Response to Request for Qualifications

**ROUTE 606 BRIDGE REPLACEMENT OVER I-95 WITH 606 IMPROVEMENTS**

Spotsylvania County, Virginia

State Project Nos.: Route 606 Roadway Improvements (0606-088-653, C501), UPC 105463
Route 606 Bridge Replacement (0606-088-622, C501, B634), UPC 100829

Federal Project Nos.: Route 606 Roadway Improvements (STP-5111(272))
Route 606 Bridge Replacement (BR-5111(237))

Contract ID Number: C00105463DB89

Submitted By:

[Shirley Contracting Company, LLC]

In Association With:

[Dewberry]
3.2 - Letter of Submittal
February 4, 2016

Mr. Stephen D. Kindy, P.E.  RE: Route 606 Bridge Replacement Over I-95 With 606 Improvements
Alternate Project Delivery Office Spotsylvania County, Virginia
Virginia Department of Transportation Contract ID Number: C00105463DB89
1401 East Broad Street 3.2 Letter of Submittal
Richmond, Virginia 23219

Dear Mr. Kindy:

Shirley Contracting Company, LLC (Shirley), as the Offeror, is pleased to submit to the Virginia Department of Transportation (VDOT) our response to your Request for Qualifications (RFQ) for the project referenced above. With Dewberry as our Lead Designer, Shirley offers VDOT an experienced Team with a proven track record of delivering design-build projects on time, under budget, and with a partnering approach. To demonstrate our commitment and expertise, our Team, to date, has successfully completed over 25 design-build projects totaling more than $2 billion.

3.2.1 The full legal name and address of the Offeror is Shirley Contracting Company, LLC, 8435 Backlick Road, Lorton, VA 22079.

3.2.2 Our Point of Contact is: Michael E. Post, President/CEO/Manager
Garry A. Palleschi, Vice President 8435 Backlick Road, Lorton, VA 22079
8435 Backlick Road, Lorton, VA 22079 703-550-8100 (Phone) 703-550-9346 (Fax)
gpalleschi@shirleycontracting.com

3.2.3 Our Principal Officer is:

3.2.4 - Shirley Contracting Company, LLC, a limited liability company, will be the legal entity, will have financial responsibility for the Project and will have joint and several liability for the performance of the work. There are no liability limitations. Our bonding approach will be to provide performance and payment bonds for the total contract value and time period.

3.2.5 - The Lead Contractor for the Project will be Shirley Contracting Company, LLC and the Lead Designer will be Dewberry Consultants LLC.

3.2.6 - The full legal names and addresses of all affiliated and/or subsidiary companies of the Offeror are provided in Attachment 3.2.6 in the Appendix.

3.2.7 - Signed Certification Regarding Debarment Forms for Primary and Lower Tiered Covered Transactions are included in Attachment 3.2.7(a) and 3.2.7(b) in the Appendix.

3.2.8 - Shirley Contracting Company, LLC is currently prequalified (active status) with VDOT. Our Vendor Number is S018. A screen shot print out from VDOT’s on-line Prequalified list is provided as Attachment 3.2.8 in the Appendix.

3.2.9 - Included as Attachment 3.2.9 in the Appendix is a letter from our surety that provides evidence that we are capable of obtaining a performance and payment bond for the current estimated contract value, and that these bonds will cover the Project and any warranty periods.

3.2.10 - Virginia State Corporation Commission (SCC) and Virginia Department of Professional and Occupational Regulations (DPOR) registration information for all business entities on the Offeror’s team are included in Attachment 3.2.10. Evidence of registrations and licenses are provided in the Appendix to this Statement of Qualifications (SOQ).

3.2.11 - Shirley is committed to achieving the DBE participation goal of 15% for the entire value of the contract.

Sincerely,

Michael E. Post
President/CEO/Manager
3.3 - Offeror’s Team Structure
3.3 Offeror’s Team Structure

Introduction

Shirley Contracting Company, LLC (Shirley) has the experience and personnel to successfully manage all design-build elements of the Route 606 Bridge Replacement Over I-95 with 606 Improvements Project (the Project). Shirley, along with Dewberry Consultants LLC (Dewberry) as our Lead Designer, are VDOT’s most experienced design-build team having been awarded 16 VDOT design-build projects to date, valued at approximately $900 million. Each of these projects has provided our Team with a range of unique challenges that resulted in a level of experience that no other team can match.

To meet the challenges on the Project, our Team is committing experienced Team Members/Key Personnel with more than 14 years of design-build experience and a proven history working together in a partnering environment. This experience has allowed us to develop a thorough understanding of each other’s capabilities so that we can efficiently manage each discipline and reduce project risk.

Our Team brings additional design-build strength to the Project through our subconsultants and specialty firms. As shown in the table below and our Organizational Chart, we are including these firms to address specific elements to ensure a successful project for VDOT and the traveling public.

<table>
<thead>
<tr>
<th><strong>TEAM MEMBERS</strong></th>
<th><strong>VDOT DESIGN-BUILD PROJECTS</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>I-64 Capacity Improvements Segment I</td>
</tr>
<tr>
<td>Dewberry Consultants LLC</td>
<td>✓</td>
</tr>
<tr>
<td>Quinn Consulting Services, Inc.</td>
<td>✓</td>
</tr>
<tr>
<td>GeoConcepts Engineering, Inc.</td>
<td>✓</td>
</tr>
<tr>
<td>Diversified Property Services, Inc.</td>
<td>✓</td>
</tr>
<tr>
<td>Key Title</td>
<td>✓</td>
</tr>
</tbody>
</table>

3.3.1 Key Personnel

Information for the Key Personnel below is included as Attachment 3.3.1-Key Personnel Resume Forms:

<table>
<thead>
<tr>
<th>Key Personnel Position</th>
<th>Name</th>
<th>Firm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design-Build Project Manager</td>
<td>Joe Fragale, PE, DBIA</td>
<td>Shirley Contracting Company, LLC</td>
</tr>
<tr>
<td>Quality Assurance Manager</td>
<td>Tom Druhot, PE</td>
<td>Quinn Consulting Services, Inc.</td>
</tr>
<tr>
<td>Design Manager</td>
<td>Jeremy Beck, PE</td>
<td>Dewberry Consultants LLC</td>
</tr>
<tr>
<td>Construction Manager</td>
<td>Tom O’Brien</td>
<td>Shirley Contracting Company, LLC</td>
</tr>
</tbody>
</table>
3.3 **Offeror’s Team Structure**

Each individual has extensive experience in the design, construction and administration of VDOT design-build projects, as well as significant overall design and construction expertise.

Design-build projects require a high level of coordination and integration among the various disciplines as shown in Figure 3.3.1. It is crucial that Key Personnel have an extended history of working together and an understanding of how all project disciplines interact. A successful team must integrate the design, construction, QA/QC, right-of-way, utility, permitting, safety, 3rd party coordination, and public relations disciplines into a single, cohesive project.

To mitigate risks, our Team is *exceeding the Statement of Qualifications (SOQ) requirements* by committing the *Value Added* personnel below to the Project. These individuals will play and important role in our ability to complete the work ahead of schedule, under budget, and in a safe, quality manner with minimal resource requirements from VDOT.

<table>
<thead>
<tr>
<th>Value Added Position</th>
<th>Name</th>
<th>Firm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Structural Engineer</td>
<td>David Hieber, PE</td>
<td>Dewberry Consultants LLC</td>
</tr>
<tr>
<td>Environmental Manager</td>
<td>Kim Larkin</td>
<td>Dewberry Consultants LLC</td>
</tr>
<tr>
<td>Safety Manager</td>
<td>Charlie Wilson</td>
<td>Shirley Contracting Company, LLC</td>
</tr>
<tr>
<td>Public Relations Manager</td>
<td>Danielle Barber</td>
<td>Shirley Contracting Company, LLC</td>
</tr>
</tbody>
</table>

**3.3.2 Organizational Chart**

The Organizational Chart on the following page outlines the structure of our proposed Team. The “chain of command” shown on the chart by solid lines represents the primary reporting relationships. Dashed lines represent communication relationships between major project disciplines and participants.
3.3 Offeror’s Team Structure
3.3 Offeror’s Team Structure

The following narrative describes the functional relationships and communications among the Team.

**Design-Build Project Manager (Joe Fragale, PE, DBIA)** is tasked with full and complete authority over all aspects of the Shirley Team’s responsibilities. In addition to being the primary point of contact with VDOT after award of the Project, Joe has ultimate responsibility for Contract Management and to coordinate and integrate all project disciplines. He has full authority to resolve all disputes or disagreements through best efforts and good faith negotiations with the Department’s representatives. Joe will also work with our Team’s Public Relations Manager and VDOT to communicate with all third-party stakeholders and coordinate all public outreach efforts, public meetings, and answer project inquiries.

**Quality Assurance Manager (Tom Druhot, PE)** reports directly to the D-B PM and is completely independent from the construction operations and QC inspections. Tom has full responsibility for assuring that the Project is in compliance with the Contract Documents, manages all aspects of the QA program, and will direct the QA inspections by the QA inspector and independent QA testing technicians. This position is unique in that Tom has the autonomy to report findings directly to VDOT in addition to the D-B PM, and if the work is not in compliance with the Contract Documents, he has the authority to unilaterally halt or suspend the work and the responsibility to assure corrective action is taken before the work is accepted and certified for payment.

**Design Manager (Jeremy Beck, PE)** reports to the D-B PM and has overall responsibility for management of all aspects of the design process. Of vital importance is Jeremy’s role in integrating the various design disciplines with the construction, right-of-way, utility, and safety elements. He establishes and oversees the Design QA/QC program and ensures that design QA and QC functions shall be exclusively designated and shall not be assigned to perform conflicting duties or production work, as outlined in the *VDOT Minimum Requirements for Quality Assurance and Quality Control on Design-Build and P3 Projects*. Jeremy remains involved during the construction phase to support implementation of the design.

**Construction Manager (Tom O’Brien)** reports to the D-B PM and has the responsibility to manage all aspects of construction and the Quality Control process. Prior to construction, Tom will facilitate all constructability reviews for the design, work closely with the Utility Manager to plan relocations, and coordinate with the Right-of-Way Manager to prioritize and schedule acquisitions. During construction, he is on site at all times, and maintains the project schedule, coordinates with the QC Manager, Project Manager, and Superintendent to ensure all construction materials and activities are in accordance with the Contract Documents. Tom also communicates with the Design Manager to arrange for design engineer’s review of construction submittals and shop drawings.

**Value Added Positions**

Our Team is exceeding the SOQ requirements by committing the following Value Added positions:

- **Structural Engineer (David Hieber, PE)** reports directly to the Design Manager and is responsible for the structural design and integration of the bridge and other structure elements. The condition of the existing bridge is one of our Team’s critical risks and the Structural Engineer has been identified as a Value Added position to address this risk and the challenges that it presents during design and construction. David has led the design of multiple design-build bridge replacement projects over interstates. He will
oversee the structural design, complete load ratings for each phase of construction, and review all shop drawings.

▲ **Environmental Manager (Kim Larkin)** reports directly to the Design Manager and is responsible for all environmental wetland delineations, permit document development, cultural resources and endangered species coordination and surveys, permit submissions, and oversight of construction permit monitoring. Environmental constraints are a critical risk to the Project, which has led our Team to identify the Environmental Manager as a **Value Added** position to address this risk. Over the past 14 years, Kim has served in this capacity on each of our Team’s design-build projects.

▲ **Safety Manager (Charlie Wilson)** reports to the DB-PM and reviews all field activities to provide a safe environment for VDOT, construction personnel, and the traveling public. Safety is a core value for the Shirley Team and ensuring the safety of the public is paramount to the Team. To prove this commitment to safety we have identified the Safety Manager as a **Value Added** position. Charlie will train and inform our Team of the Project specific safety hazards and enforce all aspects of industry safety standards and Shirley’s Corporate Safety Policy.

▲ **Public Relations Manager (Danielle Barber)** is an in-house position that reports directly to the DB-PM. We have included this **Value Added** position since coordination with all third-party stakeholders is the responsibility of the design-build Team. Danielle’s primary responsibilities include communicating and coordinating with VDOT and the public regarding the project specific public outreach plan, attending public meetings and coordination with local media outlets.
3.4 - Experience of the Offeror’s Team
3.4 Experience of Offeror’s Team

Please see Attachment 3.4.1 for the Lead Contractor and Lead Designer Work History Forms.
3.5 - Project Risks
3.5 Project Risks

Design-build projects by their very nature have elements of risk which the Project Team must identify and address early in project development in order to effectively manage and mitigate these risks. Our Team’s proactive approach when dealing with project risks is a strength that is unmatched due to our Team’s extensive experience on design-build projects including interstate interchanges similar to this Project.

In preparation of this SOQ, we carefully reviewed all RFQ package documents and performed site visits to understand the existing site conditions and constraints with the goal of avoiding and reducing impacts from project risks. Our Team is committed to taking ownership of each risk factor and establishing strategies for risk mitigation.

The three most relevant and critical risks are:

CRITICAL RISK #1 – CONDITION OF EXISTING BRIDGE

Why the Risk is Critical

The existing Route 606 Bridge over I-95 has the lowest Health Index (52.88 out of 100) of any bridge over I-95 in the Fredericksburg District. According to the last published condition ratings of the various elements of the bridge, the deck has a rating of five out of nine, the superstructure (essentially the beams and bearings) a rating of six out of nine, and the substructure has a rating of four out of nine. The existing piers are in such poor condition that there is a significant amount of spalled concrete at the columns and caps as shown in Figure 1. Almost the entire reinforcing steel cage is exposed on many of the columns. The condition of the existing bridge raises two concerns:

1. The RFP plan is to keep the existing bridge open in its present traffic configuration until the first phase of the new bridge is constructed. However, due to the close proximity between the new and existing piers and abutments, vibration caused by driving of piles could cause further damage to the already compromised units. If vibration is severe enough to cause additional damage to the existing substructure, it could lead to the existing bridge being ruled unsafe and ultimately being closed, resulting in major impacts to motorists trying to cross I-95 until the first phase of construction is completed. Closure of the existing bridge would necessitate lengthy detours to be implemented, since the closest alternative crossings of I-95 are Guinea Station Road approximately 4-miles to the north and Paige Road approximately 2-miles to the south.

2. Once the first phase of the new bridge is constructed and traffic relocated to the new structure, the existing bridge over I-95 will be demolished. Typically, the existing bridge deck slab is saw-cut between the girders and large portions of the slab are removed in one piece. This is the quickest and least disruptive to traffic on the road underneath. With the poor condition of the existing deck
3.5 Project Risks

slab, it may not be possible to remove the slab in this manner, which would require the slab to be broken up in place for removal. This option presents a higher degree of risk due to the condition of the existing substructure as vibration during the demolition of the deck slab could further damage the existing piers, potentially causing a catastrophic failure of the existing bridge before demolition could be completed. Additionally, breaking up the deck over traffic has the inherent risk that pieces of concrete could “fall through the cracks” onto the roadway below.

Impact on the Project

The impact is primarily related to safety of the traveling public and travel time impact of the potential closure of the existing bridge if construction methods cause additional deterioration of the bridge elements. If vibration from driving the piles for the new bridge causes further damage to the existing bridge such that it is deemed unsafe to use, the traveling public that utilize Route 606 to cross I-95 would be forced to take a lengthy detour (to Guinea Station Road to the north or Paige Road to the south). Additionally, if the saw-cut slab removal method for existing deck demolition is not feasible, further disruptions to I-95 may be necessary for the alternate superstructure removal methods. There may also be a greater potential for construction debris to bypass the protective measures put in place for existing I-95 and Route 606 traffic given the existing deck condition, which could result in debris falling on I-95. While these conditions would be temporary until the first phase of the new bridge is constructed and opened, if it were to happen, it would cause major impacts to the public.

These possible impacts would be exacerbated by the opening of Dominion Raceway, which is scheduled for this year. Located just east of the northbound ramps, this mixed use development and multi-function raceway complex is anticipated to be a major economic engine and valued attraction for Spotsylvania County and the surrounding communities. Any unanticipated impacts to the bridge may significantly hinder fire-rescue response times, as Spotsylvania County Station No. 8 is located ½ mile west of the Project limits, and Caroline County’s Upper Caroline Fire Station is located about a few miles east of the Project limits along Route 606. In addition, other important stakeholders along Route 606 that would be impacted are the community of Thornburg as well as VDOT’s adjacent training academy complex.

Mitigation Strategies

Mitigation to minimize or eliminate impacts to the existing bridge during construction of the new bridge starts with evaluation of the potential vibration due to pile driving. The Project geotechnical engineer will complete a comprehensive assessment of the existing subsurface conditions at each substructure unit during the field investigation to be used in evaluating the vibration potential for driven piles at the abutments and pier. If it is determined that the vibration levels associated with driven piles will be high enough to affect the existing bridge elements, then we will evaluate alternative methods to install the piles and consider other deep foundation options. One option to driven piles would be to pre-drill the piles to a depth that would minimize or eliminate vibration on the existing structure and then further drive the piles to the required depth. Alternatively, we could pre-drill to the bottom of pile elevation which would eliminate driving completely. We would also evaluate supporting the new abutments and pier on drilled shafts, which eliminates the vibration completely, and thereby minimizes the risk of unanticipated impacts to Route 606 and I-95.

Mitigation to minimize safety concerns from the deck slab demolition begins with an evaluation of the existing deck slab to determine the best and safest way to demolish and remove the concrete. Some of these demolition options include:
3.5 Project Risks

- Sectional saw cutting of the slab between girder flanges and removal by hoisting sections from core drilled holes; and
- Jackhammering or hoeramming of the deck slab with equipment positioned on top of the bridge deck and material is captured below in a shielded dumpster truck.

At the same time, an understanding and evaluation of the measures that will need to be put into place to protect motorists on both I-95 under the bridge and on the new bridge adjacent to the demolition work will be made. This assessment will determine the best system and procedures necessary to safely demolish the bridge while protecting the traveling public and minimizing mobility impacts. Possible solutions include:

- Placing protective sheeting between existing girders to protect against falling debris
- Placing a netting system under the existing bridge to catch any falling debris, or
- Temporarily stopping I-95 traffic for short durations during overnight hours when critical elements are being demolished and removed.

With a focus on safety and minimizing impacts to public traffic, we have successfully completed bridge demolition and construction over interstates in several recent projects, including I-66 and I-95 in Northern Virginia and I-64 in Staunton. Given the “diamond” configuration of this interchange, a possible solution is to detour I-95 traffic up and down the interchange ramps during the overnight hours of lowest volume, as was successfully utilized on our I-64 and I-95 projects. This method was a win-win, as it allowed traffic to constantly flow (as opposed to a complete stoppage), and it allowed a two to three hour window for safe bridge demolition instead of a normal 15-20 minute stoppage. With police control of the ramp intersections along Route 606, even thru traffic on Route 606 can be maintained during these operations. Full 24-hour analysis of construction-year traffic volumes will be completed ensuring operations are conducted at the hours with the absolute lowest volumes.

Role of VDOT and Other Agencies
We anticipate VDOT will be responsible for review and approval of all plans, construction submittals, and traffic control operations. With work going over and adjacent to an interstate highway, we assume that the FHWA will also be involved in the process and that VDOT will coordinate with them. We also foresee coordination during construction with other agencies and project stakeholders, such as Virginia State Police, Spotsylvania and Caroline County Emergency Services, and Dominion Raceway to achieve project success.

CRITICAL RISK #2 – ENVIRONMENTAL CONSTRAINTS

Why the Risk is Critical
The ability to obtain the necessary environmental permits, authorizations and clearances is a proven risk to project schedules and costs. Our Team recognizes that environmental agencies often have specific notification and schedule requirements, and are not necessarily tied to the schedule identified by the RFP. Environmental impacts both documented and undocumented must be identified and addressed at the earliest stages of a project design to avoid scope conflicts, redesign, schedule delays, and/or cost impacts. These concerns must be addressed from design through construction to ensure the measures noted in design and in the permits are wholly implemented in the field. Based on our review of the information provided and additional database reviews, our Team has identified the following environmental elements as risks which could adversely affect the Project scope, schedule, or cost:
3.5 Project Risks

- **Virginia Outdoors Foundation (VOF) Preservation Easement**: VOF easements are established to preserve the natural, historic, scientific, open-space and recreational areas of Virginia. Unavoidable impacts to VOF preservation easements typically require mitigation that is both adjacent to and of equal ecological value. The existence of the VOF easement on the north side of Route 606 is a critical risk as projects are required to avoid impacts to these properties. It appears the conceptual plans identify cut and fill operations as being necessary within the VOF easement, as well as the potential for utility relocation encroachments on the property.

- **Hazardous Materials from Registered Tank Facilities**: There are six registered tank facilities in or directly adjacent to the Project area with seven documented releases by the Department of Environmental Quality (DEQ). These cases are all closed; however, a closure does not ensure the Project site is void of hazardous materials. The risk is the potential to encounter hazardous waste in the soils, subsoils, and groundwater. This risk is greatest in areas of excavation such as bridge piers, abutments and stormwater management facilities, requiring agency coordination and approvals as well as special treatment and disposal. Additionally, the temporary construction easement appears to encroach over the Third Generation LP underground storage tanks or monitoring wells, potentially requiring costly design and construction alternatives to avoid impacts.

- **Wetland Impacts**: It appears from available information the proposed stormwater management basins may be located within forested wetland areas. Recently the EPA has been an active party in all project permitting requiring extensive avoidance and minimization justification of impact to wetland areas, particularly for stormwater management facilities.

- **Cultural Resources**: Based on the information provided it is unclear if the Cultural Resources authorization included the entire project area. The Project limits provided appear to exclude a portion of the proposed project design, particularly the relocated section of Mallard Road, utility relocations, and stormwater management facilities. As Section 106 compliance is a requirement of project permitting, and the permitting agencies conduct their own Section 106 coordination, the Virginia Department of Historic Resources could require a Phase I Archaeological survey if the relocation of Mallard Road was not included in the SHPO coordination conducted to date.

**Impact on the Project**

The environmental risk identified could adversely impact the schedule, scope, and cost as follows:

- **VOF Easement**: Encroachments on the VOF property typically requires substantial avoidance documentation and, if avoidance is not feasible, the encroachments require mitigation that is adjacent to and equal to the encroachments. The property easement negotiations and acquisition of “equal” mitigation could take considerable time, impacting the schedule. Avoidance during design could involve additional project costs, including the relocation of utilities to the opposite side of the road with adequate easements, or the construction of retaining walls to reduce fill slopes.

- **Hazardous Materials**: Should contaminated materials be located during geotechnical investigations or construction adjacent to or downgradient of the seven documented petroleum release sites, additional soil testing, agency coordination, and potentially remediation steps would need to be taken, impacting the project schedule and leading to an increase in project costs.

- **Wetland Impacts**: The Clean Water Act Section 404(b)(1) guidelines requires avoidance and minimization of impact to Waters of the U. S.. If wetlands are found to occur within the proposed stormwater management facilities or other locations, design efforts must be made to avoid and minimize impacts. These efforts could require additional right-of-way from parcels not originally detailed in the conceptual plans causing potential schedule delays from redesign and right-of-way negotiations/acquisitions.
3.5 Project Risks

- **Cultural Resources:** The requirement to conduct detailed cultural resource surveys during the Project permitting process would adversely impact the project schedule and increase costs. It could lead to the identification of undocumented cultural resource sites, which would impact the schedule with the timing of surveys, and if cultural resource sites are unavoidable with design, then additional elements of survey and Section 106 coordination could be required. Project costs would also be affected and would include the costs of the survey and coordination, and a potential redesign to avoid the resource.

**Mitigation Strategies**

Our Team has developed strategies to address this risk beginning during the RFQ and RFP phase and continuing through final design and construction. These strategies include:

- **Identifying Constraints:** During the RFQ stage, our Team begins by identifying the Project constraints and potential risks such as the VOF property, wetlands, and cultural resources;

- **Creating Visual Representations:** Utilizing the constraint information, we create a MicroStation “Constraints Map” file shown in Figure 2 to ensure design and construction limits avoid impacts to the identified constraints. Our Team also works to fill in information gaps, such as the limits of the “Area of Potential Effect” identified in the existing VDOT Section 106 coordination during the RFP process. This aides in determining if additional studies or surveys are required for the Project design, to ensure we provide a comprehensive Technical Proposal.

- **Delineations and Surveys:** Once NTP is issued and immediately upon property access approvals, we conduct our wetland delineation and survey, and incorporate the wetland limits into our Constraints Maps to ensure the design team is utilizing up-to-date information to incorporate avoidance and minimization techniques required by the permitting agencies.
3.5 **Project Risks**

- **Proactive Studies and Interagency Coordination:** Our Team identifies the areas of deep cuts early to determine if there is a potential to encounter hazardous materials and would likely place geotechnical borings in this location to detect if there is any odor emanating from the subsoils, and coordinate the necessary studies with VDOT early in the Project process. If necessary, our Team can provide a geoprobe at the same time as the geotechnical studies to assist with early identification of contamination levels if they exist. This strategy helps identify issues early to allow for testing and agency coordination early in the design process.

In addition to the processes and studies described above, we also look for ways which design modifications can be incorporated to further reduce or avoid impacts. Early consideration has been given to the following modifications to help reduce concerns associated with the environmental constraints:

- **Horizontal Alignment Adjustment:** a minor shift in the horizontal alignment to the south could eliminate the grading activities within the anticipated VOF area, and a modification slightly shifting the roundabout to the south could also avoid VOF easements. Coordinating this during the RFP and final design processes will ensure right-of-way limits are consistent with previous concepts, but could result in a streamlined process for obtaining the permits needed to complete the Project.

- **Stormwater Management Adjustments:** shifting the position of the stormwater management basin, or incorporating minor grading modifications, may allow us to reduce or avoid wetland impacts once final wetland and stream surveys are completed. Stormwater management grading adjustments may also allow us to avoid excavations in hazardous material areas, eliminating the need to treat contaminated soils or dispose of them in only certified landfills.

Once NTP is issued and immediately upon property access approvals, we conduct our wetland delineation and survey, and incorporate the wetland limits into our constraints maps to make sure the Project design team is utilizing up to date information in the design process. We can then begin to address the required avoidance and minimization techniques to assist in obtaining timely regulatory permits and fulfill any concerns of the Environmental Protection Agency (EPA) during the permitting process.

Our Team identifies the areas of deep cuts early to determine if there is a potential to encounter hazardous materials and would likely place geotechnical borings in this location to detect if there is any odor emanating from the subsoils, and coordinate the necessary studies with VDOT early in the Project process. If necessary, our Team can provide a geoprobe at the same time as the geotechnical studies to assist with early identification of contamination levels if they exist. This strategy helps identify issues early to allow for testing and agency coordination early in the design process. This early identification is utilized by our Team to alter the design if possible and minimize deep cuts or contain roadside or stormwater drainage in pipes to avoid exposing contaminated groundwater to surface waters.

**Role of VDOT and Other Agencies**

At the outset of preliminary design and completion of additional field surveys, we anticipate VDOT will provide or identify the limits of the original Section 106 Cultural Resources clearances and whether additional studies are necessary to assist with any revisions to the Categorical Exclusions (CE) once the findings of the study have been completed. Following completion of field surveys and development of plans, VDOT will be involved in review of the plans to confirm that limits of work are within the studied and allowable project limits. That verification allows for right-of-way plans and ultimately construction plans to be approved by VDOT. Additional agency involvement is expected to include the DEQ and the US Corps of Engineers (COE) for obtaining permits.
CRITICAL RISK #3 - GEOTECHNICAL SITE CONDITIONS

Why the Risk is Critical

Geotechnical conditions are a critical risk because of the potential impact existing soils and soil properties can have on permanent elements of the Project. These impacts include:

- Settlement of materials;
- Downdrag on structural foundations;
- Global instability;
- Corrosion of concrete and metals; and
- The inability to establish vegetation and plants due to the chemical properties of subsurface soils.

The proper identification of existing soil types is critical to identifying effective remediation and treatment plans to be incorporated into the construction plans. Incorrect evaluation of geotechnical conditions could result in reduced durability and increased long-term damage to the permanent improvements, and could increase the cost of repairs and long-term maintenance.

Impact on the Project

As noted above, settlement of materials in pavement and bridge areas, downdrag on structural foundations, global instability, corrosion of concrete and metals, and the inability to establish vegetation and plants are all impacts which could result in increased long-term maintenance costs or detrimental structural impacts. Improper identification of the existing soil types could lead to development of improper or insufficient design details and processes, which could either inadequately address the geotechnical challenges, or create additional challenges otherwise not anticipated.

Based on the test results provided in the geotechnical data report (GDR), we anticipate soils at subgrade elevations will predominately consist of lean clays, clayey sands, and fat clays/elastic silts, all exhibiting relatively high moisture content. These wet and cohesive soils will require modifications to avoid long-term settlement and subsequent pavement distress and downdrag on structural foundations. Cohesive sediments also usually exhibit lower CBR values and are generally considered unsuitable for the support of pavements. Additionally, clay-rich, cohesive sediments can result in slope and global instability, especially where they contact adjacent granular sediments which are more permeable to groundwater.

Corrosive soils are expected to be encountered and are due to the oxidation of sulfide minerals, primarily pyrite and marcasite (FeS2), which react with atmospheric oxygen and moisture to form sulfuric acid. When buried deeply, or located beneath the water table, the sulfide minerals in the sediments are held in anaerobic conditions, which prevents their oxidation. However, upon excavation and exposure to the atmosphere, the oxidation of the sulfides proceeds rapidly with negative consequences. Exposure of these soils to the atmosphere results in the formation of sulfuric acid which can aggressively attack both concrete and ferrous metals. The sulfuric acid is also responsible for the development of free aluminum ions in the soil, which is toxic to plants and can adversely impact efforts to revegetate cut slopes and embankments.

Mitigation Strategies

Mitigation of this risk begins with an aggressive geotechnical program focused on gathering the necessary field data early in the design process to properly identify the types of soils within the limits of the Project. Based on our review of the RFQ GDR, additional tests will need to be completed to determine if the soils are the Tertiary Terrace Deposits and the underlying Potomac Formation, or if they are the Pliocene age...
3.5 Project Risks

Yorktown Formation. Examination of detailed mapping conducted by the USGS (including deep coreholes advanced on either side of I-95 at the Route 606 intersection) indicates that soils identified in the GDR as the Potomac Formation more closely match the Pliocene age Yorktown Formation. The classification of the relatively soft sediments intercepted by the borings described in the GDR as blue-gray sandy lean clay, gray fat clay, and gray fat clay with sand, all seem to compare more favorably with the published descriptions of the Yorktown Formation rather than the dense, hard (overconsolidated) kaolinitic sands, silts and clays of the Potomac Formation. Similarly, the overlying quartz gravels, sand and clays identified in the GDR as Tertiary Terrace Deposits are an unnamed Pliocene age sand and gravel formation. The additional testing completed by our Team will be geared towards confirmation of the proper soil types and classifications, which allows us to tailor our geotechnical recommendations and treatment methods to properly and completely address the challenges with those types of soils.

Regardless of the type of soils encountered and their classification, our Team is prepared to develop comprehensive geotechnical solutions to address the potential challenges. We have worked on 25 design-build projects together, including the I-64 Segment I project which required treatment of Yorktown Formation soils, the Route 27/244 Interchange which required geotechnical solutions to address challenges associated with the Potomac Formation, and work in Spotsylvania County which encountered corrosive soils. This experience leads us to recognize the importance of a comprehensive geotechnical program that considers all design options and construction constraints, as well as the risk of unexpected delays to the schedule if soil conditions are not properly identified early in the design process. Based on our understanding of the types of soils expected on this Project, and our past experience in dealing with these types of soils, we have identified the following potential mitigation strategies:

- **Bridge Construction:** For bridge embankments and foundations, the placement of fill material behind the abutments induces stresses on the soils, requiring consideration for global instability and consolidation settlement. Differential settlement may also cause localized distress of bridge joints and irregularities in the pavement surface. The addition of fill on the soft and compressible soils may result in negative skin friction resistance for bridge piles as well as lateral squeeze of foundation soils which may result in pile heave. To mitigate these concerns, our Team will perform in-situ tests such as Cone Penetrometer Testing, Dilatometer Testing, and Pressuremeter Testing. Lab samples will undergo consolidation and triaxial shear strength testing in order to determine compressibility and shear strength characteristics of underlying soils. Preconsolidation of compressible soils will be considered and analyzed in relation to the overall construction schedule. Piezometers will be installed within the influence zone of the settlement to monitor pore pressure dissipation. Drivability of bridge piling will be evaluated using wave equations and dynamic load testing. To counteract forces due to negative skin friction, we will consider techniques such as pre-drilling of driven piles or use of individual pile casings that will isolate the piling from the compressible soils.

  *Our Team has experience with the use of lightweight fill materials such as foam concrete to reduce abutment settlements. At the Route 27/244 Interchange Project in Arlington, a combination of global stability piles and lightweight fill was utilized to eliminate global stability, slope stability, and settlement concerns associated with embankment fill immediately behind the new bridge abutments which were located above Potomac Clay soils.*

- **Addressing Corrosive Soils:** Results of corrosion analyses presented in the GDR show pH values below 5.5, which is considered corrosive according to the AASHTO LRFD bridge design manual. In addition, several samples with higher pH values showed the presence of pyritic sulfur. Additional
3.5 Project Risks

testing will be performed in the vicinity of pile foundations, bridge abutments, and culverts to evaluate the severity of corrosion and delineate the limits of the corrosive soils. Where soils are confirmed corrosive, we will select the most effective corrosion protection for the type of structure. Mitigation measures which our Team has utilized in the past include removal and replacement of the acidic soils; lime treatment of soils; encapsulation of the materials with clayey soils to prevent heavy metal run-off and exposure to atmospheric oxygen; use of over-sized piles to account for potential soil chemical attacks; or treatment of piles and culverts to counteract the effects of acidic soils.

■ Pavement Construction: Multiple alternatives or combinations thereof for modification of unsuitable materials will be developed to ensure the long-term stability of pavements and subgrade soils. These include undercut and replacement of unsuitable material, soil-cement modification, and/or removal and replacement with suitable fill and geogrid material. Soil-cement modification will involve determination of moisture density relations for soil-cement mixtures as well as unconfined compressive strength and elastic modulus of compacted cylinders molded with varied percentages of cement. Each alternative will be evaluated and the subgrade treatment option will be selected considering an analysis of performance, constructability, and the impact to the overall schedule.

Our Team has successful relevant experience with these applications on several recent Design-Build Projects. On the Fairfax County Parkway - Phase III D-B Project, our Team used an 8” cement-stabilized subgrade treatment program, while on the University Boulevard/Hornbaker Road D-B Project in Prince William County a 12” lime-stabilized subgrade program was used to treat the clayey expansive soils. These methods have a secondary benefit to each project by reducing the amount of truck trips entering and leaving the work zone onto public roads, thus increasing the safety to the public. The technology and methods used will be tailored to the field conditions specifically encountered on this Project.

As is the case on any project, unexpected conditions or challenges can be identified during construction despite a complete and thorough geotechnical investigation program. To address this challenge, we will utilize QC staff who are experienced in dealing with these types of soil conditions and constraints, and who are familiar in coordinating with our geotechnical sub-consultant and their materials testing staff. This close coordination between construction, inspection, and testing staff ensures that if field conditions are different than expected, additional tests can be quickly completed to identify acceptable solutions while also maintaining the project schedule.

Role of VDOT and Other Agencies
At the outset of design, our Team will meet with VDOT to ensure the geotechnical investigation and testing plan is acceptable. Following completion of the testing, we anticipate VDOT will review the recommendations for treatment of soils and geotechnical challenges identified in the GDR. Comments identified through VDOT’s review will be addressed by our Team and incorporated into the roadway and bridge construction plans and final GDR prior to plan approval and construction. During construction, VDOT’s role will consist of completing the Independent Assurance and Independent Verification as outlined in the VDOT QA/QC manual. Since ownership and maintenance of the new facility will be the responsibility of VDOT, we expect little to no involvement from other agencies as related to the geotechnical challenges and recommendations.
2.10 - C-78 Form
ATTACHMENT 2.10

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION

RFQ NO. C00105463DB89
PROJECT NO.: 0606-088-653, C501 & 0606-088-622, C501, B634

ACKNOWLEDGEMENT OF RFQ, REVISION AND/OR ADDENDA

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

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

1. Cover letter of RFQ – December 7, 2015 (Date)

2. Cover letter of RFQ Addendum#1 – January 19, 2016 (Date)

3. Cover letter of (Date)

February 4, 2016

SIGNATURE

DATE

Michael E. Post
PRINTED NAME

President/CEO/Manager
TITLE
3.1.2 - SOQ Checklist
ATTACHMENT 3.1.2

Project: 0606-088-653, C501 & 0606-088-622, C501, B634
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.

<table>
<thead>
<tr>
<th>Statement of Qualifications Component</th>
<th>Form (if any)</th>
<th>RFQ Cross reference</th>
<th>Included within 15-page limit?</th>
<th>SOQ Page Reference</th>
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<td>Section 3.1.2</td>
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<td>Affiliated/subsidiary companies</td>
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## ATTACHMENT 3.1.2

**Project:** 0606-088-653, C501 & 0606-088-622, C501, B634

**STATEMENT OF QUALIFICATIONS CHECKLIST AND CONTENTS**

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## ATTACHMENT 3.1.2

Project: 0606-088-653, C501 & 0606-088-622, C501, B634

STATEMENT OF QUALIFICATIONS CHECKLIST AND CONTENTS

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3.2.6 - Affiliated/Subsidiary Companies
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.

- **X** The Offeror does not have any affiliated or subsidiary companies.
- **X** Affiliated and/or subsidiary companies of the Offeror are listed below.

<table>
<thead>
<tr>
<th>Relationship with Offeror (Affiliate or Subsidiary)</th>
<th>Full Legal Name</th>
<th>Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>Affiliate</td>
<td>Atkinson Construction</td>
<td>7500 Old Georgetown Road, Bethesda, MD 20814</td>
</tr>
<tr>
<td>Affiliate</td>
<td>Atkinson Contractors, LP</td>
<td>7500 Old Georgetown Road, Bethesda, MD 20814</td>
</tr>
<tr>
<td>Affiliate</td>
<td>Shirley Design/Build, LLC</td>
<td>8435 Backlick Road, Lorton, Virginia 22079</td>
</tr>
<tr>
<td>Affiliate</td>
<td>SCC Infrastructure</td>
<td>7500 Old Georgetown Road, Bethesda, MD 20814</td>
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<tr>
<td>Affiliate</td>
<td>Clark Construction Group, LLC</td>
<td>7500 Old Georgetown Road, Bethesda, MD 20814</td>
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<tr>
<td>Affiliate</td>
<td>Clark Enterprises</td>
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<td>Affiliate</td>
<td>Clark Civil Construction, LLC</td>
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<td>Affiliate</td>
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<td>Affiliate</td>
<td>Clark Facility Services, LLC</td>
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<tr>
<td>Affiliate</td>
<td>Clark Global Technologies, LLC</td>
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## Affiliated and Subsidiary Companies of the Offeror

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<th>Relationship with Offeror (Affiliate or Subsidiary)</th>
<th>Full Legal Name</th>
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<td>Affiliate</td>
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<td>Affiliate</td>
<td>Clark Real Estate Advisors, LLC</td>
<td>7500 Old Georgetown Road, Bethesda, MD 20814</td>
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<td>Affiliate</td>
<td>Clark/Balfour Beatty NCE, A Joint Venture</td>
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<td>Affiliate</td>
<td>Edgemoor Real Estate Services, LLC</td>
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<td>Affiliate</td>
<td>Innovative Infrastructure, LLC</td>
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<td>Affiliate</td>
<td>Loudoun County Transportation Networks, LLC</td>
<td>7500 Old Georgetown Road, Bethesda, MD 20814</td>
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<td>Affiliate</td>
<td>Metro Earthworks,</td>
<td>8435 Backlick Road, Lorton, Virginia 22079</td>
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<td>Affiliate</td>
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<td>Charlottesville Bypass Constructors, A Joint Venture</td>
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<td>Affiliate</td>
<td>Capital Rail Constructors, a JV</td>
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<tr>
<td>Affiliate</td>
<td>Maryland Transit Connectors</td>
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3.2.7 - Debarment Forms
ATTACHMENT NO. 3.2.7(a)

CERTIFICATION REGARDING DEBARMENT
PRIMARY COVERED TRANSACTIONS

Project No.: 0606-088-653, C501 & 0606-088-622, C501, B634

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, and declared ineligible or voluntarily excluded from covered transactions by any Federal department or agency.

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

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

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

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

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

Signature ___________________________ Date 2/4/16 ___________________________

President/CEO/Manager ___________________________ Title ___________________________

______________________________

Shirley Contracting Company, LLC

______________________________

Name of Firm
ATTACHMENT NO. 3.2.7(b)

CERTIFICATION REGARDING DEBARMENT
LOWER TIER COVERED TRANSACTIONS

Project No.: 0606-088-653, C501 & 0606-088-622, C501, B634

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

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

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

Signature  Date  Title

Executive Vice President

[Signature]

Name of Firm
ATTACHMENT NO. 3.2.7(b)

CERTIFICATION REGARDING DEBARMENT
LOWER TIER COVERED TRANSACTIONS

Project No.: 0606-088-653, C501 & 0606-088-622, C501, B634

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

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

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

[Signature] 1/21/2016
Signature  Date

President
Title

GeoConcepts Engineering, Inc.
Name of Firm
ATTACHMENT NO. 3.2.7(b)

CERTIFICATION REGARDING DEBARMENT
LOWER TIER COVERED TRANSACTIONS

Project No.: 0606-088-653, C501 & 0606-088-622, C501, B634

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

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

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

[Signature] 1-4-16  [Settlement Officer]
Signature  Date  Title

[Name of Firm]

[Old Dominion Settlements] Irraw T/A Key Title
ATTACHMENT NO. 3.2.7(b)

CERTIFICATION REGARDING DEBARMENT
LOWER TIER COVERED TRANSACTIONS

Project No.: 0606-088-653, C501 & 0606-088-622, C501, B634

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

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

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

[Signature] 1/4/16  [President]

[Date]  [Title]

Diversified Property Services, Inc

Name of Firm
ATTACHMENT NO. 3.2.7(b)

CERTIFICATION REGARDING DEBARMENT
LOWER TIER COVERED TRANSACTIONS

Project No.: 0606-088-653, C501 & 0606-088-622, C501, B634

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

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

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

[Signature]

February 1, 2016 President

<table>
<thead>
<tr>
<th>Signature</th>
<th>Date</th>
<th>Title</th>
</tr>
</thead>
</table>

Quinn Consulting Services, Inc.

Name of Firm
ATTACHMENT NO. 3.2.7(b)

CERTIFICATION REGARDING DEBARMENT
LOWER TIER COVERED TRANSACTIONS

Project No.: 0606-088-653, C501 & 0606-088-622, C501, B634

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

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

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

January 21, 2016
Signature

Date

VP of Business Development
Title

Specialized Engineering
Name of Firm
3.2.8 - VDOT Prequalification Certificate
Vendor ID: S1060
Vendor Name: SHEPAUL ENTERPRISES, INC.
Prequal Exp: 09/30/2016

-- PREQ Address --
P. O. BOX 1638
BECKLEY, WV 25802-1638
Phone: 304-877-6451
Fax: 304-877-5789

Bus. Contact: HAPUARACHY, SUMITH PETER
Email: SH1912BECK@AOL.COM

-- DBE Information --
DBE Type: N/A
DBE Contact: N/A

Vendor ID: S018
Vendor Name: SHIRLEY CONTRACTING COMPANY, LLC
Prequal Exp: 09/30/2016

-- PREQ Address --
8435 BACKLICK RD.
LORTON, VA 22079-1403
Phone: 703-550-8100
Fax: 703-550-7897

Bus. Contact: CLYMORE, DANIEL EDWARD
Email: DCLYMORE@SHIRLEYCONTRACTING.COM

-- DBE Information --
DBE Type: N/A
DBE Contact: N/A
3.2.9 - Surety Letter
January 27, 2016

Stephen D. Kindy, P.E.
Alternate Project Delivery Office
Virginia Department of Transportation
1401 East Broad Street
Richmond, VA 23219

Re: Request for Qualifications - Contract ID Number: C00105463DB89 - Design-Build Project
Route 606 Bridge Replacement Over I-95 With 606 Improvements
Spotsylvania County, Virginia
Estimated Contract Value: $13,600,000

Dear Mr. Kindy:

Travelers Casualty and Surety Company of America (A.M. Best Financial Strength Rating A++, Financial
Size Category XV) and their co-surety partners, have the privilege of providing surety bonds for Shirley
Contracting Company, LLC. The available bonding capacity on individual projects is in excess of
$500,000,000 with an aggregate of $5,000,000,000.

In our opinion, Shirley is one of the finest, best managed construction firms in the country. Shirley has
handled each of its projects in a professional manner and completed all satisfactorily.

As surety for Shirley Contracting Company, LLC, Travelers Casualty and Surety Company of America, is
capable of obtaining 100% Performance Bond and 100% Labor and Materials Payment Bond in the
amount of the anticipated cost of construction, and said bonds will cover the project and any warranty
periods as provided for in the Contract Documents on behalf of the Contractor, in the event that such firm
be the successful bidder and enter into a contract for this project, subject to acceptable review of the
contract documents and bond forms, financing, availability of reinsurance, and Shirley Contracting
Company, LLC continuing to satisfy other underwriting considerations at the time the bonds are
requested.

This letter is not an assumption of liability and is issued only as a reference request from our client.

Sincerely,

Travelers Casualty and Surety Company of America
A.M. Best Rating A++ XV

By:
Karen C. Bowling, Attorney-in-Fact
POWER OF ATTORNEY

Farmington Casualty Company
Fidelity and Guaranty Insurance Company
Fidelity and Guaranty Insurance Underwriters, Inc.
St. Paul Fire and Marine Insurance Company
St. Paul Guardian Insurance Company

St. Paul Mercury Insurance Company
Travelers Casualty and Surety Company
Travelers Casualty and Surety Company of America
United States Fidelity and Guaranty Company

Attorney-In Fact No. 219657
Certificate No. 006586512

KNOW ALL MEN BY THESE PRESENTS: That Farmington Casualty Company, St. Paul Fire and Marine Insurance Company, St. Paul Guardian Insurance Company, St. Paul Mercury Insurance Company, Travelers Casualty and Surety Company, Travelers Casualty and Surety Company of America, and United States Fidelity and Guaranty Company are corporations duly organized under the laws of the State of Connecticut, that Fidelity and Guaranty Insurance Company is a corporation duly organized under the laws of the State of Iowa, and that Fidelity and Guaranty Insurance Underwriters, Inc., is a corporation duly organized under the laws of the State of Wisconsin (herein collectively called the "Companies"), and that the Companies do hereby make, constitute and appoint

Diana L. Parker, and Karen C. Bowling

of the City of Columbia, State of Maryland, their true and lawful Attorney(s)-in-Fact, each in their separate capacity if more than one is named above, to sign, 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 2nd day of December, 2015.

Farmington Casualty Company
Fidelity and Guaranty Insurance Company
Fidelity and Guaranty Insurance Underwriters, Inc.
St. Paul Fire and Marine Insurance Company
St. Paul Guardian Insurance Company

St. Paul Mercury Insurance Company
Travelers Casualty and Surety Company
Travelers Casualty and Surety Company of America
United States Fidelity and Guaranty Company

State of Connecticut
City of Hartford ss.

By: ____________________________
Robert L. Raney, Senior Vice President

On this the 2nd day of December, 2015, before me personally appeared Robert L. Raney, who acknowledged himself to be the Senior Vice President of Farmington Casualty Company, Fidelity and Guaranty Insurance Company, Fidelity and Guaranty Insurance Underwriters, Inc., St. Paul Fire and Marine Insurance Company, St. Paul Guardian Insurance Company, St. Paul Mercury Insurance Company, Travelers Casualty and Surety Company, Travelers Casualty and Surety Company of America, and United States Fidelity and Guaranty 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, 2016.

Marie C. Tetreault, Notary Public

58440-8-12 Printed in U.S.A.
This Power of Attorney is granted under and by the authority of the following resolutions adopted by the Boards of Directors of Farmington Casualty Company, Fidelity and Guaranty Insurance Company, Fidelity and Guaranty Insurance Underwriters, Inc., St. Paul Fire and Marine Insurance Company, St. Paul Guardian Insurance Company, St. Paul Mercury Insurance Company, Travelers Casualty and Surety Company, Travelers Casualty and Surety Company of America, and United States Fidelity and Guaranty 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 attestating bonds and undertakings and other writings obligatory in the nature thereof, and any such Power of Attorney 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 undertaking to which it is attached.

I, Kevin E. Hughes, the undersigned, Assistant Secretary, of Farmington Casualty Company, Fidelity and Guaranty Insurance Company, Fidelity and Guaranty Insurance Underwriters, Inc., St. Paul Fire and Marine Insurance Company, St. Paul Guardian Insurance Company, St. Paul Mercury Insurance Company, Travelers Casualty and Surety Company, Travelers Casualty and Surety Company of America, and United States Fidelity and Guaranty Company do hereby certify that the above and foregoing is a true and correct copy of the Power of Attorney executed by said Companies, which is in full force and effect and has not been revoked.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the seals of said Companies this 27th day of January, 2010.

[Signature]
Kevin E. Hughes, Assistant Secretary

To verify the authenticity of this Power of Attorney, call 1-800-421-3880 or contact us at www.travelersbond.com. Please refer to the Attorney-In-Fact number, the above-named individuals and the details of the bond to which the power is attached.
3.2.10 - SCC/DPOR Licenses & Registrations
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 listed are active and in good standing.

<table>
<thead>
<tr>
<th>Business Name</th>
<th>SCC Number</th>
<th>SCC Type of Corporation</th>
<th>SCC Status</th>
<th>SCC and DPOR Information</th>
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<tr>
<td>Shirley Contracting Company, LLC</td>
<td>S082038-3</td>
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<td>DPOR Registered Address</td>
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<td></td>
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<td></td>
<td>8435 Backlick Road</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Lorton, VA. 22079</td>
</tr>
<tr>
<td>Dewberry Consultants LLC</td>
<td>S044733-6</td>
<td>Limited Liability Co.</td>
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<tr>
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<td>8401 Arlington Blvd.</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Fairfax, VA. 22031</td>
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<tr>
<td>Quinn Consulting Services, Inc.</td>
<td>0492551-7</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>14160 Newbrook Drive</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Suite 220 Chantilly, VA.</td>
</tr>
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<td></td>
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<td>DIW Group Inc.</td>
<td>F128190-8</td>
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<td>DPOR Registered Address</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>4701 Cox Road, Suite 285</td>
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<tr>
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<td>Glen Allen, VA. 23060</td>
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<td>GeoConcepts Engineering, Inc.</td>
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<td></td>
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<td></td>
<td>19955 Highland Vista</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>Drive Ste.170 Ashburn, VA.</td>
</tr>
<tr>
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<tr>
<td>Diversified Property Services of Virginia, Inc.</td>
<td>F130410-6</td>
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<td></td>
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<td></td>
<td>20 E. Timonium Road</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>Suite 111 Timonium, MD</td>
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<td>21093</td>
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<td>Old Dominion Settlements, Inc.</td>
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</table>

*Note: All businesses listed are active and in good standing.*
## SCC and DPOR Information

<table>
<thead>
<tr>
<th>Business Name</th>
<th>Individual's Name</th>
<th>Office Location Where Professional Services will be Provided (City/State)</th>
<th>Individual's DPOR Address</th>
<th>DPOR Type</th>
<th>DPOR Registration Number</th>
<th>DPOR Expiration Date</th>
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</thead>
<tbody>
<tr>
<td>Dewberry Consultants LLC</td>
<td>Jeremy Beck</td>
<td>Fairfax, Va.</td>
<td>5682 White Dove Circle Clifton, VA 20124</td>
<td>Professional Engineer</td>
<td>0402043254</td>
<td>July 31, 2017</td>
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<tr>
<td>Quinn Consulting Services, Inc.</td>
<td>Thomas Druhot</td>
<td>Chantilly, Va.</td>
<td>1801 Pleasurehouse Road Virginia beach, Virginia 23455</td>
<td>Professional Engineer</td>
<td>0402021446</td>
<td>July 31, 2016</td>
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Alert to corporations regarding unsolicited mailings from VIRGINIA COUNCIL FOR CORPORATIONS is available from the Bulletin Archive link of the Clerk’s Office website.

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<td>STATUS: 00 ACTIVE</td>
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<td>LLC NAME: Shirley Contracting Company, LLC</td>
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DATE OF FILING: 08/01/2002  PERIOD OF DURATION: |
STATE OF FILING: VA VIRGINIA  INDUSTRY CODE: 00 |

CONVERSION/DOMESTICATION INDICATOR: Y |
PRINCIPAL OFFICE ADDRESS |
STREET: 8435 BACKLICK RD |
CITY: LORTON  STATE: VA  ZIP: 22079-0000 |
REGISTERED AGENT INFORMATION |
R/A NAME: CT CORPORATION SYSTEM |
STREET: 4701 COX ROAD, SUITE 285  RTN MAIL: |
CITY: GLEN ALLEN  STATE: VA  ZIP: 23060-0000 |
R/A STATUS: 5 ENTITY AUTHORIZ EFF DATE: 10/04/13 LOC: 143 HENRICO COUNTY |
YEAR FEES PENALTY INTEREST BALANCE |
15 50.00 |

(Screen Id:/LLC_Data_Inquiry)
Alert to corporations regarding unsolicited mailings from VIRGINIA COUNCIL FOR CORPORATIONS is available from the Bulletin Archive link of the Clerk's Office website.

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LLC NAME: Dewberry Consultants LLC

DATE OF FILING: 01/01/2000  PERIOD OF DURATION: 30  INDUSTRY CODE: 30

STATE OF FILING: VA VIRGINIA  MERGER INDICATOR:

CONVERSION/DOMESTICATION INDICATOR:

PRINCIPAL OFFICE ADDRESS

STREET: 8401 ARLINGTON BLVD

CITY: FAIRFAX  STATE: VA  ZIP: 22031-0000

REGISTERED AGENT INFORMATION

R/A NAME: CORPORATION SERVICE COMPANY

STREET: Bank of America Center, 16th Floor
        1111 East Main Street  RTN MAIL:

CITY: RICHMOND  STATE: VA  ZIP: 23219-0000

R/A STATUS: 5 ENTITY AUTHORIZ EFF DATE: 04/29/11 LOC: 216 RICHMOND CITY

YEAR FEES PENALTY INTEREST BALANCE
16  50.00

(Screen Id:/LLC_Data_Inquiry)
Alert to corporations regarding unsolicited mailings from VIRGINIA COUNCIL FOR CORPORATIONS is available from the Bulletin Archive link of the Clerk's Office website.

CISM0180 CORPORATE DATA INQUIRY

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

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

STREET: 2208 S KNOLL ST AR RTN MAIL:

CITY: ARLINGTON STATE: VA ZIP: 22202-2134
R/A STATUS: 4 ATTORNEY EFF. DATE: 10/24/97 LOC : 106
ACCEPTED AR#: 215 14 0713 DATE: 09/08/15 ARLINGTON COUNTY
CURRENT AR#: 215 14 0713 DATE: 09/08/15 STATUS: A ASSESSMENT INDICATOR: 0
YEAR FEES PENALTY INTEREST TAXES BALANCE TOTAL SHARES
15 100.00

(Screen Id:/Corp_Data_Inquiry)
Alert to corporations regarding unsolicited mailings from VIRGINIA COUNCIL FOR CORPORATIONS is available from the Bulletin Archive link of the Clerk's Office website.

### CORPORATE DATA INQUIRY

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<tr>
<td>R/A NAME:</td>
<td>VIVIAN LEWIS</td>
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<tr>
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<tr>
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<tr>
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(Screen Id:/Corp_Data_Inquiry)
Alert to corporations regarding unsolicited mailings from VIRGINIA COUNCIL FOR CORPORATIONS is available from the Bulletin Archive link of the Clerk's Office website.

CISM0180 CORPORATE DATA INQUIRY

CORP ID: P130410 - 6 STATUS: 00 ACTIVE STATUS DATE: 09/04/15
CORP NAME: DIVERSIFIED PROPERTY SERVICES OF VIRGINIA, INC. (U)
SED IN VA BY: DIVERSIFIED PROPERTY SERVICES, INC.)
DATE OF CERTIFICATE: 08/05/1997 PERIOD OF DURATION: INDUSTRY CODE: 00
STATE OF INCORPORATION: MD MARYLAND STOCK INDICATOR: S STOCK
MERGER IND:
GOOD STANDING IND: Y
MONITOR INDICATOR:
CHARTER FEE: 50.00 MON NO:
R/A NAME: BRENDAN R HANTZES
MON STATUS: MONITOR DTE:
STREET: 3771 VERMACCHIA DR AR RTN MAIL:
CITY: CHANTILLY STATE: VA ZIP: 20151-0000
R/A STATUS: 2 OFFICER RFF. DATE: 08/09/02 LOC: 129
ACCEPTED AR#: 215 15 5962 DATE: 10/13/15 FAIRFAX COUNTY
CURRENT AR#: 215 15 5962 DATE: 10/13/15 STATUS: A ASSESSMENT INDICATOR: 0
YEAR FEES PENALTY INTEREST TAXES BALANCE TOTAL SHARES
15 100.00 10.00 5,000

(Screen Id:/Corp_Data_Inquiry)
Alert to corporations regarding unsolicited mailings from VIRGINIA COUNCIL FOR CORPORATIONS is available from the Bulletin Archive link of the Clerk's Office website.

CISM0180 CORPORATE DATA INQUIRY

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

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

STREET: 4701 COX ROAD AR RTN MAIL:
SUITE 285
CITY: GLEN ALLEN STATE: VA ZIP: 23060-0000
R/A STATUS: 5 B.E. AUTH IN VI EFF. DATE: 12/12/13 LOC : 143
ACCEPTED AR#: 216 01 3746 DATE: 12/21/15 HENRICO COUNTY
CURRENT AR#: 216 01 3746 DATE: 12/21/15 STATUS: A ASSESSMENT INDICATOR: 0
YEAR FEES PENALTY INTEREST TAXES BALANCE TOTAL SHARES
16 1,700.00 2,000,000

(Screen Id:/Corp_Data_Inquiry)
Alert to corporations regarding unsolicited mailings from VIRGINIA COUNCIL FOR CORPORATIONS is available from the Bulletin Archive link of the Clerk's Office website.

CISM0180 CORPORATE DATA INQUIRY

CORP ID: 0243891 STATUS: 00 ACTIVE STATUS DATE: 05/22/97
CORP NAME: OLD DOMINION SETTLEMENTS, INC.

STATE OF INCORPORATION: VA VIRGINIA STOCK INDICATOR: S STOCK
MERGER IND: CONVERSION/DOMESTICATION IND:
GOOD STANDING IND: Y MONITOR INDICATOR:
CHARTER FEE: MON NO: MON STATUS: MONITOR DTE:
R/A NAME: RONALD H. LAZARUS

STREET: 7010 LITTLE RIVER TURNPIKE, SUITE 240 AR RTN MAIL:

CITY: ANNANDALE STATE: VA ZIP: 22003-0000
R/A STATUS: 4 ATTORNEY EFF. DATE: 09/05/95 LOC : 129
ACCEPTED AR#: 215 09 4438 DATE: 06/01/15 FAIRFAX COUNTY
CURRENT AR#: 215 09 4438 DATE: 06/01/15 STATUS: A ASSESSMENT INDICATOR: 0
YEAR FEES PENALTY INTEREST TAXES BALANCE TOTAL SHARES
15 220.00

(Screen Id:/Corp_Data_Inquiry)
**License Details**

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<tr>
<th><strong>Name</strong></th>
<th>SHIRLEY CONTRACTING COMPANY LLC</th>
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<tr>
<td><strong>License Number</strong></td>
<td>2705071652</td>
</tr>
<tr>
<td><strong>License Description</strong></td>
<td>Contractor</td>
</tr>
<tr>
<td><strong>Firm Type</strong></td>
<td>LLC - Limited Liability Company</td>
</tr>
<tr>
<td><strong>Rank</strong></td>
<td>Class A</td>
</tr>
<tr>
<td><strong>Address</strong></td>
<td>8435 BACKLICK ROAD, LORTON, VA 22079</td>
</tr>
<tr>
<td><strong>Specialties</strong></td>
<td>Highway / Heavy (H/H)</td>
</tr>
<tr>
<td><strong>Initial Certification Date</strong></td>
<td>2002-10-08</td>
</tr>
<tr>
<td><strong>Expiration Date</strong></td>
<td>2016-10-31</td>
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</tbody>
</table>

1. Refer to the Statutory Definitions (http://law.lis.virginia.gov/vacode/title54.1/chapter11/section54.1-1100/) for descriptions of the rank or class of license (A, B, or C) that determines the monetary limits on contracts/projects.

2. Refer to the Classification Definitions (http://lis.virginia.gov/cgi-bin/legp604.exe?000+reg+18VAC50-22-20) and Specialty Definitions (http://lis.virginia.gov/cgi-bin/legp604.exe?000+reg+18VAC50-22-30) for detailed definitions of these classifications and specialties.

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DPOR License Lookup build 1,171 (built 2016-01-13 10:00:26).
DPOR License Lookup License Number 0407003966

License Details

- **Name**: DEWBERRY CONSULTANTS, LLC
- **License Number**: 0407003966
- **License Description**: Business Entity Registration
- **Firm Type**: LLC - Limited Liability Company
- **Rank**: Business Entity
- **Address**: 8401 ARLINGTON BLVD, FAIRFAX, VA 22031
- **Initial Certification Date**: 2000-03-14
- **Expiration Date**: 2017-12-31

Related Licenses

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<th>License Type</th>
<th>Relation Type</th>
<th>License Expiry</th>
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<tbody>
<tr>
<td>0401008756</td>
<td>BEIGHT, JAMES LADEN</td>
<td>Architect License</td>
<td>Architecture</td>
<td>2017-08-31</td>
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<tr>
<td>0402026519</td>
<td>STONE, DONALD EDWARD JR</td>
<td>Professional Engineer</td>
<td>Engineering</td>
<td>2017-09-30</td>
</tr>
<tr>
<td></td>
<td></td>
<td>License</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0403001932</td>
<td>ROBINSON, BRYANT L</td>
<td>Land Surveyor License</td>
<td>Land Surveying</td>
<td>2017-01-31</td>
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<tr>
<td>0406001718</td>
<td>CENA, JANICE MARIE</td>
<td>Landscape Architect License</td>
<td>Landscape</td>
<td>2017-01-31</td>
</tr>
</tbody>
</table>

Showing 1 to 4 of 4 entries

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DPOR License Lookup build 1,171 (built 2016-01-13 10:00:26).
DPOR License Lookup  License Number 0407003733

License Details

Name  QUINN CONSULTING SERVICES INC
License Number  0407003733
License Description  Business Entity Registration
Rank  Business Entity
Address  14160 NEWBROOK DR STE 220, CHANTILLY, VA 20151
Initial Certification Date  1998-03-05
Expiration Date  2017-12-31

Related Licenses

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<th>Relation Type</th>
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</thead>
<tbody>
<tr>
<td>0402026380</td>
<td>VICINSKI, JOHN KEVIN</td>
<td>Professional Engineer</td>
<td>Engineering</td>
<td>2017-08-31</td>
</tr>
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</table>

Showing 1 to 1 of 1 entries

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# DPOR License Lookup

License Number 0407004404

## License Details

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<td>Business Entity Registration</td>
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<td>Corporation</td>
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<td>Rank</td>
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<tr>
<td>Address</td>
<td>19955 HIGHLAND VISTA DRIVE SUITE 170, ASHBURN, VA 20147</td>
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<tr>
<td>Initial Certification Date</td>
<td>2003-03-28</td>
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<td>Expiration Date</td>
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## Related Licenses

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<td>Professional Engineer License</td>
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<tr>
<td>0402021276</td>
<td>LEWIS, TADEUSZ WILLIAM</td>
<td>Professional Engineer License</td>
<td>Engineering</td>
<td>2016-04-30</td>
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Showing 1 to 2 of 2 entries

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DPOR License Lookup build 1,171 (built 2016-01-13 10:00:26).
DPOR License Lookup  License Number 0407004748

License Details

Name  DIW GROUP INC  
DBA Name  SPECIALIZED ENGINEERING  
License Number  0407004748  
License Description  Business Entity Registration  
Firm Type  Corporation  
Rank  Business Entity  
Address  4845 INTERNATIONAL BLVD #104, FREDERICK, MD 21703  
Initial Certification Date  2005-11-01  
Expiration Date  2017-12-31

Related Licenses

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<tr>
<td>0402020050</td>
<td>MITCHELL, CHARLES ROBERT</td>
<td>Professional Engineer License</td>
<td>Engineering</td>
<td>2017-07-31</td>
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Showing 1 to 1 of 1 entries

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DPOR License Lookup build 1,171 (built 2016-01-13 10:00:26).
### DPOR License Lookup License Number 4008001190

#### License Details

<table>
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<th>Name</th>
<th>DIVERSIFIED PROPERTY SERVICES OF VIRGINIA INC</th>
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<tbody>
<tr>
<td>License Number</td>
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<tr>
<td>License Description</td>
<td>Appraisal Business Registration</td>
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<td>Firm Type</td>
<td>Corporation</td>
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<tr>
<td>Rank</td>
<td>Business Entity</td>
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<tr>
<td>Address</td>
<td>20 E TIMONIUM ROAD SUITE 111, TIMONIUM, MD 21093-0000</td>
</tr>
<tr>
<td>Initial Certification Date</td>
<td>2000-11-29</td>
</tr>
<tr>
<td>Expiration Date</td>
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</table>

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DPOR License Lookup build 1,171 (built 2016-01-13 10:00:26).
License Details

Name: BECK, JEREMY JAMES
License Number: 0402043254
License Description: Professional Engineer License
Rank: Professional Engineer
Address: CLIFTON, VA 20124
Initial Certification Date: 2009-07-13
Expiration Date: 2017-07-31

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DPOR License Lookup build 1,172 (built 2016-01-27 11:52:07).
DPOR License Lookup License Number 0402021446

License Details

Name: DRUHOT, THOMAS ALAN
License Number: 0402021446
License Description: Professional Engineer License
Rank: Professional Engineer
Address: COBBS CREEK, VA 23035
Initial Certification Date: 1990-07-16
Expiration Date: 2016-07-31

Related Licenses

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<th>License Number</th>
<th>License Holder Name</th>
<th>License Type</th>
<th>Relation Type</th>
<th>License Expiry</th>
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<tbody>
<tr>
<td>0411001133</td>
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<td>Business Entity Branch</td>
<td>Engineering</td>
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<td></td>
<td></td>
<td>Office Registration</td>
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Showing 1 to 1 of 1 entries

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3.3.1 - Key Personnel Resume Forms
**ATTACHMENT 3.3.1**  
**KEY PERSONNEL RESUME FORM**

<table>
<thead>
<tr>
<th>Brief Resume of Key Personnel anticipated for the Project.</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Name &amp; Title: <strong>Joe Fragale, PE, DBIA, Project Manager</strong></td>
</tr>
<tr>
<td>b. Project Assignment: <strong>Design-Build Project Manager</strong></td>
</tr>
<tr>
<td>c. Name of Firm with which you are now associated: <strong>Shirley Contracting Company, LLC</strong></td>
</tr>
<tr>
<td>d. Employment History: With this Firm <strong>8</strong> Years With Other Firms <strong>3</strong> Years</td>
</tr>
<tr>
<td>Please list chronologically (most recent experience 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 experience, please list all of your experience for those years you have worked. Project specific experience shall be included in Section (g) below):</td>
</tr>
<tr>
<td><strong>Shirley Contracting Company, LLC - Assistant Design-Build Project Manager (D-B PM), 2011–Present</strong></td>
</tr>
<tr>
<td>In reporting directly to the DB-PM, Joe is engaged in all aspects of the design/build process from procurement through project completion. Responsibilities include providing oversight and monitoring of the project life cycle and contract requirements; managing and integrating all disciplines into the overall design/build process including design, permitting, right-of-way, utilities, QC/QC, and construction; ensuring completion of the constructability process; coordinating with third parties; monitoring the project schedule; ensuring submissions are complete and on-time; preparing and leading various project meetings; presenting and representing the project to the public; contract administration; maintaining budgets; and facilitating dispute resolution.</td>
</tr>
<tr>
<td>▪ <strong>Belmont Ridge Road Widening – Design-Build Project, ($45M) - 10/2015 to Present – Assistant D-B PM</strong></td>
</tr>
<tr>
<td>▪ <strong>Route 606 Widening – Design-Build Project, ($74M) - 8/2014 to Present – Assistant D-B PM</strong></td>
</tr>
<tr>
<td>▪ <strong>Loudoun Water Access Road – Design-Build Project, ($7.4M) – 6/2013 to 10/2015 – Assistant D-B PM</strong></td>
</tr>
<tr>
<td>▪ <strong>Route I and Telegraph Road Intersection Improvements – Design-Build Project, ($3M) - 7/2013 to 4/2014 - Assistant D-B PM</strong></td>
</tr>
<tr>
<td>▪ <strong>Arlington National Cemetery–Memorial Dr. Reconstruction ($1M) – 9/2012 to 11/2013 – Project Manager</strong></td>
</tr>
<tr>
<td>▪ <strong>Fairfax County Parkway Phase III – Design-Build Project, ($28M) – 2/2011 to 8/2014 – Assistant D-B PM</strong></td>
</tr>
<tr>
<td><strong>Shirley Contracting Company, LLC - Project Engineer, 2008–2011</strong></td>
</tr>
<tr>
<td>As a Project Engineer, Mr. Fragale was responsible for constructability review of project plans, generating corrective RFIs, implementing document controls, and maintaining project schedules. He oversaw the procurement of suppliers and subcontractors and coordinated delivery and installation of construction materials for both subcontractors and self-performing entities; engineered and monitored the installation of falsework, formwork, and lift plans; generated safe-work plans for specific construction activities; and planned and lead weekly safety meetings.</td>
</tr>
<tr>
<td>▪ <strong>National Geospatial Intelligence Agency, North Loop Road Project - New Campus East-Ft. Belvoir, ($36M) – 4/2009 to 6/2012 – Project Engineer to Assistant Project Manager</strong></td>
</tr>
<tr>
<td><strong>BC Consultants - Designer, 2006–2008</strong></td>
</tr>
<tr>
<td>As a Staff Engineer with the BC Consultants, a Fairfax Virginia based land development design firm, Mr. Fragale was responsible for engineering subdivision and site development designs which entailed performing field investigations to determine site specific constraints, subdivision and site development layout, storm water management, roadway and pavement designs. These projects were designed in accordance with VDOT standards for roads and stringent county storm water management requirements.</td>
</tr>
<tr>
<td>▪ <strong>West Virginia Department of Transportation – Division of Highways – Inspector, 2005</strong></td>
</tr>
<tr>
<td>As a Resurfacing Inspector with WVDOH, Mr. Fragale was responsible for coordinating with contractors on mill and overlay, guardrail replacement, and storm drain improvement projects. Joe oversaw the installation and removal of maintenance of traffic operations, performed quality control of bituminous asphalt concrete placement on state and local highways, calculated quantities of shoulder aggregates, tack coat, and asphalt application rates to insure proper tolerances of thicknesses and spreads were met. On guardrail replacement, he verified that height of rails, lengths, and torque ratings were within tolerance. On storm drainage improvement projects he oversaw the installation of gabion basket outfall protections, cleaning and extension of existing systems.</td>
</tr>
<tr>
<td><strong>e. Education: Name &amp; Location of Institution(s)/Degree(s)/Year/Specialization:</strong></td>
</tr>
<tr>
<td><strong>West Virginia University, Morgantown, WV / Bachelor of Science / 2005 / Civil Engineering</strong></td>
</tr>
<tr>
<td><strong>f. Active Registration: Year First Registered/ Discipline/VA Registration #:</strong></td>
</tr>
</tbody>
</table>
| 2010 / ACI Certified Field Testing Technician – Grade I, 2011 / VDOT Erosion and Sediment Control Certification (ESCCE), 2015 / DBIA Certified Design-Build Professional, 2011 / Professional Engineer / Virginia #0402048576**

Route 606 Bridge Replacement Over I-95 With 606 Improvements  
Spotsylvania County, Virginia  
Shirley Contracting Company, LLC
g. Document the extent and depth of your experience and qualifications relevant to the Project.
1. Note your specific responsibilities and authorities 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 at least three (3) but no more than five (5) relevant projects* for which you have performed a similar function.

1. Fairfax County Parkway Phase III Improvements – Fairfax County, Virginia
   Responsibilities: Joe oversaw this $28 million design-build project and was responsible coordinating the design, procurement and delivery of materials, scheduling of crews and subcontractors for construction of all features for the project, maintaining the project CPM, and application for project payments.
   Relevancies to Route 606 Bridge Replacement Over I-95 with 606 Improvements Project: The project included a 6-lane divided, limited access highway, improvements to the Franconia Springfield Parkway interchange including a relocation of Hooes Road, a shared use path, widening of Ramp D to 2-lanes, construction of three noise barriers, a new bridge carrying relocated Rolling Road over the Fairfax County Parkway, and addition of the Saratoga Park and Ride Facility.

2. Loudoun Water Access Road Design-Build – Loudoun County, Virginia
   Shirley Contracting Company, LLC, Assistant Design-Build Project Manager (6/2013 - 10/2015)
   Responsibilities: Joe lead efforts on this $7.4 million design-build project to coordinate the 4-phased design and ensure that all disciplines were fully integrated. Responsibilities included managing the design, obtaining all permits, coordinating utility relocations, facilitating constructability reviews, created, maintained and updated the project CPM schedules, and hosted stakeholder coordination meetings to provide consistent dialog between owner, designer, and construction project management.
   Relevancies to Route 606 Bridge Replacement Over I-95 with 606 Improvements Project: This design-build project constructed a new 2-lane access to Loudoun Water’s future Trap Rock Water Treatment Facility. The Project included construction of 2 segments of new 2-lane roadway, 1 segment of roadway widening, and the construction of a 2 span bridge over Sycolin Creek.

3. Route 1 / Telegraph Road Intersection, Stafford County, Virginia
   Shirley Contracting Company, LLC, Assistant Design-Build Project Manager (7/2013 to 4/2014)
   Responsibilities: Joe led efforts to coordinate the design, right-of-way acquisition, and utility relocations on this $3 million project.
   Relevancies to Route 606 Bridge Replacement Over I-95 with 606 Improvements Project: The Route 1 Telegraph Road intersection improvements project widened through lanes of U.S. Route 1, lengthened the U.S. Route 1 northbound left turn lane, and added an eastbound right turn lane. The project also included improvements to storm drainage, utility relocations, and traffic signal relocations.

4. National Geospatial Intelligence Agency, New Campus East Design-Build – North Loop Road Project, Fort Belvoir, Virginia
   Shirley Contracting Company, LLC, Project Engineer (4/2009 to 6/2012)
   Responsibilities: Joe was responsible for coordinating and supporting all construction activities including roadway, utility, MSE wall, and bridge construction, and ensuring that schedules were monitored, updated, and maintained on this $36 million project.
   Relevancies to Route 606 Bridge Replacement Over I-95 with 606 Improvements Project: The North Loop Road and Bridge Project scope included a 1-mile, 4-lane roadway; a 450’ long, 3-span bridge over the Accotink Creek; 4 signalized intersections, roadway lighting, shared use path, , 2,100 LF of MSE Wall; over 6,000 LF of storm sewer; over 5,400 LF of 18” waterline with connection to a 36” main; and over 3,000 LF of underground communications and electrical duct bank.

5. National Geospatial Intelligence Agency, New Campus East Design-Build – South Loop Road Project, Fort Belvoir, Virginia
   Shirley Contracting Company, LLC, Project Engineer (2/2010 to 10/2011)
   Responsibilities: Joe's overall responsibilities included managing and supporting all aspects of the project construction phase. He led the procurement process, engineered critical tasks such as pier cap and overhang falsework, and design of the beam erection plan. He maintained and reported daily records of project’s quantities, submitted reports to the projects general contractor, and coordinated with field crews to maintain project productions.
   Relevancies to Route 606 Bridge Replacement Over I-95 with 606 Improvements Project: The project scope included the construction of a new 2-lane, 5-span, concrete girder bridge over wetland areas, a 12’ shared use path, bridge lighting, and security cameras.

h. For Key Personnel required to be on-site full-time for the duration of construction, provide a current list of assignments, role, and the anticipated duration of each assignment. Not applicable for Design-Build Project Manager.
**ATTACHMENT 3.3.1**

**KEY PERSONNEL RESUME FORM**

<table>
<thead>
<tr>
<th>Brief Resume of Key Personnel anticipated for the Project.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>a. Name &amp; Title:</strong> Thomas A. Druhot, P.E., Quality Assurance Manager</td>
</tr>
<tr>
<td><strong>b. Project Assignment:</strong> Quality Assurance Manager</td>
</tr>
<tr>
<td><strong>c. Name of Firm with which you are now associated:</strong> Quinn Consulting Services, Inc.</td>
</tr>
<tr>
<td><strong>d. Years experience:</strong> With this Firm <strong>15</strong> Years With Other Firms <strong>29</strong> Years</td>
</tr>
</tbody>
</table>

Please list chronologically (most recent experience 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 experience, please list all of your experience for those years you have worked. Project specific experience shall be included in Section (g) below):

**Quinn Consulting Services, Inc.**
Quality Assurance Manager, June 2014–Present
Responsible for all Quality Assurance activities and monitoring Quality Control for compliance with the approved QA/QC Plan, the Minimum Requirements as set forth in the VDOT QA/QC Design-Build Manual, and other relevant documents incorporated into the contract Design-Build Projects.

**Virginia Department of Transportation**
Area Construction Engineer, Hampton Roads District, 2003 - June 2014
- Responsible for contract management for maintenance and construction projects ranging from $300,000 to over $108,000,000.
- Consistently met or exceeded statewide contract goals of on time completion, on budget, quality, environmental stewardship, and safety.
- Participated in statewide VRTCA committee on contract administration
- Defended multiple claims from contractors at Commissioner Hearings and at court mandated arbitration.
- Provided television and newspaper interviews.
- Served on selection committees for Design-Build projects and professional engineering design services.
- Managed project assignments for forecasting workloads, staffing needs, schedules and budgets.
- Assisted adjacent District by accepting management role of troubled project.

**The Louis Berger Group, Inc.**
Division Manager, Midwest Division, 1992 - 2003
- Program Manager for $160 million construction of interchange improvements along I-81 in Virginia.
- Created and led public information program detailing stages of construction and impacts to local businesses, residences, roads, schools and bus.
- Coordinated activities among three prime contractors with three independent schedules, assisted in design conflict resolution, construction staging conflicts and simplification of temporary detours.
- Coordinated between client/consultant field staff and designers for revisions to construction plans resolving construction staging conflicts, and design conflicts.
- Managed staff resources and scheduling for Environmentalists and Engineers
- Provided monthly program management reports detailing contractor cost reimbursements, schedule adherence, deviation and risk analysis, engineering redesign requirements, and consultant progress and budgets.
- Negotiated $2 million in contract supplements for out of scope and additional services.
- Implemented QA/QC procedures for accounting procedures.
- Managed project deliverables, schedules, costs and profits.

**e. Education:** Name & Location of Institution(s)/Degree(s)/Year/Specialization:
- Purdue University, West Lafayette, IN / Bachelor of Science / 1985 / Civil Engineering
- Fordham University, New York, NY / M.B.A. / 1989

**f. Active Registration:** Year First Registered/ Discipline/VA Registration #:
- 1990 / Professional Engineer / Virginia #0402021446

**g. Document the extent and depth of your experience and qualifications relevant to the Project.**
1. **Note your specific responsibilities and authorities 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 at least three (3) but no more than five (5) relevant projects for which you have performed a similar function.

1. **I-564 Intermodal Connector (Design-Build) - Norfolk, VA**
**Quinn Consulting Services, Inc., Quality Assurance Manager (October 2014 to August 2018)**
**Responsibilities:** Tom worked closely with the D-B Contractor and the EFLHD of the FHWA in preparing the project specific QA/QC Plan that follows both the requirements as set forth in VDOT’s Minimum Standards for QA/QC on Design-Build and PPTA Projects as well as the materials acceptance and payment provisions/procedures prescribed in the contract
by the FHWA. Tom is responsible for the QA of the construction operations, including the QA testing technicians. He determines and certifies to FHWA whether the materials and work comply with the Contract Documents and he conducts preparatory inspection meetings, prior to the start of any new work. Tom also oversees and directs the independent QA testing and inspections, comparing the QA and QC tests to ensure that they are within the tolerances, and certifying that the work is completed in accordance with the Contract Documents.

**Relevancies to I-95/Route 606 Project:** This $92 million design-build project includes 2.82 miles of new four-lane limited access highway and is similar in scope to the I-95/Route 606 project as it provides interstate access and requires the QAM to have an in-depth knowledge of the maintenance of traffic considerations when working on and around Virginia interstates being constructed.

### 2. Fall Hill Avenue & Mary Washington Boulevard Extension (Design-Build) - Fredericksburg, VA

**Quinn Consulting Services, Inc., Quality Assurance Manager (December 2015 to March 2017)**

**Responsibilities:** Tom provides coordination with QA/QC Teams for execution of the work according to plans & VDOT Specifications. Responsibilities include checking test reports, daily reports, safety reports, and environmental reports. Tom is responsible for the QA of the construction operations, including the QA testing technicians. He determines and certifies to VDOT whether the materials and work comply with the Contract Documents and he conducts preparatory inspection meetings, prior to the start of any new work. Tom also oversees and directs the independent QA testing and inspections, comparing the QA and QC tests to ensure that they are within the tolerances established by VDOT’s Minimum QA/QC Requirements Manual, and certifying that the work is completed in accordance with the Contract Documents.

**Relevancies to I-95/Route 606 Project:** This $30.7 million NHI project consists of replacing the existing bridge over Interstate 95 with a new 4-lane bridge and widening Fall Hill Avenue to a 4-lane divided roadway. Additional relevancies includes the QAM having gained prior experience on a VDOT Design-Build project over I-95 in the Fredericksburg District.

### 3. Route 1 Improvements at Telegraph Road at Quantico Marine Base (Design-Build) - Quantico, VA

**Quinn Consulting Services, Inc., Quality Assurance Manager (June 2014 – October 2014)**

**Responsibilities:** Tom was responsible for the QA of the roadway, and other physical construction operations, including the QA testing technicians. He reported directly to the Design-Build Project Manager with the authority and responsibility to stop any work not being performed in accordance with the Contract requirements. He conducted preparatory inspection meetings prior to the start of any new work. Tom also oversaw and directed the independent quality assurance testing and inspections, comparing the QA and QC tests to ensure they were within the tolerances, and certifying that the work is completed in accordance with the Contract Documents.

**Relevancies to I-95/Route 606 Project:** Working with Shirley & Dewberry on this $4 million project which widened Route 1, added turn lanes at the intersection of Route 1 and Telegraph Road in Stafford County. This project includes prior design-build project delivery experience with the Shirley/Dewberry Design-Build Team, VDOT Fredericksburg District, and regional utility companies.

### 4. I-64 Widening, Segment I (Design-Build) - Newport News, VA

**Virginia Department of Transportation, Project Manager (July 2013 to June 2014)**

**Responsibilities:** During VDOT’s procurement phase, Tom provided constructability reviews, RFP development and reviews, road user cost analyses, contract time determination report review, and subject matter expert input into risk identification and assessment.

**Relevancies to I-95/Route 606 Project:** This $84.8 million project included the construction of an additional third lane in each direction from Jefferson Avenue, Newport News for approximately 7-miles. This project required a thorough understanding of all elements of design-build project delivery including ROW acquisition, utility relocation, environmental considerations, MOT planning, QA/QC, and constructability issues.

### 5. Middle Ground Boulevard (Design-Build) - Hampton Roads, VA

**Virginia Department of Transportation, Project Manager (February 2010 – June 2014)**

**Responsibilities:** As Project Manager on this $40 million roadway widening FHWA/VDOT Design-Build project, Tom's responsibilities included overseeing initial RFP development and design-build contractor selection, scope validation negotiations and work orders. Tom also oversaw the design review process and ROW procurement and relocation, coordination of public relations outreach, IA/IV coordination to make certain the project was completed in accordance with the contract documents and the VDOT Design-Build Minimum Standards, and monthly progress reviews and payment verification.

**Relevancies to I-95/Route 606 Project:** Project elements included the construction of a 6-lane divided limited access highway, the intersection improvements to major arterial roads. Additional relevancies included the installation of water and sewer mains, fiber optic signal coordination, a shared use path, sound barriers, new bridge construction, high volume urban area with extensive MOT.

h. For Key Personnel required to be on-site full-time for the duration of construction, provide a current list of assignments, role, and the anticipated duration of each assignment. Not applicable for this position
<table>
<thead>
<tr>
<th>Brief Resume of Key Personnel anticipated for the Project.</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Name &amp; Title: Jeremy Beck, PE, Senior Associate</td>
</tr>
<tr>
<td>b. Project Assignment: Design Manager</td>
</tr>
<tr>
<td>c. Name of Firm with which you are now associated: Dewberry Consultants LLC</td>
</tr>
<tr>
<td>d. Employment History: With this Firm 14 Years With Other Firms 0 Years</td>
</tr>
<tr>
<td>Please list chronologically (most recent experience 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 experience, please list the experience for those years you have worked. Project specific experience shall be included in Section (g) below):</td>
</tr>
<tr>
<td>Dewberry Consultants LLC, Project Manager, 2002 - Present</td>
</tr>
<tr>
<td>As Project Manager on 5 Design-Build projects valued at over $1.8 billion, Jeremy is responsible for all elements of multi-disciplined transportation projects completed for VDOT and other public and private sector clients. Jeremy’s experience includes the design of public infrastructure related features including geometric alignments and typical sections, analysis of hydraulic elements, study and development of traffic components, coordination with structural control plans. His experience includes coordinating local, state and federal reports, developing alternative technical concepts, directing engineering staff, managing sub-consultants, conducting constructability reviews, developing cost estimates, coordinating land acquisition activities, performing quality control and quality assurance reviews, and directing public information processes.</td>
</tr>
<tr>
<td>- Edinburg Bridge Bundle, ($16M) 10/2013 – present – Roadway Design Manager</td>
</tr>
<tr>
<td>- Dulles Corridor Metrorail Phase 2A Design-Build ($1.2B), 6/2013 – 11/2015 - West Segment Design Manager</td>
</tr>
<tr>
<td>- University Boulevard Extension Design-Build ($30M), 8/2010 – 12/2012 – Design Manager</td>
</tr>
<tr>
<td>- Spotsylvania County Design-Build, ($14M), 10/2008 – 10/2015 – Design Manager</td>
</tr>
<tr>
<td>- Route 7/River Creek Parkway Interchange ($24M), 7/2006 – 11/2010 – Design Manager</td>
</tr>
<tr>
<td>- Harbor Station Parkway (Potomac Shores Parkway) ($1.5M - Design), 5/2005 – 12/2008 – Design Manager</td>
</tr>
<tr>
<td>e. Education: Name &amp; Location of Institution(s)/Degree(s)/Year/Specialization:</td>
</tr>
<tr>
<td>The Pennsylvania State University, State College, PA / Bachelor of Science / 2002 / Civil Engineering</td>
</tr>
<tr>
<td>f. Active Registration: Year First Registered/ Discipline/VA Registration #:</td>
</tr>
<tr>
<td>2009 / Professional Engineer / Virginia #0402043254</td>
</tr>
<tr>
<td>2014 / Advanced Work Zone Traffic Control Training / VDOT Certificate No. 102210780</td>
</tr>
<tr>
<td>g. Document the extent and depth of your experience and qualifications relevant to the Project.</td>
</tr>
<tr>
<td>1. Note your specific responsibilities and authorities for each project, not those of the firm.</td>
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<td>3. Provide beginning and end dates for each project; projects older than 15 years will not be considered for evaluation.</td>
</tr>
</tbody>
</table>

(List at least three (3), but no more than five (5) relevant projects* for which you have performed a similar function.)

1. Dulles Corridor Metrorail Phase 2A Design-Build - Loudoun County, Virginia
   Dewberry Consultants LLC, West Segment Design Manager (6/2013 – 11/2015)
   **Responsibilities:** Jeremy was responsible for the delivery of the West Segment Civil Design for the $1.2B, 11.4-mile Metrorail extension from Reston, through Washington Dulles International Airport, terminating in Loudoun County. The West Segment included two new at-grade stations (Route 606, Route 772) as well as an elevated station at Dulles Airport, pedestrian bridges, and wayside facilities including traction power substations. To accommodate the construction of rail facilities in the median of existing arterial and freeway facilities, Jeremy also oversaw the widening and reconstruction of 5.5 miles of roadway and coordinated the design of three line bridges, track retaining walls, environmental/permitting, erosion and sediment control, stormwater management, maintenance of traffic, site/civil design for six rail stations, and landscape architecture.
   **Relevancies to Route 606 Bridge Replacement Over I-95 with 606 Improvements Project:** This project required construction of multiple bridge overpasses and coordination of maintenance of traffic, drainage, and roadway construction elements over and along freeway facilities. This project also required close coordination with multiple adjacent active developments to ensure construction phasing and property access was maintained at all times.

2. University Boulevard Extension Design-Build, Prince William County, Virginia
   Dewberry Consultants LLC, Design Manager (8/2010 – 12/2012)
   **Responsibilities:** Jeremy was responsible for overall project development for approximately 1.5 miles of the varying 4- and 6-lane University Boulevard, including the connection of Robertson Drive, and 1.25 miles of Hornbaker Road which
interacted with University Boulevard. Jeremy was responsible for roadway and intersection alternative analyses, design management, oversight of roadway and drainage designs, and coordination and oversight of structural design, environmental permitting, traffic analysis, geotechnical investigations, utility relocation designs, stormwater management design, and management of all design sub-consultants.

**Relevancies to Route 606 Bridge Replacement Over I-95 with 606 Improvements Project:** This project included complete reconstruction of the existing roadway, and widening to provide a 50’ median, 6-lane typical section, and incorporation of pedestrian and bicycle facilities. Similar to Route 606, new roadway alignments were coordinated with adjacent properties and developments to accommodate desired and required access.

### 3. Route 7/Rivercreek Parkway Interchange, Loudoun County, Virginia

**Dewberry Consultants LLC, Design Manager (7/2006 – 11/2010)**

**Responsibilities:** Serving initially as the project engineer and ultimately becoming the design manager, Jeremy was responsible for conceptual planning and final design of this $24 million spread diamond interchange. Specific tasks included design management of the project, developing interchange geometric and drainage designs, oversight of traffic analyses and signal design, and representing the developer who funded the project through design, permitting, plan approval and construction. Jeremy oversaw development of utility relocation designs, coordinated with adjacent landowners and associations, coordinated with environmental permit requirements, and oversaw all design sub-consultant activities.

**Relevancies to Route 606 Bridge Replacement Over I-95 with 606 Improvements Project:** This included construction of a new overpass of Route 7, which is a heavily travelled, limited access facility. The project required close coordination with multiple agencies and adjacent developments, including a large retail and mixed-use development immediately adjacent to the interchange.

### 4. Edinburg Bridge Bundle – VDOT Staunton District, Virginia

**Dewberry Consultants LLC, Roadway Design Manager (10/2013 – Present)**

**Responsibilities:** Jeremy has led Dewberry’s team to deliver designs of multiple bridge replacements totaling more than $16 million in construction value. During the initial phase, Jeremy oversaw initial survey, field investigation, and preliminary design activities including traffic data collection and analysis, geotechnical investigations, and development of Interchange Modification Reports for consideration of final plan development for each bridge replacement project. Following concurrence on the design approach and project configurations, Jeremy led the final design efforts for development of final right-of-way and construction plan packages, as well as oversight of sub-consultant design services. Jeremy’s design oversight covered all aspects of roadway geometric design, drainage design, coordination with conceptual and final bridge designs, erosion and sediment control design, maintenance of traffic plan development, traffic engineering designs (lighting, signing and marking, and TMP), and coordination with stormwater management and river hydraulic and scour analysis.

**Relevancies to Route 606 Bridge Replacement Over I-95 with 606 Improvements Project:** Each of the bridge replacement projects involved the removal and reconstruction of an existing bridge (including two bridge replacements over I-81), and coordination with traffic engineering and other design disciplines to accommodate phased bridge construction. Great efforts were undertaken to reduce right-of-way and utility impacts and avoid extended lengths of roadway reconstruction to connect to the new replacement bridges.

### 5. Harbor Station Parkway (Potomac Shores Parkway) – Prince William County, Virginia

**Dewberry Consultants LLC, Design Manager (5/2005 - 12/2008)**

**Responsibilities:** As design manager, Jeremy was responsible for overall project development including direct oversight of all roadway related design disciplines and coordination with hydraulic, structural, traffic engineering, and utility relocation designs. As a privately funded developer project, Jeremy led the coordination efforts between the developer, County, and VDOT staff as necessary for the extension of a new six-lane portion of Route 234 (Harbor Station Parkway) from Wayside Drive to New Cherry Hill Road. In addition, Jeremy led the design efforts for development of final plans for the Route 1/Route 234 Interchange, consisting of a single-point urban interchange and associated ramps, thru-lanes, and a “bow-tie” shaped bridge.

**Relevancies to Route 606 Bridge Replacement Over I-95 with 606 Improvements Project:** This project consisted of development of a new interchange and new local and secondary road access to existing primary roadways, and coordination of all sub-consultant services which will also be necessary for the Route 606 project.

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

h. For Key Personnel required to be on-site full-time for the duration of construction, provide a current list of assignments, role, and the anticipated duration of each assignment. **Not applicable for this position**
**Brief Resume of Key Personnel anticipated for the Project.**

<table>
<thead>
<tr>
<th>a. Name &amp; Title:</th>
<th>Thomas O’Brien, Senior Project Superintendent</th>
</tr>
</thead>
<tbody>
<tr>
<td>b. Project Assignment:</td>
<td>Construction Manager</td>
</tr>
<tr>
<td>c. Name of Firm with which you are now associated:</td>
<td>Shirley Contracting Company, LLC</td>
</tr>
<tr>
<td>d. Employment History: With this Firm</td>
<td>23 Years With Other Firms 15 Years</td>
</tr>
</tbody>
</table>

Please list chronologically (most recent experience 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 experience, please list all of your experience for those years you have worked. Project specific experience shall be included in Section (g) below):

**Shirley Contracting Company, LLC - Construction Manager/Senior Project Superintendent, 2006–Present**

General responsibilities included coordination with the design team; constructability reviews of design drawings; management of all aspects of daily field construction activities; subcontractor coordination and management; oversight of quality control activities.

- **Dulles Corridor Metrorail Phase 2A Design-Build ($1.2B)**, 9/2014 to Spring 2017 – Construction Manager
- **Gallows Road Improvements, ($7M)** - 10/2014 to 8/2015 - Construction Manager
- **Telegraph Road Improvements, ($11M)** - 5/2013 to 9/2014 - Senior Project Superintendent
- **Mulligan Road – Phase II Design-Build, ($36M)** - 1/2013 to 12/2014 - Construction Manager
- **Fairfax County Parkway Phase III Design-Build Project, ($28)** – 9/2009 to 7/2013 - Construction Manager
- **Defense CEETA Remote Delivery Facility, ($18M)** - 12/2005 to 12/2007 - Senior Project Superintendent

**Shirley Contracting Company, LLC - Project Superintendent, 1996–2006**

General responsibilities included constructability reviews of design drawings; management of all aspects of daily field construction; subcontractor coordination and management; ensures work is in accordance with contract specifications.

- **Route 28 Corridor Improvements Design-Build Project, McLearen Road Interchange ($8M)** - 6/2005 to 8/2006 - Senior Project Superintendent
- **Route 28 Corridor Improvements, Barnsfield Road/Air & Space Museum Parkway Interchange, ($14.5M)** 5/2003 to 7/2004 - Project Superintendent
- **Route 28/Route 29 Interchange, ($22M)** - 7/2000 to 3/2002 - Project Superintendent
- **Springfield Interchange Phases II/III ($116M)** - 6/1999 to 7/2002 - Project Superintendent

<table>
<thead>
<tr>
<th>e. Education:</th>
<th>State University of New York, Farmingdale, New York / Associate of Applied Science / 1977 Civil Engineering</th>
</tr>
</thead>
<tbody>
<tr>
<td>f. Active Registration:</td>
<td>Year First Registered/ Discipline/VA Registration #: Will obtain both VDOT Erosion and Sediment Control Contractor Certification (ESCCE) and Virginia Department of Environmental Quality (DEQ) Responsible Land Disturber (RLD) Certification prior to commencement of construction.</td>
</tr>
<tr>
<td>g. Document the extent and depth of your experience and qualifications relevant to the Project.</td>
<td></td>
</tr>
<tr>
<td>1. <strong>Note your specific responsibilities and authorities for each project, not those of the firm.</strong></td>
<td></td>
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<td></td>
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<tr>
<td>3. <strong>Provide beginning and end dates for each project, projects older than fifteen (15) years will not be considered for evaluation.</strong></td>
<td></td>
</tr>
</tbody>
</table>

**List at least three (3) but no more than five (5) relevant projects* for which you have performed a similar function.**

| 1. Mulligan Road Phase II Design-Build – Fort Belvoir, Virginia |
| Shirley Contracting Company, LLC, Senior Superintendent (January 2011 – November 2014) |

**Responsibilities:** Tom's responsibilities included management and oversight of all day to day field construction activities including Shirley’s self-perform work and the work of all subcontractors on this $36M Project. The project was broken into two main construction areas. First, improvements to Telegraph Rd between Old Beulah Road and Old Telegraph Road included a 4-lane median separated widening, dual two lane bridges over Piney Run, and replacement of 3,800 linear feet of 30-inch water main for Fairfax Water. Second, the intersection of US Route 1, Mount Vernon Hwy was completely reconstructed and relocated to accommodate the new connector road and the entrance to the Historic Woodlawn Plantation Pope-Leighy House was relocated. Tom's team maintained regular coordination with the Historic Trust. Tom's biggest challenge was the existing overhead and underground utilities that were not relocated in advance of the construction contract. Tom was able to coordinate with the utility owners and work adjacent to the utilities while they were being relocated in the field. Tom worked closely with FHWA to re-design storm sewer and other project elements to avoid impacts and keep the project progressing. Tom held weekly team meetings review construction activities, major material deliveries, upcoming traffic impacts and long term changes to the roadway.
**Relevancies to Route 606 Bridge Replacement Project:** The project included two new signalized intersections built at Telegraph and Mulligan Roads and US Route 1 and Mulligan Road. Additional features include construction of a new 4' x 8' Box Culvert at the intersection of Old Mill Road and Pole Road, a new single span bridge over Kingman Road on Fort Belvoir property, over 8,000 linear feet of storm sewer, sound walls and retaining walls.

| 2. Telegraph Road Improvements – Alexandria, Virginia |
| Shirley Contracting Company, LLC, Senior Superintendent (May 2013 – October 2014) |
| **Responsibilities:** Tom’s responsibilities included management and oversight of all day to day field construction activities for this $11.1 M project providing improvements along the 0.3-mile section of Telegraph Road between South Van Dorn Street to South Kings Highway. He managed all of Shirley self-perform crews which included a large grading crew, two utility crews, maintenance of traffic crew and a structural crew during replacement of the existing culvert carrying Dogue Creek under Telegraph Road. A 180’ long, triple 20’ wide x 9’ high bottomless arch structure replaced the existing inadequate culvert pipes. Tom developed an alternate detour plan of Telegraph Road around the exiting Dogue Creek culverts in order to eliminate the originally intended dual phased construction of the new arch structure. With the enormous help of VDOT, Fairfax County Park Authority and Fairfax County Department of Transportation, the alternate detour was approved and advanced the project schedule by 75 days with all additional lanes opened by the beginning of the 2014 school year. **This innovation helped Shirley earn a $300,000 early completion bonus.** |
| **Relevancies to Route 606 Bridge Replacement Project:** The project included the widening of Telegraph Road from the existing 2-lane roadway to a new 6-lane configuration with additional dedicated right turn lanes. Due to the existing geology of the area, settlement of the existing soils was a major concern. Crews installed 22,600 LF vertical wick drains and then placed 20,000 CY of surcharge soils for a 90-day settlement period to prevent future consolidation of soils. Arch foundations were placed on over 15,000 LF of 12’ steel piles driven over 100’ into the soft soils. Over 60 precast arch pieces were placed in just over one week to meet the aggressive schedule. |

| 3. Gallows Road Improvements – Fairfax, Virginia |
| Shirley Contracting Company, LLC, Superintendent (August 2014 – September 2015) |
| **Responsibilities:** Tom’s responsibilities included management and oversight of all day to day field construction activities on the $7.2M Gallows Road Improvements Project was funded by INOVA Hospital Services. The Project was designed to increase capacity on Gallows Road in front of the INOVA Fairfax Hospital, which ranks as the busiest hospital in the DC Metro Region. Tom managed all self-perform grading and drainage crews as well as the Signal Subcontractor. Tom assisted with INOVA’s design consultant, Dewberry, LLC during construction as field and maintenance of traffic operations were adjusted to meet the needs of the Project and the client. Additionally, Tom coordinated the relocation of existing power and communication lines that were identified in conflict with the new roadways but had not yet been moved as the Project was awarded. Timing was critical as the improvements on Gallows were required to be complete prior to the opening of INOVA’s new Women’s Hospital and Birthing Center. Shirley completed the Project ahead of schedule. |
| **Relevancies to Route 606 Bridge Replacement Project:** Four signalized intersections were completely replaced and two others were modified as part of the scope of the Project. An additional turn lane was added on Gallows Road and Woodburn Road for 0.75 miles and the entire 1.2 mile Project was milled and overlaid with new asphalt. |

| 4. Fairfax County Parkway Phase III Improvements Design-Build – Fairfax County, Virginia |
| Shirley Contracting Company, LLC, Senior Construction Manager/Project Superintendent (September 2011 – July 2013) |
| **Responsibilities:** Tom’s responsibilities included management and oversight of all day to day field construction activities including Shirley’s self-perform work and the work of all subcontractors on this $28M Project. He maintained the Project CPM schedule and coordinated the work with EFLHD and VDOT staff. Tom also monitored the daily construction activities for compliance with the Project’s Quality Assurance/Quality Control Program. |
| **Relevancies to Route 606 Bridge Replacement Project:** This project completed the final segment of the Fairfax County Parkway from Rolling Road to I-95. The Project included a 6-lane divided, limited access highway, improvements to the Franconia Springfield Parkway interchange including a relocation of Hooes Road, widening of Ramp D to 2-lanes, construction of three noise barriers and a new bridge carrying relocated Rolling Road over the Fairfax County Parkway. |

| 5. National Geospatial Intelligence Agency, NCE – North Loop Road Project Design-Build, Fort Belvoir, Virginia |
| Shirley Contracting Company, LLC, Senior Construction Manager/Project Superintendent (May 2008 – September 2010) |
| **Responsibilities:** Tom’s responsibilities on this $27M project included management and oversight of all day to day field construction activities including roadway, grading/earthwork, bridge construction and maintenance of traffic. He managed Shirley’s self-perform work as well as the work of Project subcontractors. Tom also monitored the project CPM schedule and daily construction activities for compliance with the Project’s Quality Assurance and Quality Control Program. |
| **Relevancies to Route 606 Bridge Replacement Project:** The project included 5,380 L.F. of roadway construction, a 500 L.F. bridge over Accotink Creek, four retaining walls, underground communication and electrical distribution systems, and security features including traffic control points, guard booths, active barriers, security warning devices, and lighting. |

h. For Key Personnel required to be on-site full-time for the duration of construction, provide a current list of assignments, role, and the anticipated duration of each assignment. **Tom is currently assigned to the Dulles Corridor Metrorail Phase 2A Project. That assignment is expected to end spring of 2017. Tom will be available for the start of construction on the Route 606 Bridge Replacement Project anticipated to start in summer of 2017.**
3.4.1 - Work History Forms
### PROJECT NARRATIVE:

In March 2005 TRIP II awarded Shirley Contracting Company LLC, (Shirley) the $71 million Dulles Greenway Design-Build Capital Improvement Program. Our team was chosen by TRIP II in large part because of our highly successful experience working together as a design-build team, excellent safety record, partnering approach, and experience integrating the various project elements. The project entailed designing and constructing the ultimate improvements to the Greenway as required by their contract with Virginia. The overall project was comprised of eight individual projects combined into a single design-build program. Shirley served as the Lead Contractor and Dewberry Consultants LLC was the Lead Designer.

As part of the scope, two new bridges at Shreve Mill Road and Battlefield Parkway as well as the widened bridges of Route 606 and Route 772 (Ryan Road) were constructed over the Limited Access Dulles Greenway. Additionally, Shirley completely demolished and removed the existing Tolbert Street Bridge crossing over the Greenway adjacent to Leesburg Airport. All work was coordinated with maintenance of traffic operations with critical elements being performed at night for safety and traffic operations considerations. Elements of the construction scope required that all improvements be completed without any loss to the capacity of the toll facility, in a manner that maintained all existing access and traffic movements, and in a safe high-quality manner. With over 75,000 vehicles per day utilizing the facility, the team successfully achieved this goal.

### PROJECT SCOPE:

- 2-new interchanges at Battlefield Parkway and Shreve Mill Road
- Widening of 14 bridges
- Enhancements to an existing interchange at Route 606
- Widening of the mainline roadway from 4 to 6-lanes for a distance of 6.2 miles
- Extensive Maintenance of Traffic Operations
- Environmental permitting
- Utility relocation
- Bridge construction over traffic
- Comprehensive Safety Project-over 300,000 man hours with no lost time accidents

### SHIRLEY’S ROLE:

As the Lead Contractor, Shirley was responsible for all aspects of the design and construction of the Project, including: roadway, structures, toll facilities expansion, maintenance of traffic, environmental permitting, utility relocations and quality control. Shirley also handled stakeholder coordination and public outreach, as well as overall project management and coordination with other ongoing projects within the corridor.

### VERIFIABLE EVIDENCE OF GOOD PERFORMANCE:

1. In addition to enhanced safety features and increased capacity in final design, our team developed detailed Traffic Management Plans that focused on maintaining lane widths and travel speeds and reduced the impact to traffic during interim construction phases.
2. Shirley partnered with the Town of Leesburg and the local community to avoid impact to local soccer fields. A segment of the Town’s right-of-way was acquired and was being used for little league soccer games. Shirley resequenced the CPM schedule to avoid impacting the area until after the completion of the soccer season, allowing the community time to find alternate playing fields for the next season. This schedule resequencing was an example of our Team’s willingness to partner with the Owner and local communities to maintain positive public perception.
3. We established a comprehensive, project specific, Safety, Health and Welfare Program for the Greenway to assure the safety of everyone. On the Greenway, our employees logged more than 300,000 man hours with no lost time accidents.
4. All work was performed with no reduction in capacity for the 75,000+ vehicles per day utilizing the existing toll facility.
5. Shirley opened the mainline widening of the Greenway six months ahead of schedule.

### AWARDS:

- **2008 Regional Design-Build Excellence Award** for large transportation projects presented by the Design-Build Institute of America (DBIA).
As the Lead Contractor, Shirley was responsible for all aspects of the design and construction of the Project, including environmental permitting, utility relocations, right-of-way acquisitions, public relations and stakeholder coordination, construction, safety, and quality assurance and quality control.

**VERIFIABLE EVIDENCE OF GOOD PERFORMANCE:**

1. Our team held a public hearing and met individually with all adjacent home owners associations. The extensive public outreach completed during the design highlighted the intense public interest and set the stage for a detailed public relations effort. Additionally, we sent mailings of notices for meetings and traffic detours, and we held regular pardon our dust meetings to keep the public informed of the project's status.

2. The Project also provided our team with the opportunity to gain experience with the local geology and existing conditions in the area of the Project. During the project, FHWA, VDOT and our team identified a concern with the original design concept that provided a single lane exit to southbound Fairfax County Parkway that then opened to 2-lanes on the ramp. Noting that the traffic volumes are higher for southbound Fairfax County Parkway movement than the Fairfax County Parkway to Franconia Springfield Parkway through movement, the team agreed to modify the final signage and striping to provide a dual lane exit for Fairfax County Parkway. The revised design concept also included modifications to the proposed alignment of Fairfax County Parkway and Rolling Road that resulted in significantly reduced right-of-way impacts to Fort Belvoir.

3. During the final year of the project, EFLHD FHWA and our team agreed on a change order for the Park and Ride Facility and completed the design, environmental permitting, and construction of the project.

**PROJECT SCOPE:**

- Modification of existing interchange
- Roadway and ramp widening
- New 2-span 220' long bridge over limited access facility
- Environmental mitigation
- 2 SWM Ponds
- 3 New Signals
- 3 Noise Barriers
- Sidewalk and shared use path
- 8 Overhead sign structures
- Lighting
- Extensive landscaping

**PROJECT NARRATIVE:**

*Shirley Design-Build, LLC is a subsidiary of Shirley Contracting Company, LLC (100% owned and controlled). Shirley Design-Build, LLC will not have a role on the Route 660 design-build project as they are no longer active.*

**SHIRLEY’S ROLE:**

As the Lead Contractor, Shirley was responsible for all aspects of the design and construction of the Project, including environmental permitting, utility relocations, right-of-way acquisitions, public relations and stakeholder coordination, construction, safety, and quality assurance and quality control.

**VERIFIABLE EVIDENCE OF GOOD PERFORMANCE:**

1. Our team held a public hearing and met individually with all adjacent home owners associations. The extensive public outreach completed during the design highlighted the intense public interest and set the stage for a detailed public relations effort. Additionally, we sent mailings of notices for meetings and traffic detours, and we held regular pardon our dust meetings to keep the public informed of the project's status.

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3. During the final year of the project, EFLHD FHWA and our team agreed on a change order for the Park and Ride Facility and completed the design, environmental permitting, and construction of the project.

**PROJECT SCOPE:**

- Design-Build Delivery
- Roadway Construction & Widening
- Structures and Bridges
- Environmental Permitting
- Geotechnical Challenges
- MOT Operations
- Quality Assurance & Quality Control
- Utility Relocations
- Pedestrian Accommodations
- Worked with Lead Designer – Dewberry
- Proposed Key Personnel on this Project:
  - Joe Fragale
  - Tom O’Brien

**SIMILARITIES TO ROUTE 660 BRIDGE REPLACEMENT OVER I-95 WITH 606 IMPROVEMENTS**

- Design-Build Delivery
- Roadway Construction & Widening
- Structures and Bridges
- Environmental Permitting
- Geotechnical Challenges
- MOT Operations

**ROUTE 606 BRIDGE REPLACEMENT OVER I-95 WITH 606 IMPROVEMENTS**

A DESIGN-BUILD PROJECT
In June 2012, Shirley Contracting Company, LLC was awarded the I-95 Ramp from Fort Belvoir North Area (FBNA) by Federal Highway Administration’s Eastern Federal Lands Highway Division (EFLHD). The Project Scope included construction of an 1,184 foot long roadway connecting the existing I-95 HOV Flyover Ramp to I-95 North to the new NCE Campus Heller Loop and associated network of roadways. The ramp allows easy access for workers and commuters departing the new government facility into the I-95 Express Lanes (Southbound), thus relieving congestion of local roadways in and around the area.

The roadway consisted of two new bridge structures: Bridge B603 spanning Field Lark Branch at the western end of the project and Bridge B602 spanning existing Backlick Road and I-95 South/95 Express Lanes as it ties into the Flyover bridge on the eastern end. “Sandwiched” between the two structures was a 580 foot length of elevated roadway mainly supported by Mechanically Stabilized Earth (MSE) Walls and several systems or techniques of soil and ground improvements including pile supported concrete pads, use of Geo-foam lightweight fill for slope stability purposes, and Vibro-Concrete Columns (VCC) to support the embankment between. The ground improvements were necessary due to existing unconsolidated soil fills and residual soils placed from a previous building site.

Early in the bid process, Shirley recognized that a more effective and efficient solution was achievable to mitigate soft ground conditions. Following award, Shirley presented a Value Engineering Cost Proposal (VECP) to eliminate the proposed ground improvement techniques and replace this section of roadway with a five span bridge structure for the equivalent length and maintaining roadway elevations, super-elevations and widths. The new bridge was labeled as ‘B603 Extended’. In October of 2102, EFLHD approved Shirley’s VECP recognizing the advantages such as elimination of the costly ground improvements elements, use of known and proven methods of bridge design and construction performed to current FHWA and VDOT specifications and standards producing lower cost construction methods even after considering the redesign costs factored into the Cost Analysis.

The bridge structure spanning Backlick Road/I-95 Southbound and the 95-Express Lanes was constructed with substructure elements in tight working areas similar to the Route 606 Bridge over I-95. Areas were confined by traffic barrier service and equipment was sized to the working conditions available. Deliveries of major materials including piling and reinforcing steel and concrete were highly coordinated with allowable lane closures and work windows. Erection of bridge girders and the subsequent painting over the interstate roadways required meticulous planning as the project was required to coordinate all work with the active I-95 Express Lanes Project and its high priority status. Shirley developed project specific maintenance of traffic plans and steel erection procedures in order to meet the aggressive schedule.

VERIFIABLE EVIDENCE OF GOOD PERFORMANCE:

1. The VECP was approved with a savings of over $750,000 to the Project. Additional advantages of the VECP included:
   - Reduced the impacts of known contaminated soils by spanning over the areas and eliminating over-excavation and grading on the project.
   - Eliminated the need for relocation of an 8” Sanitary Sewer and 8” watermain adjacent to Backlick Road.
   - Lower life-cycle costs. The use of Pre-stressed Concrete Bulb-T Girders removed the need for costly bridge painting and corrosion protection.

2. Additional scope was added to allow ITS coordination with the new I-95 Express Lanes Contract. Timing was critical as the new I-95 Ramp from FBNA was scheduled to open with the grand opening of all the 95 Express Lanes in December 2014. The Project was opened on time.
**Project Name & Location**

Name: Route 7 Westbound Truck Climbing Lane Design-Build  
Location: Loudoun County, VA

**Name of Client**

Virginia Department of Transportation  
Project Manager: Sanjeev Suri, PE, PMP  
Phone: 703-259-2232  
Email: Sanjeev.suri@vdot.virginia.gov

**Contract Value (in thousands)**

<table>
<thead>
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<th>Construction Contract Value (Original)</th>
<th>Construction Contract Value (Actual or Estimated)</th>
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<tr>
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<td>$28,780* *Difference Due to Owner added scope</td>
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<tr>
<td>$1,984</td>
<td></td>
</tr>
</tbody>
</table>

**Design Fee for the Work Performed by the Firm identified as the Lead Designer for this procurement.(in thousands)**

$1,984

**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.**

For a project with multiple phases or multiple contracts, only one phase or one contract will be considered. If additional phases or contracts are shown under the same Work History Form, only the first phase or contract listed will be evaluated.

**PROJECT NARRATIVE:**

In 2013, the Shirley-Dewberry design-build Team was awarded the contract to construct a truck climbing lane along westbound Route 7 between the West Market Street Interchange and the Route 9 Interchange. In addition to the truck climbing lane, median access and intersection locations were modified or closed in order to improve the safety of the corridor, and new local roads were completed adjacent to Route 7 to maintain access to local communities and residential properties. The existing West Market Street Interchange was modified to accommodate new turning movements, and the Route 9 Interchange was reconfigured to eliminate stop-controlled interchange ramp intersections and replace them with single- and multi-lane roundabouts.

To further improve safety and operations at the Route 9 Interchange, the Washington and Old Dominion (W&OD) Regional Trail was reconfigured to eliminate at-grade, unsignalized crossings and incorporate a free-flow grade separated facility which now passes beneath Route 9 and an interchange ramp. To provide this new trail alignment, a new single-span arch structure was completed beneath one of the interchange ramps, and architectural treatments and landscaping were incorporated to mimic adjacent trail features and structural elements.

**SIMILARITIES TO ROUTE 606 BRIDGE REPLACEMENT OVER I-95 WITH 606 IMPROVEMENTS**

- Design-Build Delivery
- Roundabout Design
- Field Survey and Base Mapping
- Environmental Permitting
- Geotechnical Investigations
- Roadway Design
- Structural and Bridge Design
- Hydraulic Design
- Traffic Control, TMP
- Right-of-Way Plans
- Pedestrian Accommodations
- Utility Relocation Design
- Public Involvement / Communication
- Quality Assurance / Quality Control
- Construction Engineering & Inspection
- Project Management
- Experience of Team Working Together

**DEWBERRY’S ROLE:**

As the lead engineer, Dewberry’s Fairfax, Virginia office was responsible for completion of all engineering services required by the scope of the project. Additional services completed by Dewberry’s Fairfax office included field surveys and all environmental permitting and documentation. Dewberry also oversaw sub-consultant services to complete updated project aerial mapping, utility designations and test pits, geotechnical investigations, and pipe condition inspections and analysis.

During construction, Dewberry continued to attend public outreach meetings with the local community and regular progress meetings with VDOT and Loudoun County. Dewberry also reviewed all construction submittals, responded to construction RFIs, and completed permit monitoring as required by the environmental permits.

Similar to the Route 606 project, the Route 7 Truck Climbing Lane project included construction of two roundabouts to improve operations at the existing interchange. During design, Dewberry worked with VDOT to complete additional analysis of the roundabouts at the Route 9 Interchange, and developed alternate concepts for both single lane and two-lane operations. Original contract requirements were to open the roundabouts in a single lane configuration, but complete construction to facilitate reconfiguring to two-lane operations in the event that traffic volumes required the added capacity. Based on continued public outreach and additional analysis of the roundabouts, our Team and VDOT recognized the need to immediately open the roundabouts to two-lane operations.

Dewberry worked to update the plans for the two-lane configuration, which was completed without delay to the project or additional impacts to the travelling public.

**VERIFIABLE EVIDENCE OF GOOD PERFORMANCE:**

1. In The project was completed on-time, including additional scope elements to provide additional landscaping adjacent to private properties along Route 7 and modify the roundabouts to provide 2-lane operations.
**PROJECT NARRATIVE:**

In 2009, the Shirley-Dewberry design-build team was awarded the Fairfax County Parkway – Phase III contract. This section of the Parkway, between the Franconia-Springfield Parkway and Rolling Road, represented the final section of the Parkway that required completion to provide a continuous connection between Route 7 to the north and Route 1 to the south. Under contract to Eastern Federal Lands Highway Division (EFLHD), and with close coordination from VDOT, Fairfax County, and the U.S. Army, the project converted existing Rolling Road into the Fairfax County Parkway. The existing roadway pavement was demolished and reconstructed, and additional lanes were added to provide increased capacity and additional connections to the adjacent Franconia-Springfield and Barta Road Interchanges. Hooes Road was reconfigured to accommodate the new interchange ramp movements at Franconia-Springfield Parkway, and a new overpass was completed to maintain local road network access over and around the final section of the Fairfax County Parkway.

Prior to selection of our Team for final design, preliminary concepts proposed a complete realignment of Rolling Road to create the Fairfax County Parkway, which required clearing of approximately 5 acres of forest on Army property and immediately adjacent to a residential community. Our Team developed an alternate concept which retained the existing alignment, avoiding the forested clearing, and eliminated acquisition of more than 5 acres of right-of-way from the Army. Our Team completed the coordination necessary to obtain approval of a revised environmental document, including holding several public hearings and public meetings, obtaining approval from the Fairfax County Board of Supervisors, and VDOT, all without delay to the completion of the project.

Following design of the Phase III improvements but prior to construction completion, VDOT and EFLHD added a park and ride lot at the Barta Interchange to the scope of the project. This new facility provides parking for 535 vehicles, a bus stop and bus shelters, and additional pedestrian facilities.

**PROJECT SCOPE:**

- **Traffic Control, TMP, and Signal Design**
- **Right-of-Way Plans**
- **Pedestrian Accommodations**
- **Utility Relocation Design**
- **Public Involvement/communication**
- **Quality Assurance/Quality Control**
- **Construction Engineering & Inspection**
- **Experience of Team Working Together**
- Field surveys
  - Environmental permitting and Environmental Document re-evaluation
  - Traffic and operational analysis and documentation
  - Roadway design of principal and local roadway facilities
  - Structural design, including the Hooes Road bridge over the Parkway
  - Hydraulic and stormwater management design
  - Temporary traffic control and transportation management plan development
  - Traffic signal design and timing plan development
  - Lighting and electrical design
  - Utility relocation designs (water, sewer, and overhead utility alignment development)
  - Public meeting preparation, attendance, and support

**DEWBERRY’S ROLE:**

As the lead engineer, Dewberry’s Fairfax, Virginia office was responsible for all services outlined in the “Project Scope” as well as coordination with sub-consultants and VDOT. In addition to providing all design services, Dewberry completed all field surveys and environmental documentation, including wetland delineations and preparation of permit application packages. During development of the plans, and in support of gaining approval of the environmental document re-evaluation, Dewberry prepared presentations and graphics for multiple public hearings, public meetings, and citizen outreach meetings.

Dewberry’s lead engineering staff attended regular progress meetings with EFLHD, VDOT, and Fairfax County to obtain plan approval, and remained involved during construction by continuing to attend regular coordination meetings and review all submittals, shop drawings, and RFI’s necessary for successful completion of the project.

Similar to the Route 606 Project, the Fairfax County Parkway – Phase III project completed a new 2-span overpass of a limited access facility and completely reconstructed the approach roadways to the new bridge. Existing travel lanes were maintained at all times under the new overpass, as will be required on I-95 beneath the Route 606 bridge. Similar to the coordination which will be required with the adjacent Dominion Raceway development, the Phase III project was coordinated with the adjacent development of a new government facility that opened during construction to more than 1000 federal employees as part of the Base Realignment and Closure (BRAC) process. **VERIFIABLE EVIDENCE OF GOOD PERFORMANCE:**

1. The project was completed on-time and under budget including the additional process of obtaining approval of the environmental document re-evaluation.
2. During development of preliminary plans prior to award of the design-build contract award, we were notified that public meetings were very contentious and none of the adjacent residences agreed to the preliminary design roadway concept. By realigning the roadway and avoiding clearing adjacent to adjacent properties, and by reconfiguring the interchange ramps at the Franconia-Springfield Parkway, our Team was able to provide additional buffers to adjacent residential communities, install noise barriers without directly impacting individual homeowner properties, and obtain acceptance of all adjacent communities prior to approval of the environmental document re-evaluation.
3. Based on the good performance of our Team during design and construction of the Phase III improvements, EFLHD and VDOT increased the contract time and scope to allow for completion of a new park and ride lot at the Barta Interchange, located at the southern end of the original project scope. This additional work was completed without additional private property impacts and without further impacts to the local roadway network.
**PROJEC T NARRATIVE:**

In 2013, the Shirley-Dewberry design-build Team was awarded the contract to widen I-66 for approximately 2.5 miles between Gainesville and Haymarket from a 4-lane facility to an 8-lane facility including one HOV lane in each direction. Existing bridges carrying Catharpin Road and Old Carolina Road over I-66 needed to be demolished and reconstructed, and the existing ramps at the Route 15 Interchange in Haymarket required realignment and widening. Approximately 5 miles of noise barriers were included along I-66 to provide noise attenuation to the adjacent residential and school properties. To ease congestion early in the construction process, the westbound exit ramp at Route 15 was widened through an advance construction package and prior to installation of temporary barrier on I-66. As a result of this advance construction package and added ramp capacity, the nightly peak hour delays which extended onto the shoulder of I-66 were eliminated prior to placement of temporary barrier along I-66.

To facilitate construction of the new Old Carolina Road bridge, the existing roadway was closed to traffic and the bridge demolished to accommodate construction of a new 2-span bridge within the existing right-of-way. Retaining walls were extended from the end of the bridge to avoid utility and property impacts, and a shared use path was added on the west side of the road across the bridge.

The Catharpin Road bridge also required reconstruction to accommodate the widened I-66 corridor. In order to maintain traffic on the bridge during construction, our Team developed an alternate alignment for the roadway which utilized existing right-of-way to build the new bridge immediately east of the existing facility. A new shared use path was also incorporated on Catharpin Road over I-66.

**PROJECT SCOPE:**

- Field surveys
- Environmental permitting, wetland delineations, and permit monitoring
- Roadway design
- Structural design of Old Carolina and Catharpin Road bridges
- Hydraulic design and stormwater management
- Temporary traffic control and transportation management plan development
- Traffic signal design at the Route 15 Interchange Ramp
- Lighting and electrical design
- Public meeting preparation, attendance, and support

**ERIFIABLE EVIDENCE OF GOOD PERFORMANCE:**

1. The new Old Carolina Road bridge required closure of the existing roadway to facilitate construction within the existing right-of-way. While the original opening was planned for spring 2016, our Team worked with VDOT to accelerate construction, allowing the opening of the bridge to be completed in December 2015.