

B&B Copy

STATEMENT OF QUALIFICATIONS

A DESIGN-BUILD PROJECT

**INTERSTATE 66 ACTIVE TRAFFIC MANAGEMENT
(I-66 ATM)**

FROM

**DISTRICT OF COLUMBIA / VIRGINIA BORDER IN
ARLINGTON COUNTY**

TO

ARLINGTON, FAIRFAX AND PRINCE WILLIAM COUNTIES

**STATE PROJECT NO.: 0066-96A-917, P101, N501
FEDERAL PROJECT NOS.: IM-5A01(253) &
IM-5A01(274)**

CONTRACT ID NUMBER: C00098017DB46

**PREPARED FOR:
VIRGINIA DEPARTMENT OF TRANSPORTATION**

**PREPARED BY:
B&B SIGNAL COMPANY, LLC
MANASSAS, VIRGINIA**

DECEMBER 22, 2011



COMPANY, L.L.C.
Manassas, Virginia

December 22, 2011

Virginia Department of Transportation
1401 East Broad Street
Richmond, Virginia 23219

Re: Letter of Submittal
Statement of Qualifications
I-66 ATM, RFQ No.:C00098071DB46
VDOT Project #: 0066-96A-917, P101, Nf05
Federal Project #: IM-5A01(253) & IM-5A01(274)
Arlington, Fairfax, and Prince William Counties, Virginia

To Whom It May Concern:

B&B Signal Company, LLC (B&B) is pleased to submit our Statement of Qualifications (SOQs) on behalf of our Design-Build team for the Interstate 66 Active Transportation Management project. Our team consists of several highly qualified companies capable of meeting the project requirements. Listed below are the names and addresses of the companies that compose our team.

Dunn Engineering Associates, P.C.
66 Main Street
Westhampton Beach, New York 11978

SAIC
1710 SAIC Drive
McLean, VA 22102

Athavale, Lystad & Associates, Inc.
8180 Greensboro Drive, Suite 550
McLean, Virginia 22102

NXL
4515 Daly Drive, Suite H
Chantilly, Virginia 20151

B&B Signal Company, L.L.C.
12051 TAC Court
Manassas, Virginia 20109
Phone: (703) 393-8238
Fax: (703) 393-4780

Wetland Studies & Solutions, Inc.
5300 Wellington Branch Drive, Suite 100
Gainesville, Virginia 20155
Warren Electric & Signal Corporation
508 Kendrick Lane
Front Royal, Virginia 22630

Froehling & Robertson, Inc.
22923 Quicksilver Drive, Suite 111
Sterling, Virginia 20166

Point of Contact / Authorized Representative / Principal Officer

The point of contact for the B&B Design-Build team will be Paul A. Brown. Paul Brown will also be the principle officer and authorized representative of the Design-Build team. The contact information is as follows:

Name & Title:	Paul A. Brown, President
Address:	B&B Signal Company, LLC 12051 TAC Court Manassas, Virginia 20109
Phone:	(703) 393-8238
Fax:	(703) 393-4780
Email:	pbrown@bbsignal.com

Corporate Structure

B&B will perform the work under its present structure of a Limited Liability Company and shall undertake the financial responsibilities for the project with no liability limitations.

Bonding Approach

B&B Signal Company, LLC will obtain 100% payment and 100% performance bonds for this project. Attachment A to this letter includes a letter from B&B's bonding company, Liberty Mutual, per section 3.2.7 of the Request for Qualifications, as evidenced of our obtaining bonding.

DBE Statement

Our Design-Build team has taken steps and is committed to achieving the 15% DBE participation goal for this project. Our team members Athavale, Lystad & Associates and Warren Electric & Signal Corporation are both certified DBE firms in Virginia. Our team will continue to look for additional DBE participation throughout the duration of the project.

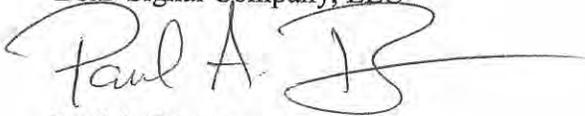
Affiliated/Subsidiary Companies

B&B has no affiliated/subsidiary companies that will work on this Design/Build project.

We have assembled an experienced and proven Design/Build team that is ready to apply our expertise on behalf of VDOT to successfully complete the project on time and within budget.

Please let us know should you have any questions or if we can be of further assistance. We look forward to working with you on this project.

Sincerely,
B&B Signal Company, LLC

A handwritten signature in black ink, appearing to read "Paul A. Brown", with a long horizontal flourish extending to the right.

Paul A. Brown
President



Liberty Mutual Surety

Ann Breene
Underwriting Assistant III

3 Valley Square, Suite 350
512 Township Line Road
Blue Bell, PA 19422
Phone: 215-283-6460
Fax: 215-283-2891

December 22, 2011

Virginia Department of Transportation
1401 E. Broad Street
Richmond, VA 23123

Re: Request for Qualifications
A Design-Build Project - Interstate 66 Active Traffic Management (I-66 ATM)
Contract ID Number: C00098017DB46
Estimated Contract Value - \$32,000,000

To Whom It May Concern:

B & B Signal Company, LLC has been a client of Liberty Mutual Insurance Company since 2006. In our opinion, B & B Signal Company, LLC is one of the finest, best-managed construction firms in the country. B & B Signal Company, LLC has handled each of its projects in a professional manner and completed all satisfactorily.

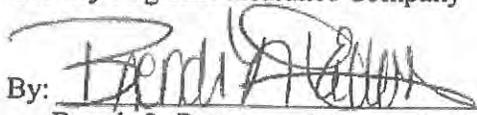
B & B Signal Company, LLC is capable of obtaining a 100% Performance Bond and 100% Labor and Materials Bond in the amount of the anticipated cost of construction, and said bonds will cover the Project and any warranty periods on behalf of the Contractor, in the event that such firm be the successful bidder and enter into a contract for the Project. This being contingent upon receipt of a contract and bond forms acceptable in terms and conditions to both B & B Signal Company, LLC and Surety, and B & B Signal Company, LLC's continued satisfaction of normal surety underwriting requirements.

This letter is not an assumption of liability, nor is it a bid bond or a performance bond. It is issued only as a bonding reference as requested by our client.

Liberty Mutual Insurance Company is listed on the U.S. Treasury Department's Listing of Approved Sureties (2011 Department Circular 570) \$884,904,000.00 and is rated A XV by A.M. Best Company.

Very truly yours,

Berkley Regional Insurance Company

By: 
Brenda L. Patterson, Attorney-In-Fact

Member of Liberty Mutual Group

THIS POWER OF ATTORNEY IS NOT VALID UNLESS IT IS PRINTED ON RED BACKGROUND.

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

LIBERTY MUTUAL INSURANCE COMPANY
BOSTON, MASSACHUSETTS
POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS: That Liberty Mutual Insurance Company (the "Company"), a Massachusetts stock insurance company, pursuant to and by authority of the By-law and Authorization hereinafter set forth, does hereby name, constitute and appoint **WILLIAM G. FRANEY, JOHN R. MUHA, II, BRENDA L. PATTERSON, JERI L. RUSSELL, ALL OF THE CITY OF LANHAM, STATE OF MARYLAND**.....

....., each individually if there be more than one named, its true and lawful attorney-in-fact to make, execute, seal, acknowledge and deliver, for and on its behalf as surety and as its act and deed, any and all undertakings, bonds, recognizances and other surety obligations in the penal sum not exceeding **ONE HUNDRED FIFTY MILLION AND 00/100******* DOLLARS (\$ **150,000,000.00*******) each, and the execution of such undertakings, bonds, recognizances and other surety obligations, in pursuance of these presents, shall be as binding upon the Company as if they had been duly signed by the president and attested by the secretary of the Company in their own proper persons.

That this power is made and executed pursuant to and by authority of the following By-law and Authorization:

ARTICLE XIII - Execution of Contracts: Section 5. Surety Bonds and Undertakings.
Any officer of the Company authorized for that purpose in writing by the chairman or the president, and subject to such limitations as the chairman or the president may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact, subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Company by their signature and execution of any such instruments and to attach thereto the seal of the Company. When so executed such instruments shall be as binding as if signed by the president and attested by the secretary.

By the following instrument the chairman or the president has authorized the officer or other official named therein to appoint attorneys-in-fact:

Pursuant to Article XIII, Section 5 of the By-Laws, Garnet W. Elliott, Assistant Secretary of Liberty Mutual Insurance Company, is hereby authorized to appoint such attorneys-in-fact as may be necessary to act in behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations.

That the By-law and the Authorization set forth above are true copies thereof and are now in full force and effect.

IN WITNESS WHEREOF, this Power of Attorney has been subscribed by an authorized officer or official of the Company and the corporate seal of Liberty Mutual Insurance Company has been affixed thereto in Plymouth Meeting, Pennsylvania this 4th day of April, 2011.

LIBERTY MUTUAL INSURANCE COMPANY



By Garnet W. Elliott
Garnet W. Elliott, Assistant Secretary

COMMONWEALTH OF PENNSYLVANIA ss
COUNTY OF MONTGOMERY

On this 4th day of April, 2011, before me, a Notary Public, personally came Garnet W. Elliott, to me known, and acknowledged that he is an Assistant Secretary of Liberty Mutual Insurance Company; that he knows the seal of said corporation; and that he executed the above Power of Attorney and affixed the corporate seal of Liberty Mutual Insurance Company thereto with the authority and at the direction of said corporation.

IN TESTIMONY WHEREOF, I have hereunto subscribed my name and affixed my notarial seal at Plymouth Meeting, Pennsylvania, on the day and year first above written.



COMMONWEALTH OF PENNSYLVANIA
Notarial Seal
Teresa Pastella, Notary Public
Plymouth Twp., Montgomery County
My Commission Expires March 23, 2013
Member, Pennsylvania Association of Notaries

By Teresa Pastella
Teresa Pastella, Notary Public

CERTIFICATE

I, the undersigned, Assistant Secretary of Liberty Mutual Insurance Company, do hereby certify that the original power of attorney of which the foregoing is a full, true and correct copy, is in full force and effect on the date of this certificate; and I do further certify that the officer or official who executed the said power of attorney is an Assistant Secretary specially authorized by the chairman or the president to appoint attorneys-in-fact as provided in Article XIII, Section 5 of the By-laws of Liberty Mutual Insurance Company.

This certificate and the above power of attorney may be signed by facsimile or mechanically reproduced signatures under and by authority of the following vote of the board of directors of Liberty Mutual Insurance Company at a meeting duly called and held on the 12th day of March, 1980.

VOTED that the facsimile or mechanically reproduced signature of any assistant secretary of the company, wherever appearing upon a certified copy of any power of attorney issued by the company in connection with surety bonds, shall be valid and binding upon the company with the same force and effect as though manually affixed.

IN TESTIMONY WHEREOF, I have hereunto subscribed my name and affixed the corporate seal of the said company, this 22nd day of December, 2011.



By David M. Carey
David M. Carey, Assistant Secretary

Not valid for mortgage, note, letter of credit, bank deposit, currency rate, interest rate or residual value guarantees.

To confirm the validity of this Power of Attorney call 1-610-832-8240 between 9:00 am and 4:30 pm EST on any business day.

PROFESSIONAL SERVICES EVIDENCE

SCC Registration

Table 1 presents a matrix for each member of the B&B Design-Build team with information on Virginia State Corporation Commission compliance.

DPOR Registration (Offices)

Table 2 presents a matrix for each member of the B&B Design-Build team with information on Virginia Department of Professional and Occupational Registration compliance.

DPOR Registration (Key Personnel)

Table 3 presents a matrix of each member of the B&B Design-Build team with information on Virginia Department of Professional and Occupational Registration for key personnel compliance.

DPOR Registration (Non-APELSCIDLA)

Table 3 also presents a matrix for each member of the B&B Design-Build team that is covered under DPOR Registration for Non-APELSCIDLA compliance.

These two firms are noted by an asterisk * and include B&B Signal Co., L.L.C. and Warren Electric & Signal Corp.

Full size copies of SCC and DPOR registration documentation is included in Appendix E.

Table 1. Commonwealth of Virginia State Corporation Commission

Name	Issued	Type of Corporation
B&B Signal Co., L.L.C.	Richmond, January 19, 2006	Limited Liability Company
Dunn Engineering Associates, P.C.	Richmond, March 5, 2008	New York Professional Corporation
SAIC	Richmond	Corporation
Athavale, Lystad & Associates, Inc.	Richmond, March 2, 1989	Maryland Corporation
NXL Construction Co Inc NXL Construction Services Inc	Richmond, July 10, 2007	Corporation
Warren Electric & Signal Corp.	Richmond, July 21, 1999	Corporation
Wetland Studies and Solutions, Inc.	Richmond, October 18, 1991	Corporation
Froehling & Robertson, Incorporated	Richmond, August 13, 2009	Stock Corporation (Incorporated October 11, 1924)

Table 2. Virginia Department of Professional and Occupational Registration (Office)

Firm	Address	Type	Number	Expires On
B&B Signal Co., L.L.C.	12051 TAC Court Manassas, VA 20109	Board for Contractors Class A Contractors License	2705 102987A	02/29/12
Dunn Engineering Associates, P.C.	66 Main Street Westhampton Beach, NY 11978	Board for APELSCIDLA Business Entity Registration Professions: ENG	Pending	Pending
SAIC	1710 SAIC Drive McLean, VA 22102	Board for APELSCIDLA Business Entity Registration Professions: ENG	Pending	Pending
Athavale, Lystad & Associates, Inc.	8180 Greensboro Drive, Suite 550 McLean, VA 22102	Board for APELSCIDLA Business Entity Registration Professions: ENG	0407002804	12/31/2011
NXL Construction Co Inc NXL Construction Services Inc	114 E Cary St, Suite 200 Richmond, VA 23219	Board for APELSCIDLA Business Entity Registration Professions: ENG, LS	0407003031	12/31/2013
NXL Construction Co Inc NXL Construction Services Inc	4515 Daly Drive, Suite H Chantilly, VA 20151	Board for APELSCIDLA Business Entity Registration Professions: LS	0411000535	2/29/2012
Warren Electric & Signal Corp.	1382 Strasburg Rd. PO BOX 572 Front Royal, VA 22630	Board for Contractors Class A Contractors License	2705 063543A	7/31/2013
Wetland Studies and Solutions, Inc.	5300 Wellington Branch Dr., Suite 100 Gainsville, VA 20155	Board for APELSCIDLA Business Entity Registration Professions: ENG, LS, LA	0407003355	12/31/2011
Froehling & Robertson, Incorporated	22923 Quicksilver Dr., Suite 111 Sterling, VA 20166	Board for APELSCIDLA Business Entity Registration Professions: ENG	411000051	2/29/2012

Table 3. Virginia Department of Professional and Occupational Registration (Key Personnel)

Name Firm Represented	Address	Board, Type	Number	Expires On
Paul A. Brown B&B Signal Co., L.L.C.	12051 TAC Court Manassas, VA 20109	Board for Contractors	Pending	Pending
Walter M. Dunn, Jr., PE Dunn Engineering Associates, P.C.	66 Main Street Westhampton Beach, NY 11978	Board for APELSCIDLA Professional Engineer Pending NCEES Reciprocity	Pending NCEES Reciprocity	Pending NCEES Reciprocity
Bryan Katz, PE SAIC	1710 SAIC Drive McLean, VA 22102	Board for APELSCIDLA Professional Engineer	038982	Pending
Tewold A. Iyob, PE Athavale, Lystad & Associates, Inc.	12720 Autumn Crest Drive Oak Hill, VA 20171	Board for APELSCIDLA Professional Engineer	0402017408	6/30/2013
Daniel P. Walsh, PE Athavale, Lystad & Associates, Inc.	17333 Lafayette Drive Olney, MD 20832	Board for APELSCIDLA Professional Engineer	0402026492	11/30/2013
Michael W. Saunders, PE NXL Construction Co Inc NXL Construction Services Inc	4500 Litchfield Drive Chesterfield, VA 23832	Board for APELSCIDLA Professional Engineer	0402041295	12/31/2013
Timothy E. Terry Warren Electric & Signal Corp	1382 Strasburg Rd Front Royal VA 22630	Board for Contractors Tradesman License	2710 028260	4/20/2012
Wetland Studies and Solutions, Inc.	5300 Wellington Branch Dr., Suite 100 Gainsville, VA 20155	Board for APELSCIDLA Land Surveyor	03401	7/31/2013
Oscar Rolando Merida, Jr, PE Froehling & Robertson, Incorporated	213 Golden Larch Terrace NE Leesburg, VA 20176	Board for APELSCIDLA Professional Engineer	0402041203	12/31/2013

*Non-APELSCIDLA

TEAM STRUCTURE

B&B has assembled an experienced, integrated Design-Build team that is highly qualified and meets all of the project requirements.

The following Table 4 presents a summary of scope of work assignments for our team.

The information on our key personnel are provided on the Key Personnel Resume Forms and are contained in Appendix F.

Each of the key personnel shall perform the responsibilities noted in the RFQ.

Our key personnel include:

Design-Build Project Manager:	Paul Brown
Quality Assurance Manager:	M. Saunders, P.E.
Lead Design Manager:	Tewolde Iyob, P.E.
Construction Manager:	Todd Brannan
Lead Designer:	Bryan Katz, P.E.
Lead Structural Engineer:	Daniel Walsh, P.E.
Electrical/ITS Supervising Technician:	Tim Terry

Each of our team members shall be supported by experienced supporting staff to assure all aspects of the Design and Build shall be performed in accordance with contract requirements.

Although not identified as "Key Personnel" two of our team personnel, Walter Dunn of DEA and Greg Krueger of SAIC, bring special skills to this project.

First, Greg Krueger was on loan from the State of Michigan to the Federal Highway Administration. Essentially, he was the national champion/leader for their Active Traffic Demand Management program. His expertise provides our team and VDOT for unequaled knowledge of all aspects of ATM/ATDM. Greg shall serve as ATM Manager/Specialist.

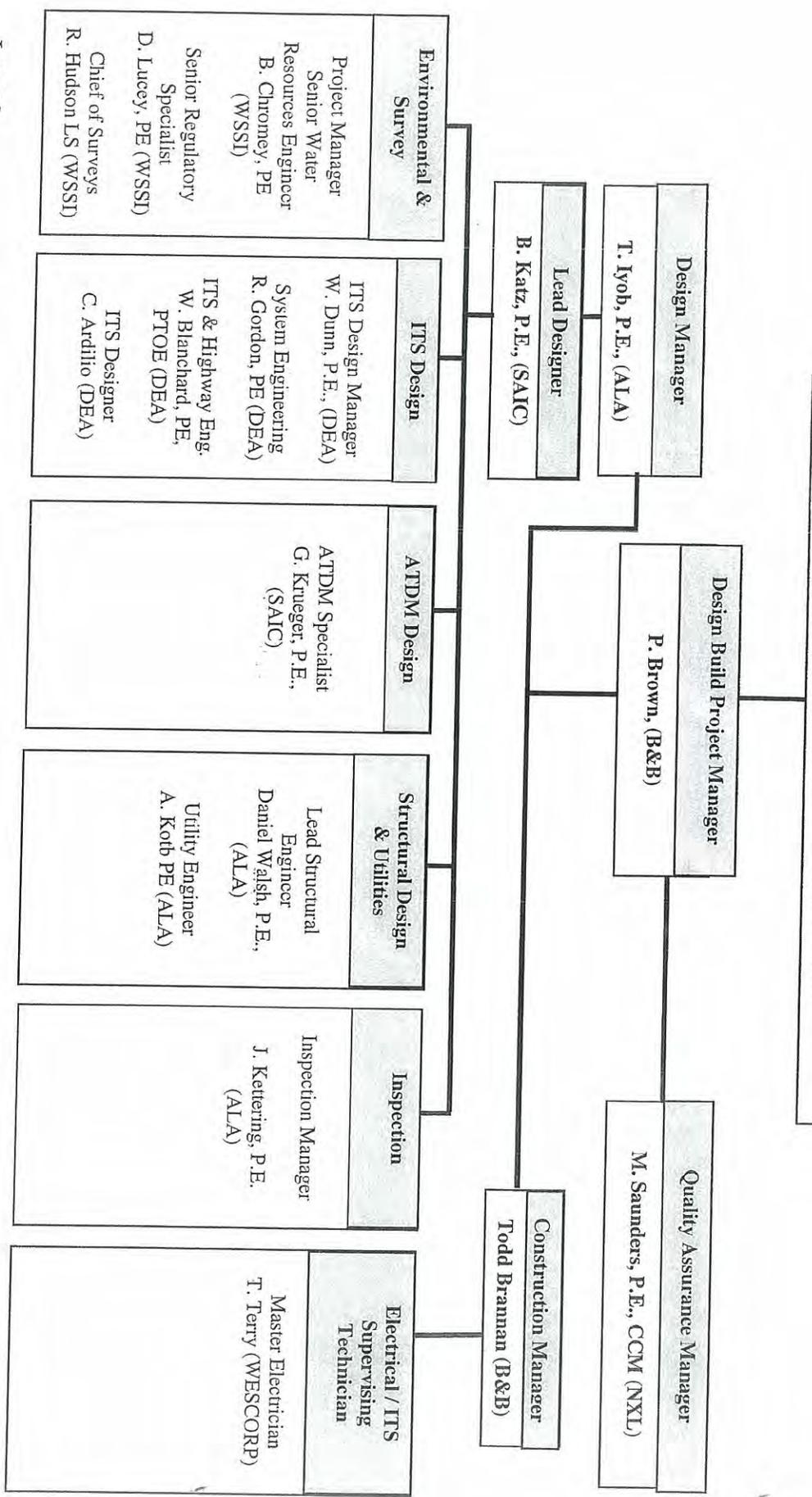
Second, Walter M. Dunn, is a nationally recognized leader of ITS. As leader of IT Design for the project he will bring his extensive knowledge of managing and completing major ITS projects to the I 66 ATM. Although licensed on numerous states, he has applied for a Virginia P.E. license under reciprocity and has been advised that it will be processed shortly.

Our organization chart for our team follows:

**Table 4
Summary of Scope of Work Assignments**

Team Member	Intelligent Transportation Systems (ITS)	Roadway	Survey	Structures	Environmental	Geotechnical	Hydraulics	Transportation Management Plan	Utilities	Public Involvement/Relations	Quality Assurance and QA Manager (QAM)	Railroad	Construction Engineering and Inspection	Overall Project Management
B&B Signal Co., LLC	X			X				X						X
Dunn Engineering Associates	X							X						X
SAIC	X							X		X				X
Athavale, Lysted & Associates		X		X			X		X			X	X	
NXL Construction Services											X			
WESCORP	X													
Wetlands Studies			X		X									
Froehling and Robertson						X								

Virginia Department of Transportation



Legend:

- B&B = B&B Signal Co., LLC
- DEA = Dunn Engineering Associates, P.C.
- SAIC = Science Applications International Corp.
- ALA = Ahavale, Lysted & Associates

- NXL = NXL Construction Services
- WESCORP = Warren Electric & Signal Corp.
- WSSI = Wetlands Studies & Solutions, Inc.
- F&R = Froehling and Robertson

Functional Relationships and Communications Narrative

In order to assure a fully integrated effort throughout design and construction as well as to assure integration with the Design and Construction Team:

- Frequent conference calls and team meetings as necessary to discuss project critical issues, status, and schedule compliance.
- Appropriate project management software will be utilized in conformance with VDOT requirements to maintain schedule and quickly identify critical issues.
- Maintain close working relationship with VDOT.
- Assure clear separation between QA and construction quality Control inspection and field/laboratory testing.

EXPERIENCE OF TEAM

Strengths of Lead Contractor

- Proven track record of successful completion of VDOT construction projects.
- Strong project management team with track record of managing multiple subcontractors.
- Extremely knowledgeable Field Crews in of electrical, structural and conduit work.
- Extensive use of state of the art equipment.
- Extremely knowledgeable of all VDOT Road, Bridge standards, specifications and work area protection manuals.
- Certified SWaM Contractor in Virginia

Strengths of Lead Design Firm

- Successfully completed design of major ITS projects of similar and greater size.
- Nationally recognized for its ITS experience ranging from feasibility studies, design, implementation, integration, evaluation and operations.
- Prepared numerous handbooks for FHWA, NCHRP and NHI relating to freeway incident management, planned special events, communications, incident command system, alternate route diversion, and safe and quick clearance of incidents (when asked what we know about these areas, we proudly exclaim “we wrote the book on it”). This knowledge and experience will be applied to guide and integrate the team.
- Certified in Virginia as a SWAM
- In addition to the three large scale projects listed on the Work History forms for the Lead Design Firm, Dunn Engineering (DEA) worked on the Boston Central Artery, the largest public works project for over 10 years. DEA prepared the preliminary design of the ITS/Freeway Surveillance and Control and then became part of the Bechtel/Parsons Brinckerhoff Management Team to oversee the work of other consultants. The Central Artery project and the listed three relevant design projects attest to the capability of the Lead ITS Design firm to successfully complete work on large scale projects. These skills and expertise shall be applied on behalf of VDOT to this project.

Relevant Projects

The Lead Contractor Work History Form is contained in Appendix G.

The Lead Design Work History Form is contained in Appendix H.

PROJECT RISKS

The Systems Engineering Bridge Document identifies project risks from a high level perspective. Some of the items relate to the overall project, but not necessarily to the design/builder's role. Others relate to risks that are common to ITS projects in general. The following discussion addresses those issues that we see as unique to the design/builder's role for I-66 ATM project.

This project introduces a more aggressive form of traffic management than has been the case with systems that primarily provide the motorist with traffic condition information and incident information and which supports emergency responders in managing incidents. While this higher degree of control provides benefits to the individual motorist and to overall system delay and safety, the consequences of a management system's failure to provide timely and correct information may be somewhat more severe. One design implication is that significant attention must be afforded to the need for reliable and redundant communications. The communication system must be able to handle and support the display of high quantities of video information loads, and we will test and assure that it is, in fact, so capable. Similarly, because of the large quantity of physical electronic equipment involved, the reliability of this equipment must be high, and the ability to rapidly detect failures must be provided. Equipment specifications will reflect these requirements.

Equipment placement is a key issue for ATM systems. The need for the motorist to respond to lane control signals and other ATM control measures implies important juxtapositions of motorist information devices and the detectors that control them. We will review other ATM installations in the U.S. and abroad in detail along with guidance documents, and will develop a "lessons learned" document and design guidelines for the I-66 ATM system. We will also employ a microscopic simulation model to help us adapt these guidelines to our site specific design.

The following discussion identifies three risk areas, and how we will mitigate the risks.

1. Detector Technology Selection and Placement

Issues and Consequences

While inductive loop detectors have been used extensively in the past, other forms of detectors reduce the installation and maintenance cost. They also avoid lane closures for maintenance. Some types also provide the capability to classify vehicles and to track them through the system. Our experience with other than inductive loop detection technologies indicates that some technologies may be weak in providing traffic parameters to the required accuracy, particularly at low speeds. In some cases, the performance of radar based detectors may be limited by the installation environment. Examples of the consequences of detector technologies and placements that do not conform to project performance requirements may be the following:

- End-of-queue detection – Failure to detect the proper end-of-queue location may result in improper DMS messages and improper data to speed control algorithms.
- Speed harmonization – Failure to provide appropriate speed information may affect the accuracy of lane speed messages.

- Shoulder lane detection – While stopped vehicle detectors may be used for this purpose, some of these detectors exhibit performance consistency limitations for this application.
- Proper detector placement for lane control, speed harmonization and other ATM strategies.
- Ramp metering – Our experience with ALINEA algorithms (on which the HERO algorithm, mentioned in the Systems Engineering Bridge Document, is based) indicates three potential issues:
 - The algorithm's performance depends on occupancy measurements that are accurate to within 1% or 2% of measured occupancy. Most installations using this type of algorithm employ inductive loop detectors. After review, we will recommend an appropriate technology.
 - The algorithm primarily meters a ramp by control detector measurements at a bottleneck location (or highest occupancy location) downstream of the ramp. The appropriate location is often not obvious, and some form of estimation must be used. We will use the microscopic simulation model in conjunction with physical observation to estimate the appropriate location.
 - In the event of failure of the control detector, the real time algorithm will not work at that ramp. Alternatives include use of pre-timed ramp metering at that ramp, employment of a detector at another location or installation of a redundant detector. We will make a site-specific recommendation for VDOT's approval.

Risk Mitigation Approach

- We will identify specific detector accuracy requirements as a function of speed for the ATM functions. We have done this in the past.
- We will review detector technology performance requirements and the installation constraints associated with the requirements.
- We will review detector technology and placement concepts employed by other ATM projects in the U.S. and in Europe as part of the review mentioned earlier.
- We will identify technologies and suppliers that have demonstrated capability to provide stopped vehicle detection for shoulder lanes.
- We will employ the microscopic simulation model to test proposed detector locations with end-of-queue, ramp metering, lane control, speed harmonization and ramp metering strategies.
- We will prepare a report for VDOT review on technology recommendations and proposed locations.
- Our detector specifications will include detailed performance and accuracy requirements according to speed ranges. Project relevant installation environment requirements and constraints will be included in the specifications.
- Factory acceptance tests and site acceptance tests for detectors will include a site relevant detector field test providing statistically significant performance results. Supplier payments will be linked to these results.
- Ramp meter risk mitigation issues are described above.

2. Traffic Management During Construction

Issues and Consequences

The project is located in an area that generally features heavy traffic demands. While ITS projects are generally less disruptive to traffic than conventional highway construction projects, the large amount of equipment required for the I-66 ATM project will result in some disruptions. The challenge is to plan the installation in a manner that minimizes disruption to normal traffic flow and safety, and maintains ITS services to the extent possible.

Risk Mitigation Approach

Working closely with VDOT, we will implement the following risk mitigation measures:

- The microscopic simulation model will be used to analyze the effect of MPT plans under the traffic conditions to be expected during that period. The accuracy and detail of this model is better than the models normally used to prepare MPT plans. The simulation will also be used to test plan modifications as unforeseen circumstances warrant.
- The construction work plan will be reviewed with VDOT one to two week in advance of construction to afford ample opportunity for adjustment based on the review.
- Where project installation disrupts normal ITS communications and where feasible, temporary communication service will be provided, along with portable DMS at the appropriate locations.
- An engineer will be stationed in the PSTOC. His/her duties will include development of DMS messages to support MPT plans, to monitor construction related congestion and to suggest provision of message modifications to support mitigation.
- Planned roadway closures, if necessary will be performed from 10PM to 5AM.
- Quality assurance review of the construction work plan and MPT plan will be performed by a highly experienced engineer with ITS and TMC operations experience.

3. Support of Software and Integration

Although the RFQ focuses on the design, installation and test of ITS equipment, the RFQ requires the design/builder to *coordinate, support and aid the parallel ATM application software effort*. This area of equipment and software integration has historically proved to be among the riskiest on ITS projects. The higher performance required for ATM systems indicates that this is a likely risk area that will be shared with the software supplier.

Issues and Consequences

Integration problems may result in the following:

- Improper communication between the PSTOC and field devices at the message level.
- Provision of unsafe indications to motorists.
- Provision of information to motorists that does not conform to the intent of the control.
- Other functional difficulties.

Risk Mitigation Approach

- Equipment specifications will contain requirements to test communication protocols to the specified standards.

- We will support the software supplier in determining whether problem is a software or equipment problem.
- We will support the software supplier in determining whether the problem is a software algorithm or equipment placement problem. The microscopic simulation maybe used as a tool to identify this cause and to assist the software supplier to provide appropriate algorithm tuning parameters.
- We will move field equipment, if necessary to achieve required performance.

Appendix A

ATTACHMENT 3.1.2

0066-96A-917, P101, N501

STATEMENT OF QUALIFICATIONS CHECKLIST AND CONTENTS

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

Statement of Qualifications Component	Form (if any)	RFQ Cross reference	Included within 20-page limit?	SOQ Page Reference
Statement of Qualifications Checklist and Contents	Attachment 3.1.2	Section 3.1.2	no	Appendix A
Acknowledgement of RFQ, Revision and/or Addenda	Attachment 2.10 (Form C-78-RFQ)	Section 2.10	no	Appendix B
Letter of Submittal (on Offeror's letterhead)				
Offeror's point of contact information	NA	Section 3.2.1	yes	1
Authorized Representative's signature	NA	Section 3.2.1	yes	2
Principal officer information	NA	Section 3.2.2	yes	3
Offeror's Corporate Structure	NA	Section 3.2.3	yes	2
Affiliated/subsidiary companies	NA	Section 3.2.4	yes	2
Debarment forms	Attachment 3.2.5(a) Attachment 3.2.5(b)	Section 3.2.5	no	Appendix C
Offeror's VDOT prequalification evidence	NA	Section 3.2.6	no	Appendix D
Evidence of obtaining bonding	NA	Section 3.2.7	yes	4

ATTACHMENT 3.1.2

0066-96A-917, P101, N501

STATEMENT OF QUALIFICATIONS CHECKLIST AND CONTENTS

Statement of Qualifications Component	Form (if any)	RFQ Cross reference	Included within 20-page limit?	SOQ Page Reference
Professional Services Evidence				
Full size copies of SCC and DPOR registration documentation (appendix)	NA	Section 3.2.8	no	Appendix E
SCC Registration	NA	Section 3.2.8.1	yes	6
DPOR Registration (Offices)	NA	Section 3.2.8.2	yes	7
DPOR Registration (Key Personnel)	NA	Section 3.2.8.3	yes	8
DPOR Registration (Non-APELSCIDLA)	NA	Section 3.2.8.4	yes	8
DBE statement within Letter of Submittal confirming Offeror is committed to achieving the required DBE goal	NA	Section 3.2.9	yes	2
Offeror's Team Structure				
Identity of and qualifications of Key Personnel	NA	Section 3.3.1	yes	9
Key Personnel Resume – DB Project Manager	Attachment 3.3.1	Section 3.3.1.1	no	Appendix F
Key Personnel Resume – Quality Assurance Manager	Attachment 3.3.1	Section 3.3.1.2	no	Appendix F
Key Personnel Resume – Design Manager	Attachment 3.3.1	Section 3.3.1.3	no	Appendix F
Key Personnel Resume – Construction Manager	Attachment 3.3.1	Section 3.3.1.4	no	Appendix F
Key Personnel Resume – Lead Designer	Attachment 3.3.1	Section 3.3.1.5	no	Appendix F

ATTACHMENT 3.1.2

0066-96A-917, P101, N501

STATEMENT OF QUALIFICATIONS CHECKLIST AND CONTENTS

Statement of Qualifications Component	Form (if any)	RFQ Cross reference	Included within 20-page limit?	SOQ Page Reference
Key Personnel Resume – Lead Structural Engineer	Attachment 3.3.1	Section 3.3.1.6	no	Appendix F
Key Personnel Resume – Electrical/ITS Supervising Technician	Attachment 3.3.1	Section 3.3.1.7	no	Appendix F
Organizational chart	NA	Section 3.3.2	yes	11
Organizational chart narrative	NA	Section 3.3.2	yes	12
Experience of Offeror's Team				13
Lead Contractor Work History Form	Attachment 3.4.1(a)	Section 3.4	no	Appendix G
Lead Designer Work History Form	Attachment 3.4.1(b)	Section 3.4	no	Appendix H
Project Risk				
Identify and discuss three critical risks for the Project	NA	Section 3.5.1	yes	14
				14

Appendix B

ATTACHMENT 2.10

**COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION**

RFQ NO. C00098017DB46
PROJECT NO.: 0066-96A-917, P101, N501

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 10/25/2011
(Date)
2. Cover letter of _____
(Date)
3. Cover letter of _____
(Date)



SIGNATURE

12/21/11

DATE

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

RFQ NO. C00098017DB46
 PROJECT NO.: 0066-96A-917, P101, N501

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 10/25/2011
(Date)
2. Cover letter of RFQ Addendum No. 1 12/13/2011
(Date)
3. Cover letter of _____
(Date)

Paul A. B.
SIGNATURE

12/21/11
DATE

Appendix C

ATTACHMENT NO. 3.2.5(a)

**CERTIFICATION REGARDING DEBARMENT
PRIMARY COVERED TRANSACTIONS**

Project No.: 0066-96A-917, P101, N501

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

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

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

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

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

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

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

Paul A. B. 12/20/11 President
Signature Date Title

B&B Signal Company, LLC
Name of Firm

ATTACHMENT NO. 3.2.5(b)

**CERTIFICATION REGARDING DEBARMENT
LOWER TIER COVERED TRANSACTIONS**

Project No.: 0066-96A-917, P101, N501

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

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

Walter M. Dunn, Jr. 12/21/11 PRESIDENT
Signature Date Title

DUNN ENGINEERING ASSOCIATES, P.C.
Name of Firm

ATTACHMENT NO. 3.2.5(b)

**CERTIFICATION REGARDING DEBARMENT
LOWER TIER COVERED TRANSACTIONS**

Project No.: 0066-96A-917, P101, N501

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

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

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

Melanifady 12/22/11 Sr. Contract Representative
Signature Date Title
Science Applications International Corporation
Name of Firm

ATTACHMENT NO. 3.2.5(b)

**CERTIFICATION REGARDING DEBARMENT
LOWER TIER COVERED TRANSACTIONS**

Project No.: 0066-96A-917, P101, N501

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

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



Signature

December 16, 2011

Date

President

Title

Athavale, Lystad & Associates, Inc.

Name of Firm

ATTACHMENT NO. 3.2.5(b)

CERTIFICATION REGARDING DEBARMENT
LOWER TIER COVERED TRANSACTIONS

Project No.: 0066-96A-917, P101, N501

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

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

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

Signature

Date

12/21/11

President

Title

NXL Construction Services
Name of Firm

ATTACHMENT NO. 3.2.5(b)

CERTIFICATION REGARDING DEBARMENT
LOWER TIER COVERED TRANSACTIONS

Project No.: 0066-96A-917, P101, N501

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

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

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

<u>James Kirby Jr</u>	<u>12/20/2011</u>	<u>PRESIDENT</u>
Signature	Date	Title
<u>FROENING & ROBERTSON, INC</u>		
Name of Firm		

ATTACHMENT NO. 3.2.5(b)

**CERTIFICATION REGARDING DEBARMENT
LOWER TIER COVERED TRANSACTIONS**

Project No.: 0066-96A-917, P101, N501

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

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

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

Tony Stumpf 12/20/11 VICE PRES
Signature Date Title

Warren Electrical Signal Corp.
Name of Firm

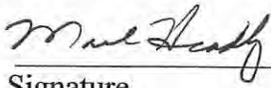
ATTACHMENT NO. 3.2.5(b)

**CERTIFICATION REGARDING DEBARMENT
LOWER TIER COVERED TRANSACTIONS**

Project No.: 0066-96A-917, P101, N501

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

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

	12/19/11	Executive Vice President
Signature	Date	Title

Wetland Studies and Solutions, Inc.

Name of Firm

Appendix D



COMMONWEALTH OF VIRGINIA



CERTIFICATE OF QUALIFICATION

B&B Signal Co., L.L.C.

Vendor Number: B969

In accordance with the Regulations of the Virginia Department of Transportation, you are hereby notified that the following Rating and Classifications has been assigned to you by the Commissioner:

PREQUALIFIED

Work Classes: Electrical Installation, Signing, Traffic Signal, Roadway Lighting

Issue Date: April 7, 2011

This Rating and Classification will Expire: February 29, 2012

Suzanne FR Lucas Prequalification Officer

Don E. Silles, State Construction Contract Officer

Appendix E

Commonwealth of Virginia



STATE CORPORATION COMMISSION

Richmond, January 19, 2006

This is to certify that the certificate of organization of

B&B Signal Co., L.L.C.

was this day issued and admitted to record in this office and that the said limited liability company is authorized to transact its business subject to all Virginia laws applicable to the company and its business. Effective date: January 19, 2006



State Corporation Commission

Attest:

Joel H. Beck
Clerk of the Commission

Commonwealth of Virginia



STATE CORPORATION COMMISSION

Richmond, March 5, 2008

This is to certify that a certificate of authority to transact business in Virginia was this day issued and admitted to record in this office for

DUNN ENGINEERING ASSOCIATES, P.C.

a corporation organized under the laws of NEW YORK and that the said corporation is authorized to transact business in Virginia, subject to all Virginia laws applicable to the corporation and its business.



State Corporation Commission

Attest:

Joel H. Beck
Clerk of the Commission

Commonwealth of Virginia



State Corporation Commission

I Certify the Following from the Records of the Commission:

ATHAVALE, LYSTAD & ASSOCIATES, INC., a corporation existing under the laws of MARYLAND, holds a certificate of authority to transact business in Virginia, and is in good standing.

The certificate was issued on March 02, 1989.

Nothing more is hereby certified.



*Signed and Sealed at Richmond on this Date:
August 24, 2009*

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

Commonwealth of Virginia



State Corporation Commission

I Certify the Following from the Records of the Commission:

NXL Construction Co., Inc. is a corporation existing under and by virtue of the laws of Virginia, and is in good standing.

The date of incorporation is November 17, 1989.

Nothing more is hereby certified.



*Signed and Sealed at Richmond on this Date:
July 10, 2007*

Joel H. Peck

Joel H. Peck, Clerk of the Commission

Commonwealth of Virginia



State Corporation Commission

I Certify the Following from the Records of the Commission:

FROEHLING & ROBERTSON, INCORPORATED, (Entity ID# 0027211-2), is a stock corporation existing under and by virtue of the laws of Virginia, and is in good standing.

The date of incorporation is October 11, 1924.

Nothing more is hereby certified.



*Signed and Sealed at Richmond on this Date:
August 13, 2009*

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

Commonwealth of Virginia



STATE CORPORATION COMMISSION

Richmond, July 21, 1999

This is to Certify that the certificate of incorporation of

WARREN ELECTRIC & SIGNAL CORP.

was this day issued and admitted to record in this office and that the said corporation is authorized to transact its business subject to all Virginia laws applicable to the corporation and its business. Effective date: July 21, 1999



State Corporation Commission
Attest:

Joel H. Peck

Clerk of the Commission

Commonwealth of Virginia



STATE CORPORATION COMMISSION

Richmond, October 18, 1991

This is to Certify that the certificate of incorporation of
WETLAND STUDIES AND SOLUTIONS, INC.

*was this day issued and admitted to record in this office
and that the said corporation is authorized to transact its
business subject to all the laws of the State applicable to the
corporation and its business. Effective date: October 18, 1991*



State Corporation Commission

William J. Budge

Clerk of the Commission

DEPARTMENT OF PROFESSIONAL AND OCCUPATIONAL REGULATION
COMMONWEALTH OF VIRGINIA

EXPIRES ON
02-29-2012

9960 Mayland Dr., Suite 400, Richmond, VA 23233
Telephone: (804) 367-8500

NUMBER
2705 102987A

BOARD FOR CONTRACTORS
CLASS A CONTRACTORS LICENSE

B&B SIGNAL CO LLC

12051 TAC CT

MANASSAS VA 20109

CLASSIFICATIONS H/H



Jay W. DeBoer
Jay W. DeBoer, Director

ALTERATION OF THIS DOCUMENT, USE AFTER EXPIRATION, OR USE BY PERSONS OR FIRMS OTHER THAN THOSE NAMED MAY RESULT IN CRIMINAL PROSECUTION UNDER THE CODE OF VIRGINIA.

(SEE REVERSE SIDE FOR NAME AND/OR ADDRESS CHANGE)

DEPARTMENT OF PROFESSIONAL AND OCCUPATIONAL REGULATION
COMMONWEALTH OF VIRGINIA

9960 Mayland Dr., Suite 400, Richmond, VA 23293
Telephone: (804) 367-8500

EXPIRES ON
12-31-2013

NUMBER
0402041203

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

OSCAR ROLANDO MERIDA JR
213 GOLDEN LARCH TERRACE NE
LEESBURG, VA 20176



Gordon N. Dixon
Gordon N. Dixon, Director

ALTERATION OF THIS DOCUMENT, USE AFTER EXPIRATION, OR USE BY PERSONS OR FIRMS OTHER THAN THOSE NAMED MAY RESULT IN CRIMINAL PROSECUTION UNDER THE CODE OF VIRGINIA.

(SEE REVERSE SIDE FOR NAME AND/OR ADDRESS CHANGE)

(POCKET CARD)

COMMONWEALTH OF VIRGINIA

BOARD FOR APPELSCIDLA
PROFESSIONAL ENGINEER LICENSE
NUMBER: 0402041203 EXPIRES: 12-31-2013



OSCAR ROLANDO MERIDA JR
213 GOLDEN LARCH TERRACE NE
LEESBURG, VA 20176

(DETACH HERE)

DEPARTMENT OF PROFESSIONAL AND OCCUPATIONAL REGULATION
9960 Mayland Dr., Suite 400, Richmond, VA 23293

ALTERATION OF THIS DOCUMENT, USE AFTER EXPIRATION, OR USE BY PERSONS OR FIRMS OTHER THAN THOSE NAMED MAY RESULT IN CRIMINAL PROSECUTION UNDER THE CODE OF VIRGINIA.

DEPARTMENT OF PROFESSIONAL AND OCCUPATIONAL REGULATION
COMMONWEALTH OF VIRGINIA

EXPIRES ON
02-29-2012

9960 Mayland Dr., Suite 400, Richmond, VA 23233
Telephone: (804) 367-8500

NUMBER
0411000051

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

PROFESSIONS: ENG

FROEHLING & ROBERTSON, INC
22923 QUICKSILVER DR STE 111
STERLING, VA 20166



James W. DeBorja
James W. DeBorja, Director

ALTERATION OF THIS DOCUMENT, USE AFTER EXPIRATION, OR USE BY PERSONS OR FIRMS OTHER THAN THOSE NAMED MAY RESULT IN CRIMINAL PROSECUTION UNDER THE CODE OF VIRGINIA.

(SEE REVERSE SIDE FOR NAME AND/OR ADDRESS CHANGE)

(POCKET CARD)

COMMONWEALTH OF VIRGINIA

BOARD FOR AP/ELSC/DLA
BUSINESS ENTITY BRANCH OFFICE REGISTRATION
NUMBER: 0411000051 EXPIRES: 02-29-2012
PROFESSIONS: ENG
FROEHLING & ROBERTSON, INC
22923 QUICKSILVER DR STE 111
STERLING, VA 20166



STOP

(DETACH HERE)

DEPARTMENT OF PROFESSIONAL AND OCCUPATIONAL REGULATION
9960 Mayland Dr., Suite 400, Richmond, VA 23233

ALTERATION OF THIS DOCUMENT, USE AFTER EXPIRATION, OR USE BY PERSONS OR FIRMS OTHER THAN THOSE NAMED MAY RESULT IN CRIMINAL PROSECUTION UNDER THE CODE OF VIRGINIA.

DEPARTMENT OF PROFESSIONAL AND OCCUPATIONAL REGULATION
COMMONWEALTH OF VIRGINIA

EXPIRES ON
12-31-2013

9960 Mayland Dr., Suite 400, Richmond, VA 23233
Telephone: (804) 367-8500

NUMBER
0402041295

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

MICHAEL WILLIAM SAUNDERS
4500 LITCHFIELD DRIVE
CHESTERFIELD, VA 23832



Gordon N. Dixon
Gordon N. Dixon, Director

ALTERATION OF THIS DOCUMENT, USE AFTER EXPIRATION, OR USE BY PERSONS OR FIRMS OTHER
THAN THOSE NAMED MAY RESULT IN CRIMINAL PROSECUTION UNDER THE CODE OF VIRGINIA.

(SEE REVERSE SIDE FOR NAME AND/OR ADDRESS CHANGE)

DEPARTMENT OF PROFESSIONAL AND OCCUPATIONAL REGULATION
COMMONWEALTH OF VIRGINIA

EXPIRES ON
02-29-2012

9960 Mayland Dr., Suite 400, Richmond, VA 23233
Telephone: 1 (804) 367-8500

NUMBER
0411000535

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

PROFESSIONS: LS

NXL CONSTRUCTION CO INC
NXL CONSTRUCTION SERVICES INC
4515 DALY DRIVE STE H
CHANTILLY, VA 20151



James W. DiBona
JAMES W. DiBONA, DIRECTOR

ALTERNATION OF THIS DOCUMENT, USE AFTER EXPIRATION, OR USE BY PERSONS OR FIRMS OTHER THAN THOSE NAMED MAY RESULT IN CRIMINAL PROSECUTION UNDER THE CODE OF VIRGINIA.

(SEE REVERSE SIDE FOR NAME AND/OR ADDRESS CHANGE)

(POCKET CARD)

COMMONWEALTH OF VIRGINIA

(DETACH HERE)

DEPARTMENT OF PROFESSIONAL AND OCCUPATIONAL REGULATION
8960 Mayland Dr., Suite 400, Richmond, VA 23233

BOARD FOR APPELSCIDLA
BUSINESS ENTITY BRANCH OFFICE REGISTRATION
NUMBER: 0411000535 EXPIRES: 02-29-2012
PROFESSIONS: LS



NXL CONSTRUCTION CO INC
NXL CONSTRUCTION SERVICES INC
4515 DALY DRIVE STE H
CHANTILLY, VA 20151

ALTERNATION OF THIS DOCUMENT, USE AFTER EXPIRATION, OR USE BY PERSONS OR FIRMS OTHER THAN THOSE NAMED MAY RESULT IN CRIMINAL PROSECUTION UNDER THE CODE OF VIRGINIA.

DEPARTMENT OF PROFESSIONAL AND OCCUPATIONAL REGULATION
COMMONWEALTH OF VIRGINIA

EXPIRES ON
12-31-2013

9960 Mayland Dr., Suite 400, Richmond, VA 23233
Telephone: (804) 367-8500

NUMBER
0407003031

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

PROFESSIONS: ENG, LS

NXL CONSTRUCTION CO INC
NXL CONSTRUCTION SERVICES INC
114 E CARY ST STE 200
RICHMOND, VA 23219



Gordon N. Dixon
Gordon N. Dixon, Director

ALTERATION OF THIS DOCUMENT, USE AFTER EXPIRATION, OR USE BY PERSONS OR FIRMS OTHER THAN THOSE NAMED MAY RESULT IN CRIMINAL PROSECUTION UNDER THE CODE OF VIRGINIA.

(SEE REVERSE SIDE FOR NAME AND/OR ADDRESS CHANGE)

(POCKET CARD)

COMMONWEALTH OF VIRGINIA
BOARD FOR ARCHITECTS, PROFESSIONAL ENGINEERS, LAND SURVEYORS, CERTIFIED INTERIOR DESIGNERS AND LANDSCAPE ARCHITECTS
BUSINESS ENTITY REGISTRATION
NUMBER: 0407003031 EXPIRES: 12-31-2013
PROFESSIONS: ENG, LS
NXL CONSTRUCTION CO INC
NXL CONSTRUCTION SERVICES INC
114 E CARY ST STE 200
RICHMOND, VA 23219



REG-10

(DETACH HERE)

DEPARTMENT OF PROFESSIONAL AND OCCUPATIONAL REGULATION
9960 Mayland Dr., Suite 400, Richmond, VA 23233

ALTERATION OF THIS DOCUMENT, USE AFTER EXPIRATION, OR USE BY PERSONS OR FIRMS OTHER THAN THOSE NAMED MAY RESULT IN CRIMINAL PROSECUTION UNDER THE CODE OF VIRGINIA.

DEPARTMENT OF PROFESSIONAL AND OCCUPATIONAL REGULATION
COMMONWEALTH OF VIRGINIA

EXPIRES ON
12-31-2011

9960 Mayland Dr., Suite 400, Richmond, VA 23233
Telephone: 1 (804) 367-8500

NUMBER
0407002804

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

PROFESSIONS: ENG

ATHAVALLE, LYSTAD AND ASSOCIATES INC
8180 GREENSBORO DRIVE
#550
MCLEAN, VA 22102



ALTERATION OF THIS DOCUMENT, USE AFTER EXPIRATION, OR USE BY PERSONS OR FIRMS OTHER
THAN THOSE NAMED MAY RESULT IN CRIMINAL PROSECUTION UNDER THE CODE OF VIRGINIA.

(SEE REVERSE SIDE FOR NAME AND/OR ADDRESS CHANGE)

DEPARTMENT OF PROFESSIONAL AND OCCUPATIONAL REGULATION
COMMONWEALTH OF VIRGINIA

EXPIRES ON
06-30-2013

NUMBER
0402017408

9960 Mayland Dr., Suite 400, Richmond, VA 23233
Telephone: (804) 367-8500

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

TEWOLDE A. IYOB
12720 AUTUMN CREST DRIVE
OAK HILL, VA 20171



Stephen N. Dixon
Stephen N. Dixon, Director

ALTERATION OF THIS DOCUMENT, USE AFTER EXPIRATION, OR USE BY PERSONS OR FIRMS OTHER THAN THOSE NAMED, MAY RESULT IN CRIMINAL PROSECUTION UNDER THE CODE OF VIRGINIA.

(SEE REVERSE SIDE FOR NAME AND/OR ADDRESS CHANGE)

(POCKET CARD) COMMONWEALTH OF VIRGINIA

BOARD FOR ARCHITECTS, PROFESSIONAL ENGINEERS, LAND SURVEYORS, CERTIFIED INTERIOR DESIGNERS
AND LANDSCAPE ARCHITECTS
PROFESSIONAL ENGINEER LICENSE
NUMBER: 0402017408 EXPIRES: 06-30-2013



TEWOLDE A. IYOB
12720 AUTUMN CREST DRIVE
OAK HILL, VA 20171

(DETACH HERE)
DEPARTMENT OF PROFESSIONAL AND OCCUPATIONAL REGULATION
9960 Mayland Dr., Suite 400, Richmond, VA 23233

ALTERATION OF THIS DOCUMENT, USE AFTER EXPIRATION, OR USE BY PERSONS OR FIRMS OTHER THAN THOSE NAMED MAY RESULT IN CRIMINAL PROSECUTION UNDER THE CODE OF VIRGINIA.

DEPARTMENT OF PROFESSIONAL AND OCCUPATIONAL REGULATION
COMMONWEALTH OF VIRGINIA

9960 Mayland Dr., Suite 400, Richmond, VA 23238
Telephones: (804) 367-8500

EXPIRES ON
11-30-2013

NUMBER
0402026492

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

DANIEL PATRICK WALSH
17333 LAFAYETTE DRIVE
OLNEY, MD 20832



Gordon N. Dixon
Gordon N. Dixon, Director

ALTERATION OF THIS DOCUMENT, USE AFTER EXPIRATION, OR USE BY PERSONS OR FIRMS OTHER THAN THOSE NAMED MAY RESULT IN CRIMINAL PROSECUTION UNDER THE CODE OF VIRGINIA.

(SEE REVERSE SIDE FOR NAME AND/OR ADDRESS CHANGE)

(POCKET CARD)

COMMONWEALTH OF VIRGINIA

BOARD FOR APPELSCIDLA
PROFESSIONAL ENGINEER LICENSE
NUMBER: 0402026492 EXPIRES: 11-30-2013



DANIEL PATRICK WALSH
17333 LAFAYETTE DRIVE
OLNEY, MD 20832

(DETACH HERE)

DEPARTMENT OF PROFESSIONAL AND OCCUPATIONAL REGULATION
9960 Mayland Dr., Suite 400, Richmond, VA 23238

16

ALTERATION OF THIS DOCUMENT, USE AFTER EXPIRATION, OR USE BY PERSONS OR FIRMS OTHER THAN THOSE NAMED MAY RESULT IN CRIMINAL PROSECUTION UNDER THE CODE OF VIRGINIA.

DEPARTMENT OF PROFESSIONAL AND OCCUPATIONAL REGULATION
COMMONWEALTH OF VIRGINIA

9860 Mayland Dr., Suite 400, Richmond, VA 23233
Telephone: (804) 367-8500

EXPIRES ON
12-31-2011

NUMBER
0407003355

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

PROFESSIONS: ENG, LS, LA

WETLAND STUDIES AND SOLUTIONS INC
5300 WELLINGTON BRANCH DR
STE 100
GAINESVILLE, VA 20155



James W. DeBorja
Director

ALTERATION OF THIS DOCUMENT, USE AFTER EXPIRATION, OR USE BY PERSONS OR FIRMS OTHER THAN THOSE NAMED MAY RESULT IN CRIMINAL PROSECUTION UNDER THE CODE OF VIRGINIA.

(SEE REVERSE SIDE FOR NAME AND/OR ADDRESS CHANGE)

(POCKET CARD)

COMMONWEALTH OF VIRGINIA

BOARD FOR AP/LS/CID/LA
BUSINESS ENTITY REGISTRATION
NUMBER: 0407003355 EXPIRES: 12-31-2011
PROFESSIONS: ENG, LS, LA
WETLAND STUDIES AND SOLUTIONS INC
5300 WELLINGTON BRANCH DR
STE 100
GAINESVILLE, VA 20155



Real

(DETACH HERE)

DEPARTMENT OF PROFESSIONAL AND OCCUPATIONAL REGULATION
9860 Mayland Dr., Suite 400, Richmond, VA 23233

ALTERATION OF THIS DOCUMENT, USE AFTER EXPIRATION, OR USE BY PERSONS OR FIRMS OTHER THAN THOSE NAMED MAY RESULT IN CRIMINAL PROSECUTION UNDER THE CODE OF VIRGINIA.

Department of Professional & Occupational Regulation
9960 Mayland Dr., Suite 400, Richmond, VA 23233
(804) 367-8500

BOARD FOR CONTRACTORS
TRADE LICENSE

Card No. 2710 28260

Issue Date: 4-15-1996
Expire Date: 4-15-2001

TIMOTHY EDWARD
1382 STRASBURG RD

FRONT ROYAL VA 22630



TRADE DESIGNATIONS
JOURNEYMAN ELECTRICIAN
MASTER ELECTRICIAN

Jay W. DeBoer
Jay W. DeBoer, Director

Department of Professional & Occupational Regulation

Alterations of this document, use after expiration, or use by persons other than those named may result in criminal prosecution.

DEPARTMENT OF PROFESSIONAL AND OCCUPATIONAL REGULATION
COMMONWEALTH OF VIRGINIA

EXPIRES ON
07-31-2013

9960 Mayland Dr., Suite 400, Richmond, VA 23293
Telephone: (804) 867-8500

NUMBER
2705 063543A

BOARD FOR CONTRACTORS
CLASS A CONTRACTORS LICENSE

WARREN ELECTRIC & SIGNAL CORP
WESCORP
1382 STRASBURG RD
PO BOX 572
FRONT ROYAL VA 22630



Gordon N. Dixon
Gordon N. Dixon, Director

CLASSIFICATIONS ELE H/H

REPRODUCTION OF THIS DOCUMENT, USE AFTER EXPIRATION, OR USE BY PERSONS OR FIRMS OTHER THAN THOSE NAMED MAY RESULT IN CRIMINAL PROSECUTION UNDER THE CODE OF VIRGINIA.

(SEE REVERSE SIDE FOR NAME AND/OR ADDRESS CHANGE)

COMMONWEALTH OF VIRGINIA

BOARD FOR CONTRACTORS - CLASS A
CONTRACTOR LICENSE - CLASSIFICATIONS: ELE
H/H

NUMBER: 2705 063543A EXPIRES: 07-31-2013
WARREN ELECTRIC & SIGNAL CORP
WESCORP
1382 STRASBURG RD
PO BOX 572



(BENCH HERE)
DEPARTMENT OF PROFESSIONAL AND OCCUPATIONAL REGULATION
9960 Mayland Dr., Suite 400, Richmond, VA 23293

DEPARTMENT OF PROFESSIONAL AND OCCUPATIONAL REGULATION
COMMONWEALTH OF VIRGINIA

EXPIRES ON
01-31-2012

9960 Mayland Dr., Suite 400, Richmond, VA 23233
Telephone: 1 (804) 367-8500

NUMBER
0403001602

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

RICHARD PRESTON HUDSON
5075 ROCK SPRINGS ROAD
WARRENTON, VA 20187



Jay W. DeBorja
Jay W. DeBorja, Director

ALLEGATION OF THIS DOCUMENT, USE AFTER EXPIRATION OR USE BY PERSONS OR FIRMS OTHER THAN THOSE NAMED MAY RESULT IN CRIMINAL PROSECUTION UNDER THE CODE OF VIRGINIA.

(SEE REVERSE SIDE FOR NAME AND/OR ADDRESS CHANGE)

DEPARTMENT OF PROFESSIONAL AND OCCUPATIONAL REGULATION
COMMONWEALTH OF VIRGINIA

9960 Mayland Dr., Suite 400, Richmond, VA 23233
Telephone: (804) 367-8500

EXPIRES ON

07-31-2012

NUMBER

0402034207

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

DANIEL CHARLES LUCEY
240 ALPINE DRIVE SE
LEESBURG, VA 20175-6133



Gordon N. Dixon
Gordon N. Dixon, Director

ALTERATION OF THIS DOCUMENT, USE AFTER EXPIRATION, OR USE BY PERSONS OR FIRMS OTHER THAN THOSE NAMED MAY RESULT IN CRIMINAL PROSECUTION UNDER THE CODE OF VIRGINIA.

(SEE REVERSE SIDE FOR NAME AND/OR ADDRESS CHANGE)

(POCKET CARD)

COMMONWEALTH OF VIRGINIA

BOARD FOR APPLSCIDLA
PROFESSIONAL ENGINEER LICENSE
NUMBER: 0402034207 EXPIRES: 07-31-2012

DANIEL CHARLES LUCEY
240 ALPINE DRIVE SE
LEESBURG, VA 20175-6133



DEPARTMENT OF PROFESSIONAL AND OCCUPATIONAL REGULATION
9960 Mayland Dr., Suite 400, Richmond, VA 23233

(DETACH HERE)

(FOLD)

ALTERATION OF THIS DOCUMENT, USE AFTER EXPIRATION, OR USE BY PERSONS OR FIRMS OTHER THAN THOSE NAMED MAY RESULT IN CRIMINAL PROSECUTION UNDER THE CODE OF VIRGINIA.

Appendix F

ATTACHMENT 3.3.1

KEY PERSONNEL RESUME FORM

Brief Resume of Key Personnel anticipated for the Project.

a. Name & Title:

Paul A. Brown, President

b. Project Assignment:

Design-Build Project Manager

c. Name of Firm with which you are now associated:

B&B Signal Company, LLC

d. Years experience: With this Firm 6 Years With Other Firms 5 Years

(2011-Present) President, B&B Signal Company, LLC
 (2006-2010) Vice President, B&B Signal Company, LLC
 (2005-2006) Project Manager, The Anderson Company, LLC
 (2002-2005) General Manager, The Brothers Signal Company, LLC
 (2001-2002) Project Engineer/Estimator, Phillip C. Clarke Electrical Contractor
 (1999-2001) Project Engineer, Atlantic Technical Sales, Inc.

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

Virginia Military Institute, Lexington VA / Bachelor of Science / 1999 / Civil Engineering

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

2009 – IMSA Work Zone Safety Specialist
 2009 – IMSA Traffic Signal Field Technician Level I
 2009 – IMSA Traffic Signal Field Technician Level II

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

1. VDOT Regional Traffic Signal Contract (Fairfax County)

Project started in mid 2002 and ended in mid 2004. This was a \$6,000,000 project which involved installing new signalized intersections throughout the county for VDOT. Work consisted of installing pole foundations, controller foundations, conduit, road bores, poles, various conductor cables using junction boxes a leaving adequate slack in the cable for future repairs, signal heads and hangers, loop detectors, video detection cameras and equipment, emergency pre-emption detection systems, 170 controllers, modifying controller timings, grounding electrical systems and electrical services. Responsibilities included meeting with VDOT to discuss specific construction items to include resolving issues that occur in the field, tracked daily quantities, ordered materials, coordinated with subcontractors, reviewed contract requirements, and submitted invoices for payment. This work was performed while employed at The Brothers Signal Company.

2. Tysons Corner Camera Installation Project

Project started in early 2006, was completed in late 2006, and cost approximately \$200,000. Work consisted of constructing a complete wireless video management system in Tysons Corner to monitor traffic during the Metrorail construction project. Work consisted on installing camera pole foundations, steel camera poles, installing bridge mounted conduit and underground conduit, road bores, electrical services, modifying electrical services, grounding electrical systems, installing COHU 3920 series iDome full motion cameras with hanger assemblies, adjusting camera assemblies for optimal performance, installing and adjusting wireless detectors, installing Belden conductor cable and fiber optic cable using junction boxes and leaving adequate slack for future repairs, installing equipment cabinets with control panels, transceivers, and power supplies. Responsibilities included attending team meeting with VDOT and general contractor to discuss construction related issues and resolve issues in the field, ordering material, tracking quantities, and reviewing contract requirements. This work was performed while employed at B&B Signal Company.

3. VDOT Maintenance Traffic Signal Contract (Northern Virginia)

Project started in early 2006, ended in mid 2008, and cost approximately \$4,000,000. Work consisted of installing pole foundations, controller foundations, conduit, road bores, poles, various conductor cables using junction boxes a leaving adequate slack in the cable for future repairs, signal heads and hangers, loop detectors, video detection cameras and equipment, emergency pre-emption detection systems, 170 controllers, modifying controller timings, grounding electrical systems, electrical services, replacing damaged loop detectors, installing and adjusting microwave detectors, and adjusting video detection equipment. Responsibilities included meeting with VDOT to discuss specific construction items to include resolving issues that occur in the field, tracked daily quantities, ordered materials, coordinated with subcontractors, reviewed contract requirements, and submitted invoices for payment. This work was performed while employed at The Brothers Signal Company.

ATTACHMENT 3.3.1

KEY PERSONNEL RESUME FORM

Brief Resume of Key Personnel anticipated for the Project.	
a. Name & Title:	Michael W. Saunders, PE, CCM, Project Manager/Quality Assurance Manager
b. Project Assignment:	Quality Assurance Manager
c. Name of Firm with which you are now associated:	NXL Construction Services, Inc.
d. Years experience: With this Firm <u><1</u> Years With Other Firms <u>7</u> Years Please list chronologically your employment history, position and general experience or fields of practice for the last fifteen(15) years:	<p>VDOT Project Control Engineer/Area Construction Engineer for Design-Build & Locally Administered Projects, Richmond District. Mr. Saunders was responsible for quality assurance and for coordinating constructability reviews to include developing pre-advertisement schedules and sequence of construction as well as for coordination of post-award schedule reviews and District Wide NOI and claims analysis. He was assigned as the Responsible Charge Project Manager for various Design Build projects throughout the Richmond District. The assignment included serving on the selection panel during the procurement phase and serving as Project Manager of the construction phase. Other responsibilities included attending weekly progress meetings and multiple design meetings and ultimately serving as the Responsible Charge Engineer, acting on behalf of the owner. His role was ensuring that the independent assurance and verification was performed for Design-Build projects, that all contract requirements and specifications are appropriately met, all required quality control testing and independent quality assurance is carried out in accordance with applicable requirements, and payments appropriately processed. Projects included the Route 36 BRAC Design-Build Project, I-295 Meadowville Interchange and the Fort Lee/Jefferson Park Road Roundabout Design-Build. Mr. Saunders was also responsible for Locally Administered Projects in the Richmond District. This assignment included handling post-award activities including monitoring project schedule and developments. He was also responsible for approving monthly pay vouchers on behalf of the Department prior to reimbursement to localities. May 2011-November 2011.</p> <p>VDOT Area Construction Engineer, Richmond District, Southern Area Construction. Mr. Saunders was responsible for executing a 6-year program to include managing all aspects of construction/maintenance contracts safely, with quality, on time and within budget. He provided Responsible Charge supervision and technical guidance to Construction Managers and Inspectors during project delivery for design-build and design-bid-build projects. He used Primavera for manpower planning and schedule reviews and approvals. He coordinated with project controls staff in preparation and review of Work Orders, Notices of Intent and Claims to validate the necessity of work and level of federal participation. Mr. Saunders performed Responsible Charge duties on no-plan projects, minimum-plan projects and full-plan projects of varying complexity. He also assisted the Fredericksburg District with the administration of a Regional Design-Build Bridge Replacement project. His duties included making Responsible Charge decisions and coordination activities for projects in the Richmond District. January 2007-May 2011.</p> <p>VDOT Construction Project Manager, Salem District, Southern Area Construction. Mr. Saunders supervised all phases of multi-operational roadway and structural construction projects to ensure all work was performed in accordance with project plans, specifications and special provisions. He supervised the work and career development of several construction inspectors and he resolved contractual disputes with contractors. He prepared and presented the project showings and preconstruction conferences, prepared and submitted work orders and tracked project cost to assure projects remained within the designated budget, on multiple projects of varying complexity. He mitigated Notices of Intent with use of time impact and cost analysis, and prepared</p>

reports, correspondence and documents clearly and on time. Mr. Saunders conducted on-site field visits to ensure all elements of design and construction were within scope of contract and within established standards and specifications to provide feedback to the appropriate parties and perform follow-up reviews with project staff and management to support implementation of recommendations. He conducted periodic assessments to ensure compliance with the contract documents and established guidelines, procedures and policies. Projects involved but were not limited to new horizontal and vertical alignment projects, surface treatment, sidewalks, grading and drainage, bridge super structure/sub structure repair, concrete joint replacement and asphalt schedule work. **November 2005-January 2007.**

VDOT Permits/Subdivision Supervisor, Christiansburg Residency. Mr. Saunders was responsible for the supervision and administration of the subdivision, rural streets and land use permits programs. Duties included networking with government officials and staff, developers, engineers and VDOT staff to discuss the engineering impacts of land development projects; responsibility for land development within the Residency to include utilities, commercial and subdivision streets, private entrances, land use permits, commercial development projects, etc. impacting transportation networks maintained by the State; participation in the development, plan review, inspection and acceptance of addition to the secondary system and ensuring compliance with rules and regulations. **April 2005 - October 2005.**

VDOT Architect/Engineer I, Salem, Virginia. Mr. Saunders assisted in the Land Development and Maintenance Program Operations for the Salem Residency. Duties included performing site plan reviews and providing comments to designers; involvement in the inspection and acceptance of additions to the secondary street system, and worked with the Maintenance Manager to set a budget for the Area Headquarters' upcoming fiscal year. Also, he was assigned to the Bedford Residency to perform Acting Assistant Resident Engineering duties and Construction Project Management. Mr. Saunders duties included presenting the Six-Year Plan at a public hearing with the Board of Supervisors and involvement with the development of projects with the Contract Administrator to prepare for the advertisement phase, to include SAAP projects. Mr. Saunders also performed Construction Project Manager duties to include both bridge and grading projects of varying complexity. Responsibilities included preparing and presenting project showings and preconstruction conferences for the projects; reviewed work in progress and project records prepared by field staff to assure compliance with the contract documents and environmental regulations set by all agencies; handling potential work orders and claims issues and aiding in decisions made at the Residency level; tracking project cost and productivity to determine if projects would be completed on time and on budget; and performing final review and acceptance of projects from the contractor on behalf of the Department. **March 2004-April 2005.**

VDOT Transportation Engineer Associate, Salem, Virginia. Mr. Saunders completed the Associate Engineers Program at the Christiansburg Residency in the Salem District. While in this position, Mr. Saunders rotated through various sections within the Department to include Construction Management, Maintenance Operations, District Divisions, Contract Administration, and Residency Operations. Positions that were held during this period were Project Engineer, Assistant Resident Engineer, and Contract Administrator. Responsibilities with each of these various roles included meeting VDOT and FHWA standards and specifications. **June 2001 - February 2004**

e. Education: Degree(s)/Year/Specialization:

Bachelor of Science/2001/Civil Engineering, Virginia Tech

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

2005/Professional Engineer/0402 041295

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

1. *Note your specific responsibilities and authorities for each assignment, 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 assignment.*

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

Project: Region 4 Design-Build Structures Project, Various Counties

Name of Firm: Virginia Department of Transportation

Start Date: 04/10 **Finish Date:** 11/11

Project Role: **Project Manager**

Responsibilities: VDOT's Project Manager during the construction of various bridge superstructure replacements throughout the Richmond District. Duties included making responsible charge decisions, attending regularly scheduled progress meetings, reviewing project documentation for compliance with contract documents, coordinated IA/IV testing and handled public/stakeholder concerns throughout the duration of the project.

Client/Owner Contact: Mr. Rob Shackelford P.E., Fredericksburg District Construction Manager, (540) 654-1511

Project: **Meadowville Interchange, Chesterfield Virginia**

Name of Firm: Virginia Department of Transportation

Start Date: 04/11 **Finish Date:** 11/11

Project Role: **Project Manager**

Responsibilities: VDOT's Project Manager during final design and construction of phase one, the diamond, of an ultimate cloverleaf interchange. Duties included attending regularly scheduled progress meetings, reviewing project documentation for compliance with contract documents, reviewed and approved pay applications and coordinated IA/IV testing.

Client/Owner Contact: Mr. Harold Dyson P.E., Richmond District Construction Manager, (804) 524-6211

Project: **Route 10 Widening, Chesterfield Virginia**

Name of Firm: Virginia Department of Transportation

Start Date: 04/11 **Finish Date:** 11/11

Project Role: **Area Construction Engineer**

Responsibilities: Responsible charge engineer overseeing the construction of this project which included coordination with Chesterfield County, the contractor, Dominion Virginia Power, CSX railroad and the FHWA. Duties included but were not limited to acting on behalf of the Department during negotiations and problem resolution meetings, reviewing and approving monthly payment applications and ensuring project testing and documentation was being kept in accordance with contract and VDOT requirements

Client/Owner Contact: Mr. Harold Dyson P.E., Richmond District Construction Manager, (804) 524-6211

ATTACHMENT 3.3.1

KEY PERSONNEL RESUME FORM

Brief Resume of Key Personnel anticipated for the Project.
a. Name & Title: TewoldeIyob, PE, President
b. Project Assignment: Lead Design Manager
c. Name of Firm with which you are now associated: Athavale, Lystad & Associates, Inc. (ALA)
d. Years experience: With this Firm <u>26</u> Years With Other Firms <u>9</u> Years Please list chronologically (most recent experience first) your employment history, position and general experience or fields of practice 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.): Athavale, Lystad & Associates, Inc. (ALA), President. Field of Practice: Structural Engineering (2001 – Present) Athavale, Lystad & Associates, Inc. (ALA), Vice President. Field of Practice: Structural Engineering (1985 - 2001)
e. Education: Name & Location of Institution(s)/Degree(s)/Year/Specialization: The George Washington University, Washington, DC/MS/1984/Structural Engineering Delft Institute, the Netherlands/Post Grad. Dipl./1978/Hydraulic Engineering Addis Ababa University, Ethiopia/BSc/1976/Civil Engineering
f. Active Registration: Year First Registered/ Discipline/VA Registration #: 1987/Civil/Structural Engineering/PE #017408
g. Document the extent and depth of your experience and qualifications relevant to the Project. 1. Note your specific responsibilities and authorities for each assignment, 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 assignment. (List at least three (3), but no more than five (5) relevant projects for which you have performed a similar function.) <u>Integrated Traffic Management System, Washington, DC.</u> As Lead Design Manager for this \$50 million DDOT project, Mr. Iyob assured that all design was in conformance with contract documents. He established and administered the QA/QC process for all of the disciplines involved in design including review of design, working plans, and design constructability. The project included design and drafting services associated with the development of a state-of-the-art traffic management system for Washington, DC. Over 3,000 CADD drawings were developed for the system layout and details. Additionally, the project involved design and plan preparation services for 34 VMS sign support structures ranging from 30-foot cantilever structures to 90-foot overhead sign bridge supporting a 4,000 pound VMS. ALA also performed the field condition survey of traffic control cabinets at over 700 intersections incorporating this information into the base plans. <i>Dates 2003 to 2004. Firm: ALA</i> <u>Braddock Road/I-495 HOT Lanes Interchange Design-Build, Fairfax County, VA</u> For this \$40 million VDOT project, Mr. Iyob was Lead Design Manager. His responsibilities included assuring that all final design and construction documents were in conformance with Contract Documents and coordinating individual design disciplines. He established and administered the QA/QC projects for all of the disciplines involved in designs including review of design, working plans, specifications, and design constructability. The project involved the phased, widened replacement of the Braddock Road Bridge over I-495 to accommodate the reconfigured roadway below for the addition of High Occupancy Toll (HOT) lanes. The construction of the 493-ft long widened replacement bridge on a 30-degree skew was sequenced in three stages. The project also included the final design and construction documents for the Annandale Pedestrian Bridge over I-495, a new flyover ramp supported on drilled shafts carrying I-495 southbound HOT Lanes traffic to Braddock Road eastbound, and MSE retaining walls required for the Braddock Road interchange with improved I-495. <i>Dates: 2008 to present. Firm: ALA</i> <u>Dulles Metrorail Extension, Phase II, Fairfax and Loudoun Counties, VA</u> Mr. Iyob was Project Design Manager for the development of design for cut and cover tunnel, Metro stations, a maintenance shop, multiple bridge structures and parking garages for Phase II of the Dulles Corridor Metrorail Extension. Mr. Iyob's responsibilities included coordinating individual design disciplines including structural, civil, mechanical and electrical engineering; ensuring the overall project design was in conformance with contract documents; and establishing and administering the QA/QC program for all of the pertinent disciplines involved in the design of the project including review of design, working plans, specifications, and constructability. Project construction cost exceeds \$2 billion. <i>Dates: 2009 to present. Firm: ALA</i>

ATTACHMENT 3.3.1

KEY PERSONNEL RESUME FORM

Brief Resume of Key Personnel anticipated for the Project.

a. Name & Title:

Todd Brannan, Project Manager

b. Project Assignment:

Construction Manager

c. Name of Firm with which you are now associated:

B&B Signal Company, LLC

d. Years experience: With this Firm 6 Years With Other Firms 5 Years

(2008-Present) Project Manager, B&B Signal Company, LLC

(2007-2008) Management Trainee, Cintas Corporation

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

University of North Carolina, Chapel Hill NC / Bachelor of Arts / 2007 / Economics, Management & Society

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

2009 – IMSA Work Zone Safety Specialist

2009 – IMSA Traffic Signal Field Technician Level I

2009 – American Concrete Field Technician Certification

2009 – VDOT Concrete Field Technician Certification

2009 – VDOT Erosion and Sediment Control Contractor Certification

*Will have OSHA and Land Disturber Certifications before commencement of construction.

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

1. VDOT Regional Traffic Signal Contract (Northern Virginia)

Project started in mid 2008 and will be completed in early 2012. This was a \$14,500,000 project which involved installing new signalized intersections, modifying existing intersections, installing ITS equipment throughout the district for VDOT. Work consisted of installing pole foundations for signal poles and camera poles, controller foundations, conduit, road bores, signal poles, camera poles, various conductor cables using junction boxes a leaving adequate slack in the cable for future repairs, signal heads and hangers, loop detectors, video detection cameras and equipment, emergency pre-emption detection systems, 170 controllers, NEMA 3R pole mounted cabinets, Model 344 equipment cabinets, Model 336S equipment cabinets, distribution panels, modifying controller timings, grounding electrical systems and electrical services. Responsibilities included meeting with VDOT to discuss specific construction items to include resolving issues that occur in the field, tracked daily quantities, ordered materials, coordinated with subcontractors, reviewed contract requirements, and submitted invoices for payment. This work was performed while employed at B&B Signal Company.

2. Rt. 28 Flashing Beacon Warning System

Project started in mid 2010, ended in late 2010, and cost approximately \$285,000. Work consisted on constructing a complete flashing beacon warning system by installing overhead sign structures, sign panel, flashing beacons, sign structure foundations, wood poles, conduit, various conductor cables using junction boxes and leaving adequate slack in the cable for future repairs, road bores, RTMS G4 detectors, Yagi Antennas, and NEWS controllers. Responsibilities included meeting with VDOT to discuss specific construction items to include resolving issues that occur in the field, tracked daily quantities, ordered materials, coordinated with subcontractors, reviewed contract requirements, and submitted invoices for payment. This work was performed while employed at B&B Signal Company.

3. VDOT Maintenance Traffic Signal Contract (Northern Virginia)

Project started in early 2011 and will be completed in early 2014. This is a \$14,500,000 project which involves rebuilding existing signalized intersections, modifying existing intersections, and installing ITS equipment throughout the district for VDOT. Work consisted of installing pole foundations for signal poles and camera poles, controller foundations, conduit, road bores, signal poles, camera poles, various conductor cables using junction boxes a leaving adequate slack in the cable for future repairs, signal heads and hangers, loop detectors, video detection cameras and equipment, emergency pre-emption detection systems, 170 controllers, Model 336S equipment cabinets, distribution panels, installing full motion CCTV systems using COHU cameras, cellular CDMA Modems, PCS antennas, Moxy power supplies, TVSS-Zone Barrier equipment, modifying controller timings, grounding electrical systems and electrical services. Responsibilities included meeting with VDOT to discuss specific construction items to include resolving issues that occur in the field, tracked daily quantities, ordered materials, coordinated with subcontractors, reviewed contract requirements, and submitted invoices for payment. This work was performed while employed at B&B Signal Company.

ATTACHMENT 3.3.1
KEY PERSONNEL RESUME FORM

Brief Resume of Key Personnel anticipated for the Project.
a. Name & Title: Bryan Katz, P, E., Senior Transportation Engineer
b. Project Assignment: Lead Designer
c. Name of Firm with which you are now associated: Science Applications International Corporation
d. Years experience: With this Firm <u>10</u> Years With Other Firms <u>3</u> Years Please list chronologically (most recent experience first) your employment history, position and general experience or fields of practice 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.): Senior Transportation Engineer, SAIC, 2007 – Present Areas of Practice: Transportation Safety, Transportation Operations, Traffic Control Devices, Construction Scheduling and Claims Analysis Transportation Engineer, SAIC, 2002 – 2007 Areas of Practice: Transportation Safety, Transportation Operations, Traffic Control Devices, Construction Scheduling and Claims Analysis Engineer/Analyst, HNTB Corporation, 1999-2002 Areas of Practice: Construction Inspection, Construction Project Databases and Electronic Tracking, Scheduling and Claims Analysis
e. Education: Name & Location of Institution(s)/Degree(s)/Year/Specialization: PhD/2007/Civil Engineering MS/2001/Civil Engineering BS/2000/Civil Engineering
f. Active Registration: Year First Registered/ Discipline/VA Registration #: 2004/Civil Engineering/VA 038982
g. Document the extent and depth of your experience and qualifications relevant to the Project. 1. <i>Note your specific responsibilities and authorities for each assignment, not those of the firm.</i> 2. <i>Note whether experience is with current firm or with other firm.</i> 3. <i>Provide beginning and end dates for each assignment.</i> (List at least three (3), but no more than five (5) relevant projects for which you have performed a similar function.) Technical Support for FHWA's Human Factors Team, 2002 – Present (current firm) Dr. Katz leads evaluations in the area of Traffic Control Devices and has worked on other evaluations in the areas of Intersections, Pedestrians and Bicycles, Roadway Departure, and Speed Management. Some of Dr. Katz's evaluations in the area of traffic signing have resulted in changes to the MUTCD. He is currently the project engineer on an evaluation of Active Traffic Management signing. Claims Analysis of the US 460 Bypass Program in Blacksburg and Christiansburg, Virginia, 2006 – 2009 (current firm) Dr. Katz worked with the Virginia Department of Transportation to perform scheduling and claims analyses for construction contractor claims. Technical Support for the FHWA Office of Safety, 2005 – Present (current firm) Dr. Katz is responsible for several projects including assessments of Variable Speed Limits, visibility of signs and pavement markings, and technical assistance through Peer-to-Peer programs. Technical Support for the FHWA Office of Operations, 2007 – Present (current firm) Dr. Katz has led several projects for the Office of Operations including serving as the Project Manager for the Saxton Transportation Operations Laboratory, a new facility dedicated to improve traffic operations nationwide and located in McLean, Virginia. He is also the task manager for rulemaking efforts and development of the MUTCD for FHWA. Construction and Engineering Inspection of the US 460 Bypass Program in Blacksburg and Christiansburg, 1999-2002 (past firm) Performed construction engineering and inspection duties as well as project schedule and claims analyses for the Interstate 81 / US Highway 460 Christiansburg Bypass Program including the development of software for construction progress tracking and schedule analysis.

ATTACHMENT 3.3.1

KEY PERSONNEL RESUME FORM

Brief Resume of Key Personnel anticipated for the Project.	
a. Name & Title:	Daniel Walsh, PE, Vice President
b. Project Assignment:	Lead Structural Engineer
c. Name of Firm with which you are now associated:	Athavale, Lystad & Associates, Inc. (ALA)
d. Years experience: With this Firm <u>20</u> Years With Other Firms <u>11</u> Years Please list chronologically (most recent experience first) your employment history, position and general experience or fields of practice 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.): Athavale, Lystad & Associates, Inc. (ALA), Vice President. Field of Practice: Structural Engineering (2000 – Present) Sverdrup (Jacobs), Senior Project Manager. Field of Practice: Structural Engineering (1980 - 2000)	
e. Education: Name & Location of Institution(s)/Degree(s)/Year/Specialization:	University of Maryland, College Park, MD/MS/1979/Structural Engineering University of Maryland, College Park, MD/1978/Structural Engineering
f. Active Registration: Year First Registered/ Discipline/VA Registration #:	1984/Civil/Structural Engineering/PE #13784
g. Document the extent and depth of your experience and qualifications relevant to the Project. 1. <i>Note your specific responsibilities and authorities for each assignment, not those of the firm.</i> 2. <i>Note whether experience is with current firm or with other firm.</i> 3. <i>Provide beginning and end dates for each assignment.</i> (List at least three (3), but no more than five (5) relevant projects for which you have performed a similar function.) <u>Integrated Traffic Management System, Washington, DC.</u> As Lead Structural Engineer for this \$50 million DDOT project, Mr. Walsh provided design and drafting services associated with the development of a state-of-the-art traffic management system for Washington, DC. Mr. Walsh managed the development of over 3,000 CADD drawings for the system layout and details. Additionally, he directed the design and plan preparation services for 34 VMS sign support structures ranging from 30-foot cantilever structures to 90-foot overhead sign bridge supporting a 4,000 pound VMS. ALA also performed the field condition survey of traffic control cabinets at over 700 intersections incorporating this information into the base plans. <i>Dates 2003 to 2004. Firm: ALA</i> <u>Fort McHenry Tunnel Sign Structures Final Engineering Design (FT-749 and FT-710), Baltimore, MD.</u> As Lead Structural Engineer, Mr. Walsh provided final engineering design and review of plans for various overhead sign structures including over 35 overhead signs, over 30 cantilever structures, and 2 DMS (Dynamic Message Sign) structures. <i>Dates 2010 to 2011. Firm: ALA</i> <u>I-95 (John F. Kennedy Highway) Sign Structures Shop Drawing Review/Phase V Services, Baltimore, MD.</u> As Lead Structural Engineer, Mr. Walsh provided review of fabricator/contractor shop drawings/Phase V Services for multiple highway sign structures. Assignments included shop drawing review for 6 overhead signs and 5 cantilever structures. <i>Dates: 2007 to 2008. Firm: ALA</i> <u>US Route 29 from I-70 to MD 100, Howard County, MD.</u> Mr. Walsh was Lead Structural Engineer for this project that involved the design and plan development for modifications to existing bridge end posts to current standards on US Route 29 and modifications to existing bridge-mounted sign structures to accommodate larger sign panels. <i>Dates: 2001 to 2002. Firm: ALA</i> <u>Braddock Road/I-495 HOT Lanes Interchange Design-Build, Fairfax County, VA.</u> For this \$40 million VDOT project, Mr. Walsh was Lead Structural Engineer. His responsibilities included final design and construction document preparation for the phased, widened replacement of the Braddock Road Bridge over I-495 to accommodate the reconfigured roadway below for the addition of High Occupancy Toll (HOT) lanes. The construction of the 493-ft long widened replacement bridge on a 30-degree skew was sequenced in three stages. For this project, he also was responsible for the final design and construction documents for the Annandale Pedestrian Bridge over I-495, a new flyover ramp supported on drilled shafts carrying I-495 southbound HOT Lanes traffic to Braddock Road eastbound, and MSE retaining walls required for the Braddock Road interchange with improved I-495. <i>Dates: 2008 to present. Firm: ALA</i>	

KEY PERSONNEL RESUME FORM

Brief Resume of Key Personnel anticipated for the Project.	
a. Name & Title:	Tim Terry, Vice President / Chief Operating Officer
b. Project Assignment:	Electrical / ITS Supervising Technician
c. Name of Firm with which you are now associated:	Warren Electric & Signal Corp.
d. Years experience: With this Firm <u>6</u> Years With Other Firms <u>5</u> Years	(1999 - Present) Vice President / Chief Operating Officer, Warren Electric & Signal Corp.
e. Education: Name & Location of Institution(s)/Degree(s)/Year/Specialization	
f. Active Registration: Year First Registered/ Discipline/VA Registration #:	<p>Virginia Master Electrician – License #2710-028260 DC Journeyman Electrician – License #EJ501452 West VA Journeyman Electrician – License #J06631 IMSA Traffic Signal Tech Level II IMSA Work Zone Safety 2007 – Allied Signal Technical Services Fiber Optic Fusion Splicing & Terminating 2011 - National Safety Compliance Confined Space Training Certificate 1997 – USDOT/FHWA Computerized Traffic Signal Systems for Traffic Management & ITS Applications Cert. 2007 – Teknowledge Training Center A+ Certified Technician Certificate 2007 – Teknowledge Training Center CISCO Certified Network Associates Certificate</p>
g. Document the extent and depth of your experience and qualifications relevant to the Project.	<p>1. <u>Maintenance of VDOT NOVA District ITS Fiber Optic Network</u> This project has been going on since 2007. The work consists of providing 24/7 assistance to VDOT for the service and maintenance of the Northern Virginia District ITS fiber optic network. The network is a 10 gigabit “self healing” ring which is a primary network ring and a back-up ring. It is made up of 96, 72, 48, 36, 24, and 12 strand single mode fiber. Hub cabinets are placed along I-66, I-495, & I-95 making up the fiber ring utilizing the 96 and 72 strand fiber. The “spur” fibers are branched off from the hub cabinets and are run to node cabinets where all of the various ITS devices are placed onto the fiber optic network. The ITS devices consist of Variable Message Signs (VMS), CCTV’s, remote weather stations, land control devices, side fire radar devices, in pavement detectors and ramp metering devices. The project consists of providing schedule and unscheduled fiber maintenance, repair fiber damage from outside sources, rodent infestation, vehicular and/or storm damage. Project also required us of certified and calibrated OTDR testers and fiber splicers, along with fiber optic pulling machines and fiber optic spool trailers.</p> <p>2. <u>Town of Vienna Red Light Camera Project</u> This project was completed in 2004. The work consisted of installing, splicing, and testing a fiber optic network. The network was approximately five (5) miles and was installed to allow migration of traffic signal communication network from the copper twisted pair.</p> <p>3. <u>Falls Church Red Light Camera Project</u> This project was completed in 2005. The work consisted of installing, splicing, and testing a fiber optic network. The network was approximately seven (7) miles and was installed to allow migration of traffic signal communication network from copper twisted pair. Arterial monitoring CCTV units were also installed as part of this project.</p>

Appendix G

ATTACHMENT 3.4.1(a)

LEAD CONTRACTOR - WORK HISTORY FORM

(LIMIT 1 PAGE PER PROJECT)

Work by Lead Contractor - three (3) projects which best illustrates current qualifications relevant to this Project.

a. Project Name & Location	b. Narrative describing nature of Firm's Responsibilities	c. Client/Owner/Project Manager who can verify Firm's responsibilities. Include address and current phone number.	d. Contract Completion Date (Original)	e. Contract Completion Date (Actual or Estimated)	f. Estimated Value (in Thousands)		
					Original Contract Value	Final or Estimated Contract Value	Dollar Value of Work for Which Firm Was/Is Responsible
(1) Regional Contract to Install and Modify Traffic Signals Northern Virginia	Prime Contractor responsible for installing and maintaining traffic systems within Northern Virginia. Install signalized intersections to include; conductor cable, signal heads, video detection equipment, emergency preemption detectors. In addition, video camera poles, foundations, and 334 cabinet assembly's were installed along interstate 66. 334 cabinets included distribution panels, terminal blocks, fan and thermostat, along with all other items required to meet VDOT specifications. All activities are done in coordination with VDOT to provide an efficient transportation system.	Client: Virginia Department of Transportation Project Manager: Cliff Merrick (703) 334-0366 Address: 8010 Mason King Court Manassas, VA 20109	June 25, 2011	Feb 25, 2012	\$14,495,370	\$15,400,000	\$14,800,000
(2) Traffic Signal Maintenance Repair, Rehab/Rebuild/Mod NOVA District-Wide Northern Virginia	Prime Contractor responsible for maintaining and rebuilding all signalized intersections within the Northern Virginia District. Responsibilities include; on-call emergency response, video/emergency preemption detection installation, conduit/conductor cable repair and installation. In addition to traffic signal maintenance and repair, CCTV's with full motion video detection are a large part of the project. Systems include Cohu cameras, 336S control cabinets, Cellular CDMA Modem, PCS Antenna, Moxa Power Supply, TVSS-Zone Barrier Equipment, 45' Camera Poles.	Client: Virginia Department of Transportation Project Manager: Cliff Merrick (703) 334-0366 Address: 8010 Mason King Court Manassas, VA 20109	April 29, 2014	April 29, 2014	\$14,649,800	\$14,649,800	\$14,000,000

<p>(3)</p> <p>Flashing Beacon Warning System NB Waxpool</p> <p>Loudoun County, VA</p>	<p>Prime Contractor responsible for the construction of a Queue Detection System along Route 28. A RTMS G4 microwave detector was installed to signal a receiver at the interchange. The Yagi Antenna receivers poll the data from the detector via a digital spread spectrum wireless system and decodes the messages in order to identify the presence of a queue. Once a queue is detected by the pole mounted NEWS controller it will activate flashing beacons on a new warning span sign structure over northbound 28. The beacons will remain active for a predetermined time interval. The system also commutates with the VDOT operations center to inform the operators that the flashing beacons have be activated.</p>	<p>Client: Virginia Department of Transportation</p> <p>Project Manager: Andy Carper (703) 909-4618</p> <p>Address: 14685 Avion Parkway Chantilly, VA 20151</p>	<p>November 23, 2010</p>	<p>November 23, 2010</p>	<p>\$284,546</p>	<p>\$284,546</p>	<p>\$264,546</p>
---	--	---	--------------------------	--------------------------	------------------	------------------	------------------

Appendix H

ATTACHMENT 3.4.1(b)

**LEAD DESIGNER - WORK HISTORY FORM
(LIMIT 1 PAGE PER PROJECT)**

Work by Lead Designer - three (3) projects which best illustrates current qualifications relevant to this Project.							
a. Project Name & Location	b. Narrative describing nature of Firm's Responsibilities	c. Client/Owner/Project Manager who can verify Firm's responsibilities. Include address and current phone number.	d. Contract Completion Date (Original)	e. Contract Completion Date (Actual or Estimated)	f. Estimated Value (in Thousands)		
					Original Contract Value	Final or Estimated Contract Value	Dollar Value of Work for Which Firm Was/Is Responsible
(1) Long Island ITS Master Plan - Early Implementation Plan for Southern State Parkway from Cross Island Parkway to Route 110 (D006954), Nassau & Suffolk Counties, NY	Responsible for providing engineering services to the NYSDOT for the implementation of an Advanced Traffic Management System on the Southern State Parkway from Cross Island Parkway to Route 110. These services included a complete Phase One through Six design of the project. DEA provided an Expanded Project Proposal, Design Approval Document/Environmental Assessment, Preliminary and Detailed Designs, a complete PS&E package, technical support during construction, operational support, system integration and training. The environmental assessment included air quality, noise analysis, wetlands mitigation and visual assessments. The operation and management of the SSP ATMS system was integrated with the INFORM system. This integration included the design of a new Traffic Management Center - NICON Court (located in a separate facility at DOT Region 10 headquarters). As part of this project, DEA prepared a master plan for deploying ITS on Long Island. This plan includes designs and procedures which made Long Island's highways "smart", enhanced mobility, established a coordinated island wide approach to congestion management, met air quality standards, and continuously provided for stakeholder involvement. DEA defined the Southern State Parkway project as a 31 kilometer (19 mile) corridor segment suitable for early implementation of ITS technology consistent with the objectives of mitigating and managing congestion and improving congestion related safety problems.	New York State Department of Transportation, Region 10 250 Veterans Memorial Highway Hauppauge, NY 11788 Emilio Sosa, , 631-952-6733	2005	2005	\$40,000,000	\$40,000,000	\$7,275,000

Work by Lead Designer - three (3) projects which best illustrates current qualifications relevant to this Project.

a. Project Name & Location	b. Narrative describing nature of Firm's Responsibilities	c. Client/Owner/Project Manager who can verify Firm's responsibilities. Include address and current phone number.	d. Contract Completion Date (Original)	e. Contract Completion Date (Actual or Estimated)	f. Estimated Value (in Thousands)		
					Original Contract Value	Final or Estimated Contract Value	Dollar Value of Work for Which Firm Was/Is Responsible
(2) Eastern Queens ATMS	As prime consultant, DEA was responsible for providing preliminary and final engineering design services to NYSDOT for the implementation of an Advanced Traffic Management System (ATMS) on highways in Queens County, New York City.	NYSDOT 47-40 21st Street Long Island City, NY 11101	2011	2011	\$7,815,000	\$7,815,000	\$7,815,000

Work by Lead Designer - three (3) projects which best illustrates current qualifications relevant to this Project.							
a. Project Name & Location	b. Narrative describing nature of Firm's Responsibilities	c. Client/Owner/Project Manager who can verify Firm's responsibilities. Include address and current phone number.	d. Contract Completion Date (Original)	e. Contract Completion Date (Actual or Estimated)	f. Estimated Value (in Thousands)		
					Original Contract Value	Final or Estimated Contract Value	Dollar Value of Work for Which Firm Was/Is Responsible
(3) Cross Westchester Joint Venture ATIS	DEA leads the Joint-Venture team of DEA and Parsons Brinckerhoff to provide scoping, preliminary and final design services for the installation of communications systems, and Advanced Traveler Information Systems (ATIS) on six parkway corridors in Westchester County, New York	NYSDOT / Michael Duval / Eleanor Roosevelt State Office Bldg. / 4 Burnett Boulevard Poughkeepsie, NY 12603 / 914-742-6011	2005	2005	\$1,014,000	\$1,014,000	\$1,014,000