans for all structural drawings. (4/13-12/17, STV)

Relevancy: VDOT D-B delivery requiring staged bridge construction within an existing interchange. The interchange concept reduced the interchange's overall footprint, including the interchange ramps. The smaller footprint significantly reduced project risks and costs by minimizing impacts to existing utilities and eliminating the need to acquire and demolish five residential structures.

VDOT I-95 Bridge Replacement over the Meherrin River, Emporia, VA – Lead Structural Engineer

Responsibilities: Derek is the Lead Structural Engineer responsible for the design of the 540-foot-long dual bridges carrying I-95 over the Meherrin River in the City of Emporia, VA. He also was responsible for assisting with the design management, including the management of STV's design QA/QC program for this \$22.2 million VDOT bridge replacement project. Derek's responsibilities include assisting in coordinating design activities of roadway, bridge, traffic, lighting, geotechnical, and drainage/hydraulics. Derek oversaw the preparation of a bridge concept study with eight alignment alternatives to address construction of the new bridges. Each alternative applied different strategies to maintain traffic, including the construction of new bridges off alignment, staged construction, temporary detour bridges, and the use of accelerated bridge construction techniques. During development of Public Hearing Plans, Derek and the VDOT Project Manager met with project stakeholders including the City of Emporia, adjacent property owners, and the owners of several advertising billboards within the project limits to obtain public acceptance with no public hearing. He was also responsible for conducting interdisciplinary reviews to provide coordination between the discipline interfaces.

During design Derek oversaw the development of the hydrologic and hydraulic report as well as the scour analysis report. Recommendations from both reports were incorporated into the bridge designs. Derek also developed permit sketches showing locations of cofferdams and temporary causeways for the bridge construction. Derek was responsible for the development of the preliminary bridge plans, Stage I report, final bridge plans, and bridge load ratings. Derek's approach was to develop a design to reduce long-term maintenance needs for VDOT. The new bridges were designed as five-span, 540-foot structures using prestressed concrete 61-inch-deep bulb-T beams made continuous for live load with semi-integral abutments. The new structures are entirely jointless and use corrosion resistant reinforcing steel in accordance with VDOT's design requirements. The piers for each bridge consist of two hammerhead piers adjacent to the river and two multi-column piers in the floodplain. Two foundation designs were developed for Pier 1 on each bridge, which allowed the contractor the option to construct either a spread footing foundation or a drilled shaft foundation system. Pier 2 on each bridge is supported by drilled shaft foundations, while all other substructure elements are supported by steel H-piles driven to refusal. Derek assisted with design reviews, specifications, oversaw the review of the bridge erection plans, working plans, shop drawings, RFI's, design changes during construction, and constructability. *(5/12 - Present, STV)*

Relevancy: Interstate bridge project located in close proximity to an existing interchange with I-95 and Route 58 which required phased bridge construction, the development of a complex TMP/MOT plan, and stakeholder coordination. The project also required careful planning for the design and permitting of the temporary causeways for the bridge construction, construction access to the river, and design for constructability due to the proximity of existing and proposed structures during construction.

VDOT I-264 Bridge Widening over former Norfolk Southern Railway – Lead Structural Engineer

Responsibilities: Serving as the Lead Structural Engineer for the widening and rehabilitation of the existing bridge carrying I-264 over the former Norfolk Southern Railway in Virginia Beach, VA. The existing EBL structure is being widened and rehabilitated and the existing WBL structure is being rehabilitated in conjunction with the I-264/Witchduck Road Interchange and Ramp Extension project. Derek led STV's efforts in developing the design, plans, and specifications, and was directly responsible for completing a life cycle cost analysis to compare rehabilitation and replacement alternatives. The final plans for EBL structure include milling and overlay of the existing expansion joints at the abutments, and the replacement of all bearings. One of the most challenging aspects was the development of the bridge construction sequence and corresponding TMP/MOT plan to satisfy VDOT's strict lane closure restrictions. He also helped establish and oversee the design QA/QC program and coordinated with outside stakeholders including the City of Virginia Beach, Hampton Roads Transit, and utility owners. Derek also coordinated constructability reviews, working with VDOT to have several of the overhead power transmission line poles, which were in conflict with the bridge construction, relocated, and the conductors raised to improve constructability. (2/09 - Present, STV)

Relevancy: Interstate bridge project located in close proximity to an existing interchange which required staged bridge construction and extensive interdisciplinary coordination among roadway, bridge, traffic, geotechnical, and drainage disciplines. The project also includes coordination with adjacent projects.

* 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 and for Quality Assurance Manager (QAM), provide a current list of assignments, role, and the anticipated duration of each assignment.

As the Lead Structural Engineer, Derek will not be required to be on site full time.

3.4.1(a) – Lead Contractor Work History Form Attachment

ATTACHMENT 3.4.1(a)

LEAD CONTRACTOR - WORK HISTORY FORM

BRANC

(LIMIT 1 PAGE PER PROJECT)

a. Project Name & Location	b. Name of the prime design	c. Contact information of the Client or	d. Contract	e. Construction	f. Contract Value (in thousands)		g. Dollar Value of Work Performed
	consulting firm responsible for the	Owner and their Project Manager who	Completion	Contract	Original Contract	Final or Estimated	by the Firm identified as the Lead
	overall project design.	can verify Firm's responsibilities.	Date	Completion	Value	Contract Value	Contractor for this procurement.(in
			(Original)	Date (Actual			thousands)
				or Estimated)			
Name:I-95 Express Lanes	Name: Whitman, Requardt &	Name of Client: VDOT				©27 000	
Southern Terminus	Associates, LLP	Phone: (703) 259-2362		11/2015		\$37,000	
Extension Design-Build		Project Manager: Paul Nishimoto	08/2018		\$31,000	(increased due to	\$37,000
Location: Stafford County,		Phone: (571) 419-0504		(actual)	,	owner directed	
VA		Email: <u>paul.nishimoto@virginia.gov</u>				scope changes)	

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

This challenging D-B project extended the existing express lanes (ELs) further south to alleviate congestion challenges at the current merge point and entry in Stafford County. Approximately 2.2 miles of reversible lane was constructed starting at the beginning of the current southern end of the project (located north of Garrisonville Road) and included development of new northbound (NB) and southbound (SB) ramps between the ELs and the general purpose (GP) lanes. Improvements reduced delays and queues for the NB GP lanes during AM peak, reduced delays and queues for the SB express lanes during PM peak, improved overall safety, decreased rear-end collisions by reducing vehicles weaving to enter and exit the lanes (which caused the accident rate to be significantly high), and increased capacity while reducing congestion within the existing right-of-way. To widen the roadway, a new left entrance south of the Garrisonville Road overpass (Route 610) was constructed to accommodate NB traffic entering the express lanes. SB traffic using the express lanes is now able to merge into the GP lanes at a new exit point approximately one mile south of Garrisonville Road. The new reversible lane required moving 100,000 CY of earthen material, placing 60,000 tons of cement treated aggregate and 100,000 tons of asphalt.

EXPERIENCE IN SUCCESSFULLY COORDINATING WITH ADJACENT PROJECTS

Branch was responsible for working with VDOT and Transurban (Concessionaire) to prepare for the adjacent I-95 Express Lanes Fredericksburg Extension D-B, which is currently being constructed by the Branch-Flatiron Joint Venture.

USE OF INNOVATIVE CONSTRUCTION TECHNIQUES

Prior to contract award, VDOT took an innovative approach and obtained the VPDES and water quality permits for the project. VDOT worked with Branch during design development along with the permitting agencies to transfer the permits to Branch. During the design development and permit transfer stage, Branch proceeded at-risk with clearing and grubbing, grading, and drainage installation to accelerate the construction schedule. This proactive permitting approach allowed construction to begin within 45 days of the Notice to Proceed.

LIMITING IMPACTS TO THE TRAVELING PUBLIC, AFFECTED BUSINESSES, AND COMMUNITIES

Midway through the project, VDOT added a second lane change order to revise the design, grading, electrical, utility, and overall roadway work to avoid conflicts with a future second lane design. However, the change order did not include an extension of contract time or milestone dates. All new work had to be completed by the original interim and final milestone dates. Through continuous coordination with the designer and subcontractors, the project was still finished nine months ahead of schedule. High traffic volume increases during peak hours required safe and well-marked access and egress points. When developing the Temporary Management Plan, both safety and flow of the traveling public were critical elements. Additionally, VDOT imposed heavy lane use fees if lanes were disturbed along the I-95 corridor. Through proper planning and coordination, Branch did not receive any lane use fees during design, scope validation, or the construction phase of the project.

FINISHING CONTRACTS ON TIME OR EARLIER THAN ORIGINAL CONTRACT MILESTONE DATE

Branch completed this project nine months earlier than contract completion date by properly staffing the project and managing the work.

SUCCESS IN TAKING AND MANAGING CALCULATED RISKS AND REALIZING INCENTIVES

- As prime contractor, Branch oversaw all aspects of design and construction for this project and self-performed all mass grading, erosion control, MOT, drainage, fine grading, and base stone placement activities, while providing contract administration and coordination with QA/QC. To streamline the design process and expedite construction/Design Integrator to perform constructability reviews during design development. Branch's close coordination with the design team and VDOT allowed the construction schedule to be accelerated. Construction challenges including unsuitable soils, coordination with Transurban, and maintaining existing traffic were all successfully solved by Branch during construction. Approximately 154,749 manhours were required to complete the I-95 project, all performed with zero lost time incidents.
- During construction, Branch successfully negotiated with VDOT and Transurban (Concessionaire) for a change order to accommodate a second travel lane within the Southern Terminus Extension project limits.
- Even though formal partnering was not required, both Branch and Chesapeake took a partnering approach to actively engage with VDOT, Transurban, the design team, and other third-party stakeholders early in design development to review plans at various stages and to reduce the amount of time required for review. This coordination proved successful as evidenced by the project being completed ahead of schedule.
- Branch worked with VDOT to realign noise barrier walls to avoid additional right-of-way acquisition and eliminate a utility conflict.



"... the Design-Build contractor agreed to all grading and drainage for a second lane to the 2.2 mile extension as requested by the Department. This change will help alleviate the future FredEx extension construction and provides value to the Department with overall reduced costs and safety improvements. Despite the incorporation of this change, the project was still completed early."

Paul Nishimoto, VDOT MegaProjects Manager

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	c. Contact information of the Client or	d. Contract	e. Contract	f. Contract Value (in thousands)		g. Dollar Value of Work
	consulting firm responsible for the	Owner and their Project Manager who can	Completion	Completion	Original Contract	Final or Estimated	Performed by the Firm identified
	overall project design.	verify Firm's responsibilities.	Date	Date (Actual	Value	Contract Value	as the Lead Contractor for this
			(Original)	or Estimated)			procurement.(in thousands)
Name: I-64/Battlefield Boulevard Location: Chesapeake, VA	Name: Kimley Horn & Associates, Inc.	Name of Client/ Owner: VDOT Phone: (757) 494-5470 Project Manager: Michael Johnson Phone: (757) 494-5470 Email: Michael.Johnson@vdot.Virginia.gov	07/2009	07/2009	\$98,000	\$102,000 (increased due to owner- directed scope changes)	\$102,000

h. Narrative describing the Work Performed by the Firm identified as the Lead Contractor for this procurement. If the Offeror chooses to submit work completed by an affiliated or subsidiary company of the Lead Contractor, identify the full legal name of the affiliate or subsidiary and the role they will have on this Project, so the relevancy of that work can be considered accordingly. The Work History Form shall include only one singular project. Projects 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.

Branch was the prime contractor on this large scale urban bid-build highway project which included substantial value engineering and additional to scope to improve functionality. The project widened and reconstructed four miles of I-64, reconfigured a standard cloverleaf interchange to include adding collector/distributor (C/D) roadways for the entire length of the project, installed mechanically-stabilized earth (MSE) retaining walls, designed/constructed sound barrier walls, installed traffic management systems, and incorporated large stormwater management facilities within the footprint of the I-64 corridor.

EXPERIENCE IN SUCCESSFULLY COORDINATING WITH ADJACENT PROJECTS

Branch successfully coordinated with two adjacent projects during construction. The first, the Debaun Avenue Intersection project (City of Chesapeake), required extensive coordination and design modifications, as the project did not comply with minimum FHWA location/egress requirements. On the second, the I-64 Corridor Improvements project (VDOT), Branch was responsible for coordinating construction with the I-64/I-464 off-ramp installation, which also included the installation of approximately 400 LF of sound barrier walls. As the construction happened within the Battlefield Boulevard construction area, Branch was responsible for all traffic control measures.

CONSTRUCTING BRIDGE IN A CONSTRAINED AREA

This project included widening two interstate bridges, as well as construction of five new bridges consisting of two structural steel box girder braided ramp structures, two bridges over CSX Railroad, and a phased replacement of the Battlefield Boulevard Overpass Bridge. The Battlefield Boulevard bridge construction was multi-phased due to traffic constraints and used the footprint of the existing structure. I-64 required two lanes in each direction and demolition of the existing structure. Construction of the new bridge also required one lane each direction.

USE OF INNOVATIVE CONSTRUCTION TECHNIOUES

A variety of innovative strategies were developed during the three-year undertaking, and each was crucial to the project's success. A braided ramp design, the first of its kind in the region, allowed for safer merging on and off of I-64, eliminating weave conditions between the Greenbrier Parkway and Battlefield Boulevard interchanges. Branch worked with VDOT to become the first large project in Virginia to demolish the existing concrete pavement, crush it, and use the material as aggregate for CTA. A well was drilled in the median and a concrete batch plant was set up to produce the CTA base material for the new concrete pavement and later to generate the concrete pavement. This eliminated the need to remove 6,700 truckloads of broken concrete pavement from the median, as well as deliver 6,700 loads of CTA into the median.

LIMITING IMPACTS TO THE TRAVELING PUBLIC, AFFECTED BUSINESSES, AND COMMUNITIES

High traffic volumes, especially during the peak vacation and holiday travel times, placed a high value on safe and well-marked ingress and egress points. The safety and flow of the motoring public were critical criteria as the TMP was revised. The same considerations were paramount as traffic control was installed, maintained, and removed. Branch's traffic control crews worked seamlessly with the state and local police, first responders, and the local VDOT Traffic Operations Center to minimize impacts to the motoring public. Branch worked with VDOT to revise the TMP/Phasing Plans to develop a revised TMP approach that eliminated the original proposed temporary loops and ramps, was safer for motorists, and produced project savings. This change also resulted in a three-month acceleration of the schedule.

FINISHING CONTRACTS ON TIME OR EARLIER THAN ORIGINAL CONTRACT MILESTONE DATE

Branch completed this project nine months earlier than contract completion date by properly staffing the project and managing the work.

SUCCESS IN TAKING AND MANAGING CALCULATED RISKS AND REALIZING INCENTIVES

- Branch and the lead designer collaborated to improve a portion of the roadway design resulting in reconfiguring a major tie-in and adding an enhancement of and additional C/D lane at the Route 168 interchange. This improved final traffic • flow and provided a safer merge from Route 168 onto westbound I-64, resulting in exceeding the original contract value but keeping the project within the contingency. Branch earned an early completion bonus.
- VE used the existing ROW and added an additional WB C/D lane from west of the 464 interchange to Battlefield Boulevard. This was implemented to facilitate the availability of two through lanes for traffic control, which minimized the need for two traffic control phases.
- The Battlefield Boulevard project team and VDOT won recognition from the Construction Management Association of America and the American Consulting Engineers Council, along with other awards for public affairs and communication.





"It was truly an integrated project team that worked hard and followed through with *delivering this project to the* citizens as promised. We want to reiterate the value that Branch [SIC] brought to this project and thank you for your outstanding performance."

> Mike Prezioso, PE, CCM, Senior Vice President McDonough, Bolyard, Peck VDOT's Consultant **Construction Manager**

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	c. Contact information of the Client or	d. Contract	e. Contract	f. Contract	Value (in
	consulting firm responsible for	Owner and their Project Manager who	Completion	Completion Date	Original	Final o
	the overall project design.	can verify Firm's responsibilities.	Date	(Actual or Estimated)	Contract Value	Contra
			(Original)			
Name: I-85 Widening and I-85/US 29~70 Bridges over Yadkin River Location: Salisbury, NC	Name: STV Incorporated (formerly known as STV/Ralph Whitehead Associates)	Name of Client: NCDOT Phone: (877) 368-4968 Project Manager: S. Pat Ivey, PE Phone: (336) 703-6500 Email: <u>pivey@ncdot.gov</u>	01/2013	05/2014 (Actual) (extended per Owner)	\$136,020	(owner s

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



"The efforts put forth by Flatiron personnel were instrumental to the success of this vital transportation facility and your team demonstrated an appreciation, willingness, and an eager approach to provide NCDOT with innovative solutions."

> Rodger Rochelle, Director of Transportation <u>Program Management, NCDOT</u>

As the lead joint venture partner responsible for construction of this design-build project, Flatiron widened and improved 3.3 miles of I-85 in central North Carolina including new dual mainline bridges (2,900' long) and replacement of the dual US29/70 bridges (800'long) both over the Yadkin River. The scope of work included construction of two additional bridges on I-85 over an active railroad; the removal and reconfiguration of the I-85/US 29/70 interchange; and a new NC 150 Bridge over I-85.

EXPERIENCE IN SUCCESSFULLY COORDINATING WITH ADJACENT PROJECTS



I-85 Corridor Improvement Project, Phase II and *Norfolk Southern Railway Railroad Expansion Project* were ongoing concurrently with our I-85 Widening project. Coordination meetings were held regularly to alleviate conflicts. **CONSTRUCTING BRIDGE IN A CONSTRAINED AREA**

The US 29-70/Yadkin River Bridge presented a challenge, as the existing bridge was bounded by a historic spandrel arch bridge to the north, Duke Energy main transmission lines, as well as a Norfolk Southern Railway railroad bridge to the south. This tightly confined space prevented parallel construction or a detour bridge. Flatiron

and STV devised a "top down" construction concept that used a trestle constructed in the alignment of the existing bridge to remove the existing superstructure and substructures working south to north, incrementally. Then reversing direction, crews built the new superstructure working north to south, incrementally, while removing sections of trestle. By avoiding nearby Duke Energy, MCI/Verizon, Windstream and AT&T transmission lines, the procedure avoided a possible 2-3 year delay in utility relocation.

USE OF INNOVATIVE CONSTRUCTION TECHNIQUES

Flatiron used innovative bridge construction techniques, including a single half-mile-long construction access work platform between the new I-85 mainline bridges instead of separate platforms for each bridge. This **minimized disturbance to the river and wetlands and accelerated construction**. On the US 29/70 Bridge we used a trestle in the same footprint as the existing, removing the existing bridge as the trestle was built out, and working backward constructing the proposed bridge while removing the temporary work trestle. We also implemented the use of prestressed concrete "Edge Girders" which feature a curb cast into the top flange acting at the deck edge and eliminating the need for overhang construction. This greatly enhanced the safety of construction personnel and reduced overall schedule duration while decreasing the width needed to construct the bridge.

LIMITING IMPACTS TO THE TRAVELING PUBLIC, AFFECTED BUSINESSES, AND COMMUNITIES

Maintaining safe travel on both I-85 and the surrounding secondary/rural roads during construction was a priority during this project. Our MOT plan included (a) separating highway traffic from construction traffic, (b) minimizing traffic phasing to avoid "surprises" to inattentive motorists, and (c) devising a specialized Incident Management Plan (IMP) that stipulated pre-defined detour routes in the event of a major traffic accident on I-85, including handling a complete interstate closure. As a result, there were no serious or fatal crashes during the three years of interstate construction. Our team also implemented a public information plan that engaged targeted audiences and provided upcoming project impact information to the public at least three (3) weeks before any new construction activity or traffic pattern change was implemented.

FINISHING CONTRACTS ON TIME OR EARLIER THAN ORIGINAL CONTRACT MILESTONE DATE

One major milestone Flatiron proposed was completing the NB bridge so crews could move all traffic over to that bridge and begin construction on the SB bridge. At its peak, more than 200 people worked 24 hours a day, six to seven days a week to complete the new bridge on time. Crews finished building the 2,900-foot-long bridges in roughly 14 months, an impressive accomplishment by construction industry standards.

SUCCESS IN TAKING AND MANAGING CALCULATED RISKS AND REALIZING INCENTIVES

Through careful planning and innovative construction methods we were able to open the US 29/70 bridge 100 days prior to the contract duration, qualifying for an incentive payment. Additionally, the team delivered the project under the original budget of \$136 million (since the start of the project, owner change orders increased the project value to \$140 million). As a result, the Yadkin River Bridge project received **seven National Awards**, including **Design-Build Institute of America Award of Merit In Transportation** in 2014 and *Roads and Bridges* - **Top 10 Roads (#3)** in 2012.

n thousands)	g. Dollar Value of Work Performed
or Estimated	by the Firm identified as the Lead
ct Value	Contractor for this procurement.(in
	thousands)

\$140,482 • directed changes to scope of work) \$77,265

(dollar value based on JV percentages)

_		RELEVANCE TO PROJECT
1	\checkmark	River crossing bridge
	1	Construction in a constrained space
E		Expansion of existing roadway network
A	\checkmark	Utilities coordination/installation
		Extensive TMP/MOT
S.		Owner/stakeholder coordination and public relations
10-01	~	Coordination with adjacent projects
	\checkmark	Interchange reconfiguration
	\checkmark	Permitting and environmental

3.4.1(b) – Lead Designer Work History Form



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	c. Contact information of the Client and	d. Construction	e. Construction	f. Contract Valu
	contractor responsible for overall	their Project Manager who can verify	Contract Start	Contract	Construction
	construction of the project.	Firm's responsibilities.	Date	Completion	Contract Value
				Date (Actual	(Original)
				or Estimated)	
Name:	Name:	Name of Client: VDOT			
I-95 Bridge Replacement	G.A. & F.C. Wagman, Inc.	Phone: (804) 371-2778			
over the Meherrin River		Project Manager: Jeff Li	01/2016	07/2019 (est.)	\$22,245
Location: Emporia, VA		Phone: (804) 371-2778			<i> </i>
		Email: jiuwang.li@vdot.virginia.gov			

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

PROJECT DESCRIPTION AND SCOPE OF WORK

RELEVANCE TO PROJECT

- ✓ Interstate roadway and bridge design over water
- ✓ Complex multi-phased MOT
 ✓ Floodplain modeling,
- A hydraulic and scour analysis
 ✓ Stakeholder and adjacent
- Stakeholder and adjacent project coordination
- ✓ Environmental impacts

STV was engaged by VDOT to provide professional engineering services for the design for a \$22.2 million project to replace the existing I-95 bridges over the Meherrin River in Emporia, VA. The firm oversaw the preparation of a bridge concept study, preliminary field inspection plans, public hearing plans, and developed field inspection, right-of-way, and final roadway and bridge plans. STV was the **lead designer** providing engineering services for the replacement of the 540-foot-long dual bridges and associated approaches. The existing bridges were built in 1959 and were recommended for replacement to improve safety by correcting the functionally obsolete shoulder widths and to correct the low sufficiency ratings of the existing structures. STV's scope of services included bridge and structure design, roadway design, traffic control devices, transportation management plans, hydraulics, scour analysis, geotechnical, and public involvement/relations. **STV's offices in Fairfax and Richmond, VA performed the design work. Eight staged construction concepts were developed** for the bridge concept study to address construction of the new bridges to **limit disruptions to traffic** on the interstate. In addition to the eight alignment alternatives for MOT, STV developed accelerated bridge construction (ABC) techniques. Factors considered included construction cost, constructability, impacts to the horizontal/vertical alignment, lifecycle costs, and hydraulic impacts. Upon review, VDOT accepted STV's recommendation to construct a new southbound structure off alignment in its entirety, primarily due to the **limited amount of space between the existing structures**. This will allow the construction to be completed quickly

while not impacting safety or traffic operations along the interstate. It also provides a high degree of safety for workers as construction takes place offset from live traffic. The SB structure was built on a new horizontal alignment while the NB structure was built along its existing alignment. The sequence of construction required the new SB structure to be built first while traffic was maintained on the existing NB and SB structures. During this first phase of construction there was only one foot of separation between the new SB structure and the existing SB structure. The design incorporated constructability considerations, including the location of temporary shoring at the abutments, the placement of causeways and cofferdams within the river, and bridge deck overhang construction adjacent to the existing SB structure.

EVALUATION CRITERIA HIGHLIGHTS

Innovative design and construction techniques | BRIDGES: The new bridges were designed as five-span, 540-foot structures using prestressed concrete 61-inch deep bulb T-beams made continuous for live load with semi-integral abutments. Two different strand patterns were developed and incorporated into the plans for the prestressed concrete beams, allowing the use of either 0.5-inch diameter strands or 0.6-inch diameter strands. The piers for each bridge consist of two hammerhead piers adjacent to the river and two multi-column piers in the floodplain. Two foundation designs were developed for Pier 1 on each bridge, which **allows the contractor the option to construct either a spread footing foundation or a drilled shaft foundation system**. Pier 2 on each bridge is supported by drilled shaft foundations while all other substructure elements are supported by steel H-piles driven to refusal. ROADWAY: The project includes a total of 1.1 miles of interstate roadway reconstruction. The existing bridges were located in a sag vertical curve, which did not meet a minimum design speed of 70 mph and the low point was also located on the south end of the existing bridges. **To meet a minimum design speed of 70 mph, locate the low point in the sag vertical curve off of the new bridges, and meet all hydraulic requirements**, the roadway profile was raised by approximately 4 feet. MAINTENANCE: STV's approach to the design of the new bridges was to develop a **cost-effective bridge design and reduce long-term maintenance needs for VDOT**. The new bridges are entirely jointless, use corrosion resistant reinforcing steel in accordance with VDOT S&B–IIM-81, and use low permeability concrete.

Limiting impacts and strategies to minimize congestion during construction | STV developed a detailed TMP to maintain traffic on this heavily traveled roadway just south of the existing US 58 interchange. One phase of construction required southbound I-95 to be reduced to a single lane to facilitate the tie-in work along the realigned portion of southbound I-95. STV and VDOT studied traffic counts and determined that the southbound lane closure needed to occur between January-March to avoid excessive queues (estimated to be two miles during the summer). A temporary work zone speed reduction was implemented during select phases of construction where it was not possible to design the shifting tapers and other MOT elements for a minimum design speed of 70 mph. In these select phases of construction, STV designed all of the shifting tapers and MOT elements for a minimum design speed of 70 mph to the greatest extent possible as a **mitigation strategy against motorists who may not slow down through the work zone**.

Coordinating with adjacent projects | STV met individually with project stakeholders, including FHWA, the City of Emporia, Greensville County, and adjacent property owners. These meetings were critical to obtaining public acceptance of the project with no requests to hold a Public Hearing. STV also coordinated with the City of Emporia on an adjacent water line replacement project that was being designed by the City to cross the I-95 corridor within the project limits. STV successfully designed solutions to accommodate the City of Emporia's planned water line project.



e (in thousands)	g. Design Fee for the Work
Construction	Performed by the Firm identified as
Contract Value	the Lead Designer for this
(Actual or	procurement.(in thousands)
Estimated)	
\$22,535 (est.)	\$1,750



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 Va Construction Contract Value (Original)	lue (in thousands) Construction Contract Value (Actual or Estimated)	g. Design Fee for the Work Performed by the Firm identified as the Lead Designer for this procurement.(in thousands)
Name: I-581/Valley View Boulevard Interchange Phase II Design-Build Location: Roanoke, VA	Name: The LANE Construction Corporation	Name of Client: VDOT Phone: (540) 378-5353 Project Manager: Bobby Phlegar Phone: (540) 378-5083 Email: <u>r.phlegar@vdot.virginia.gov</u>	04/2014	12/2017	\$38,475	\$38,900	\$3,489

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

R	ELEVANCE TO PROJECT	PROJECT DESCRIPTION AND SCOPE OF WORK STV was the lead designer providing professional engineering services for the modification of an existing partial interchange to	
~	Structural design (bridges, retaining walls and noise barrier walls)	offices in Fairfax, VA, and Richmond, VA, performed the design work. The project scope included a total of approximately 1.3 miles of interstate auxiliary lane construction between the Valley View Boulevard and Hershberger Road interchanges, roadway	
√	Interstate and interchange roadway design	6,000 ft of new noise barrier walls, the realignment of a portion the Lick Run Greenway pedestrian and bicycle path, and a new shared used path bridge over I-581. This project was also designed to allow for the extension of Valley View Boulevard in the future	
✓.	Complex multi-phase MOT	This included the design and construction of stub-outs for the interchange ramps and installing conduits on the bridge and under the	in the second se
√	Adjacent project coordination	roadway for future traffic signals.	
✓	Stakeholder coordination		
\checkmark	Environmental impacts	EVALUATION CRITERIA HIGHLIGHTS	
dive	rging diamond interchange (DDI) to	<i>Innovative design and construction techniques</i> INTERCHANGE: During the design-build procurement, the STV team proposed a improve the existing partial interchange. The DDI provided many advantages over the one quadrant partial cloverleaf interchange	

diverging diamond interchange (DDI) to improve the existing partial interchange. The DDI provided many advantages over the one quadrant partial cloverleaf interchange proposed in the RFP document. The DDI **reduced the overall footprint of the interchange**, **reduced the required width of the bridge** carrying Valley View Boulevard over I-581 by 37.5 feet, and reduced the southbound I-581 deceleration lane by 900 feet. The DDI also **eliminated over 900 lf of stream relocation work**, significantly **reduced impacts to existing utilities**, and entirely **eliminated the need for the acquisition/demolition of five residential structures**, which significantly reduced project risks. STRUCTURES: STV developed design plans for the widening and rehabilitation of the bridge carrying Valley View Boulevard over I-581, a shared use path bridge over I-581 and ramps W and X, three retaining walls, an extension of an existing box culvert, and more than 6,000 ft of noise barrier walls. **Staged construction was implemented to complete the bridge widening, modification, and rehabilitation work on the bridge while maintaining traffic throughout construction.** MAINTENANCE: The existing bridge carrying Valley View Boulevard over I-581 was retrofitted to **eliminate the existing expansion joints and the new shared use path bridge is entirely jointless**.

Limiting impacts and strategies to minimize congestion during construction | I-581 is a critical linkage between I-81 and the City of Roanoke. STV developed a detailed TMP, which involved extensive coordination and input from various design disciplines, members of the construction team, VDOT, FHWA, the City of Roanoke, and other stakeholders. Integrating the construction and widening of the bridges and retaining wall structures was a critical component to the development of the Sequence of Construction (SOC) plans.

Coordinating with adjacent projects | STV developed a detailed TMP and corresponding SOC to address coordination of major work activities with two adjacent projects. These projects included the VDOT bridge replacement design-build project that was taking place concurrently on I-581 at the Elm Avenue interchange and a VDOT emergency bridge repair project for the bridge carrying Liberty Road over I-581. The VDOT emergency bridge repair project arose during construction and was located near the southern limits of the project, which resulted in both work zones overlapping one another. This required extensive coordination initially with the VDOT Salem District as they were developing design documents for the emergency bridge repair project and later VDOT's contractor who ultimately completed the bridge repairs so that traffic was maintained and major work activities between the two projects were closely coordinated.

Success managing risks | GEOTECHNICAL: During construction, the team encountered challenges when driving piles due to the highly variable rock surface. By having our geotechnical engineer on site during the pile installation work and STV's bridge engineers on call, we were able to redesign two foundation elements in a matter of hours allowing the contractor could get equipment to the next foundation element. ENVIRONMENTAL: The STV team addressed critical environmental issues during the design of the interchange improvements, including the management of water flows to maintain the pre-construction course, condition, capacity, and location of open waters to the greatest extent possible, and to prevent impacts to endangered species. PUBLIC INVOLEVMENT: Public understanding and acceptance of the DDI concept was essential to project success. STV hosted a Citizen's Information Meeting (CIM) supported by DDI animations to keep stakeholders and the traveling public informed about the safety, constructability, and financial value inherent in the DDI concept. This was vital to the project moving forward into construction.





ATTACHMENT 3.4.1(b)

LEAD DESIGNER - WORK HISTORY FORM

(LIMIT 1 PAGE PER PROJECT)

b. Name of the prime/ general	c. Contact information of the Client and	d. Construction	e. Construction	f. Contract Value (in thousands)		g. Design Fee for the Work
contractor responsible for overall	their Project Manager who can verify	Contract Start	Contract	Construction	Construction	Performed by the Firm identified
construction of the project.	Firm's responsibilities.	Date	Completion	Contract Value	Contract Value	as the Lead Designer for this
			Date (Actual	(Original)	(Actual or	procurement.(in thousands)
			or Estimated)		Estimated)	
Name: Balfour Beatty Branch JV	Name of Client: NCDOT					
	Phone: (919) 715-7000					
	Project Manager: Michael Penney	12/2018	07/2021	\$130,000	\$130,000 (est.)	\$6,000
	Phone: (919) 707-6619					
	Email: <u>mpenney@ncdot.gov</u>					
	b. Name of the prime/ general contractor responsible for overall construction of the project. Name: Balfour Beatty Branch JV	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.Name: Balfour Beatty Branch JVName of Client: NCDOT Phone: (919) 715-7000 Project Manager: Michael Penney Phone: (919) 707-6619 Email: mpenney@ncdot.gov	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 DateName: Balfour Beatty Branch JVName of Client: NCDOT Phone: (919) 715-7000 Project Manager: Michael Penney Phone: (919) 707-6619 Email: mpenney@ncdot.gov 12/2018	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 Datee. Construction ContractName: Balfour Beatty Branch JVName of Client: NCDOT Phone: (919) 715-7000 Project Manager: Michael Penney Phone: (919) 707-6619 Email: mpennev@ncdot.gov12/201807/2021	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 Datee. Construction Contract Contract Completion Date (Actual or Estimated)f. Contract Value Construction Contract Value (Original)Name: Balfour Beatty Branch JVName of Client: NCDOT Phone: (919) 715-7000 Project Manager: Michael Penney Phone: (919) 707-6619 Email: mpenney@ncdot.gov12/201807/2021\$130,000	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 Datee. Construction Contract Datef. Contract Value (in thousands)Name: Balfour Beatty Branch JVName of Client: NCDOT Phone: (919) 715-7000 Project Manager: Michael Penney Phone: (919) 707-6619 Email: mpenney@ncdot.govName of Client: NCDOT Phone: (919) 707-6619 Email: mpenney@ncdot.gov12/201807/2021\$130,000\$130,000 (est.)

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

	PROJECT DESCRIPTION AND SCOPE OF WORK		
RELEVANCE TO PRO	JECT The Fayetteville Outer Loop is critical for the Coastal Plain region of southeastern North Carolina and will help		200
 ✓ Interstate bridge and 	support the military, promote continued economic growth, strengthen the state's ability to attract and retain business	Proposed Geometry:	P-
roadway expansion	and industry, and reduce the volume of traffic on portions of the local street network.	 Shifts Mainline West 	
✓ 14 bridges	STV is providing design services, construction support, permit preparation/application, and as-built plans for the	Reduces ESA impacts	
✓ Multiple interchanges	Future I-295 Fayetteville Outer Loop from I-95 in Robeson County, NC, to south of SR 1003 (Camden Road) in		Mo
✓ Safety concerns	Cumberland County, NC. The approximately 6.1-mile design-build project will provide a 4-lane divided facility on a	- Improves signic distance	t
✓ Stakeholder/third party	new location for the North Carolina Department of Transportation (NCDOT).	 Improved access along 	
coordination	As lead designer STV is providing roadway and structures design hydraulic design permitting/environmental	Green Springs Road	193
✓ Complex MOT at I-95	tie-in services, railroad coordination, public information, intelligent transportation systems (ITS), and pavement marking	Les	ss sl
	design mainly from their Charlotte, NC, and Richmond, VA, offices. STV is also overseeing ROW acquisition.		wit

EVALUATION CRITERIA HIGHLIGHTS

Innovative design and construction techniques | STV has provided alternative technical concepts (ATCs) that exemplify roadway design innovation and will result in approximately \$8.2 million in savings to NCDOT related to construction cost, long-term maintenance, ROW, and construction scheduling for this section. Among the cost savings options are reducing bridge deck sizing by 72,000 SF, effectively reducing cost and long-term maintenance; decreasing borrow requirements by 35% to reduce hauling requirements and environmental impacts; minimizing wetland impacts by more than 30% and stream impacts by 12%; and reducing on-road truck loads by more than 140,000 loads.



Limiting impacts and strategies to minimize congestion during construction | STV implemented a traffic management strategy that eliminated on-road hauling of over 2 million CY of borrow excavation. Borrow sites were strategically identified with the contractor early on to serve off-road haul routes at both ends of the project. STV worked with the contractor to design and implement one of the state's first conveyor systems used to move borrow material over an active interstate (see picture left).

Coordinating with adjacent projects | STV is coordinating the horizontal and vertical geometry, superelevation, drainage, and right-of-way ties with the adjacent NCDOT TIP Project U-2519BA. STV also accommodated the future build-out of I-95 for an additional through lane in each direction at the trumpet interchange. Horizontal setbacks and vertical clearances were set to facilitate the future lanes at all bridges over I-95. STV also implemented geometry at all ramps to make sure that ramp ties and gores would continue work to simplify a modification of the interchange in the future.

