

VDOT

Virginia Department of Transportation

REQUEST FOR PROPOSALS

A DESIGN-BUILD PROJECT

I-495 Northern Section Shoulder Use

**From: South of Old Dominion Overpass
To: George Washington Memorial Parkway**

Fairfax County, Virginia

State Project No.: (FO) 0495-029-123, P101, C501

Federal Project No.: STP-495-5(094)

Contract ID Number: C00105130DB72

DATE: ~~February 6, 2014~~ Addendum #1 March 6, 2014

TABLE OF CONTENTS

PART 1	1
1.0 INTRODUCTION	1
1.1 Procurement Overview	1
2.0 BACKGROUND INFORMATION	1
2.1 Project Description	1
2.2 Legislative Authority	2
2.3 Estimate Contract Value	2
2.4 Procurement Schedule and Project Milestones	2
2.5 VDOT’s Point of Contact and Project Reference	3
2.6 The RFP Information Package	4
2.7 RFP Documents	4
2.8 Deviations from the RFP Documents	5
2.9 Obligation to Meet All of the Requirements of the RFP Documents	5
3.0 GENERAL PROCEDURES AND REQUIREMENTS	5
3.1 Offeror’s Pre-Submittal Responsibilities and Representations	5
3.2 Pre-Proposal Meeting	6
3.3 Utility Meeting	6
3.4 Acknowledgment of Receipt of RFP, Revisions and Addenda	6
4.0 CONTENTS OF PROPOSALS	6
4.1 Letter of Submittal	7
4.2 Attachments to the Letter of Submittal	8
4.3 Price Proposal	12
4.4 Post Notice of Intent to Award Submittals	13
5.0 PROPOSAL EVALUATION AND RESPONSIVENESS REVIEW	16
6.0 PROPOSAL SUBMITTAL REQUIREMENTS	16
6.1 Due Date, Time and Location	16
6.2 Format	17
7.0 QUESTIONS AND CLARIFICATIONS	18
8.0 AWARD OF CONTRACT, PROPOSAL VALIDITY AND CONTRACT EXECUTION	19
8.1 Negotiations and Award of Contract	19
8.2 Proposal Validity	20
8.3 Submittals after Notice of Intent to Award	20
8.4 Contract Execution and Notice to Proceed	21
9.0 RIGHTS AND OBLIGATIONS OF VDOT	21
9.1 Reservation of Rights	21
9.2 No Assumption of Liability	22
10.0 PROTESTS	23
11.0 MISCELLANEOUS	24
11.1 Virginia Freedom of Information Act	24
11.2 Conflict of Interest	25

~~February 6, 2014~~ Addendum #1 – March 6, 2014

11.3	Ethics in Public Contracting Act	26
11.4	Requirement to Keep Team Intact	26
11.5	Disadvantaged Business Enterprises	26
11.6	Trainee and Apprenticeship Participation	29
11.7	Escrow Proposal Documents	29
11.8	Administrative Requirements	32
11.9	Compliance with the Law in Virginia	34
11.10	Attachments	35

PART 1

INSTRUCTIONS FOR OFFERORS

1.0 INTRODUCTION

The Virginia Department of Transportation (VDOT) submits this Request for Proposals (RFP) to solicit design-build Proposals (Proposals) from those entities (Offerors) interested in contracting to serve as the Design-Builder for the I-495 Northern Section Shoulder Use Project in Fairfax County, Virginia (Project). The purpose of this RFP is to determine which Offeror (the “Successful Offeror”) will be awarded the Design-Build contract (Design-Build Contract) for the Project.

The Project priorities are:

- Cost - provide the best price for the scope of work identified in this RFP

1.1 Procurement Overview

VDOT will use a single-phase selection process on the Project. In accordance with the requirements of this RFP, interested Offerors will submit a Proposal consisting of a Letter of Submittal, Attachments to the Letter of Submittal, and Price Proposal consistent with Part 1, Section 4.0. Additionally, the Offeror who submitted the lowest Proposal Price will submit the Post Notice of Intent to Award Submittals consistent with Part 1, Section 4.4. Upon completion of the responsiveness review of the Letters of Submittals, Attachments to the Letter of Submittals, Price Proposals, and Post Notice of Intent to Award Submittals, the Offeror who submitted the lowest Proposal Price will be recommended to the Chief Engineer for an award of a fixed price Design-Build Contract by the Commonwealth Transportation Board (CTB).

An Offeror’s Proposal must meet all requirements established by this RFP. Requirements of this RFP generally will use the words “shall”, “will”, or “must” (or equivalent terms) to identify a required item that must be submitted with an Offeror’s Proposal. Failure to meet an RFP requirement may render an Offeror’s Proposal non-responsive.

The award of a contract to the Offeror who submitted the lowest Proposal Price, whose Proposal is responsive and whose Proposal Price is within VDOT’s budget for design and construction services will be made in accordance with Part 1, Section 8.0 of this RFP.

2.0 BACKGROUND INFORMATION

2.1 Project Description

The Project involves the milling and overlay and re-striping of Interstate 495 (I-495) to convert the existing northbound inside shoulder to a lane-controlled travel lane during the AM

and PM peak periods. The shoulder use will begin at the existing terminus of the Express Lanes (approximately 0.2 miles south of Old Dominion Drive) and end in the vicinity of the George Washington Memorial Parkway for a total length of approximately 1.8 miles. In order to accommodate this shoulder use lane, all lanes of I-495 Northbound will be repaved and restriped within this vicinity. The shoulder lane will not be tolled, and all vehicles will be allowed to access the shoulder. It is noted that the description and length are approximate only and are based on the RFP Conceptual Plans included in the RFP Information Package. The final Project length may vary depending on the Design-Builder's final design; however, any change in the project limits requires approval by VDOT.

The Project includes, but is not limited to, the following design and construction items: (a) surveying, (b) asphalt paving, (c) underlying concrete joint repairs, (d) signing and striping, (e) overhead sign structures and associated lighting, (f) dynamic message signs, (g) overhead lane control system, (h) ITS devices/systems (DMS, CCTV, detection, video analytics, lane control), (i) electrical, communications, and fiber optic conduit, wiring, and hook-ups, (j) configuring, integrating, and testing new ATM field devices for proper operation and control, as well as providing field support for system software integration and testing, (k) drainage, erosion and sediment control, and stormwater management, (l) concrete barrier and pier protection, (m) maintenance of traffic, and (n) inspection, testing, quality assurance and control. Refer to Part 2 of the RFP (Technical Requirements) for the scope of work, technical information and requirements.

2.2 Legislative Authority

§33.1-12(2)(b) of the Code of Virginia authorizes VDOT and the Commonwealth Transportation Board (CTB) to develop and award contracts using the Design-Build contracting method. In accordance with the law, VDOT completed the Finding of Public Interest (FOPI) dated January 23, 2014. The FOPI is available for inspection upon request.

2.3 Estimate Contract Value

VDOT's current estimated contract value for this Project is approximately \$15,101,000.

2.4 Procurement Schedule and Project Milestones

2.4.1 VDOT currently anticipates conducting the procurement of the Project in accordance with the following list of milestones leading to award of the Design-Build Contract. This schedule is subject to revision and VDOT reserves the right to modify this schedule as it finds necessary, in its sole discretion.

.1	Advertise RFP	02/06/14
.2	Pre-Proposal Meeting w/ Offerors	02/12/14 (10:00 a.m. prevailing local time)
.3	Utility Meeting w/ Offerors	02/12/14 (11:00 a.m. prevailing local time)
.4	RFP Questions Due to VDOT	02/19/14 (4:00 PM prevailing local time)

~~February 6~~ Addendum #1-March 6, 2014

.5	VDOT responses to Questions or Clarifications	02/26/14 <u>02/27/14</u>
.6	Letter of Submittal & Price Proposal Due	03/ 14 <u>12</u> /14 (4:00 PM prevailing local time)
.7	Open Letters of Submittal & Price Proposals	03/ 17 <u>14</u> /14 (10:00 AM prevailing local time)
.8	Notice of Intent to Award	03/21/14
.9	CTB Approval/ Notice to Award	04/16/14
.10	Design-Build Contract Execution	05/07/14
.11	Notice to Proceed	05/09/14
.12	Interim Milestone	12/31/14
.13	Final Completion	03/31/15 <u>06/30/15</u>

2.4.2 VDOT has established the following milestones for contract completion dates for the Project, and Offerors shall base their proposals on such milestones.

- .1 Interim Milestone and Final Completion shall be no later than the date(s) set forth in Part 1, Section 2.4.1. The Interim Milestone is defined as all paving, striping, dynamic message signs, overhead lane control system, ITS devices and systems, ATM field device and software integration and preliminary Acceptance Testing, signs associated with the shoulder operation, drainage, concrete barrier and pier protection, and other required items completed, accepted, and fully operational; and the shoulder use lane opened to traffic.
- .2 If an Offeror proposes Interim Milestone and Final Completion date(s) earlier than those shown in Part 1, Section 2.4.1 above, then such proposed date(s) will be deemed by VDOT as the contractual completion date(s) for the Design-Build Contract for all purposes, including liquidated damages.

2.5 VDOT's Point of Contact and Project Reference

VDOT's sole point of contact (POC) for matters related to the RFP shall be Bryan W. Stevenson, P.E. VDOT's POC is the only individual authorized to discuss this RFP with any interested parties, including Offerors. All communications with VDOT's POC about the Project or this RFP shall be in writing, as required by applicable provisions of this RFP.

Name: Bryan W. Stevenson, P.E.

Address: Virginia Department of Transportation
1401 East Broad Street
Annex Building, 8th Floor
Richmond, VA 23219

Mailing Address: 1401 East Broad Street
Richmond, VA 23219

Phone: (804) 786-6929
Fax: (804) 786-7221
E-Mail: Bryan.Stevenson@vdot.virginia.gov

VDOT disclaims the accuracy of information derived from any source other than VDOT's POC, and the use of any such information is at the sole risk of the Offeror.

All written communications to VDOT from Offerors shall specifically reference the correspondence as being associated with "I-495 Northern Section Shoulder Use, Project No. (FO) 0495-029-123, P101, C501".

2.6 The RFP Information Package

An RFP Information Package is available for interested Offerors on CD or DVD ROM for \$50.00. Interested Offerors should complete the RFP Information Package Order Form included as Attachment 2.6. The instructions for submittal and payment are included on the form.

The contents of the RFP Information Package are listed in Part 2 of the RFP.

2.7 RFP Documents

2.7.1 The documents included in this RFP (collectively the RFP Documents) consist of the following parts and any addenda, as well as any attachments and exhibits contained or identified in such sections:

PART 1 – REQUEST FOR PROPOSALS, INSTRUCTIONS FOR OFFERORS
PART 2 – PROJECT TECHNICAL INFORMATION AND REQUIREMENTS
INCLUDING RFP INFORMATION PACKAGE (CD-ROM)
PART 3 – LUMP SUM DESIGN-BUILD AGREEMENT
EXHIBIT 1 TO PART 3 – PROJECT SPECIFIC TERMS
PART 4 – GENERAL CONDITIONS
PART 5 – DIVISION I AMENDMENTS TO STANDARD SPECIFICATIONS

VDOT has developed standard template Part 3, 4 and 5 (July 2013) documents. These documents have been compiled into a standard package available for download at the following location:

<http://www.virginiadot.org/business/design-build.asp>

2.7.2 Each Offeror shall review the proposed RFP Documents and provide questions or requests for clarification, including but not limited to terms that it considers to be ambiguous or to which it takes exception. Such questions or requests for clarification will be submitted to

VDOT's POC within the time specified in Part 1, Section 2.4.1 of this RFP. VDOT will review all questions and/ or requests for clarification received and, if it deems appropriate, in its sole discretion, may modify the RFP Documents through an Addendum. Offerors shall base their Proposals on the terms and conditions of the RFP Documents included in the latest issued Addendum.

2.7.3 Addenda to the RFP Documents, if any, will be posted on the VDOT Project website. Hard copies of the RFP Documents and Addenda on file will be available upon request. If there is any conflict between the electronic format and hard copy of any RFP Documents or Addenda, the hard copy on file shall control.

2.8 Deviations from the RFP Documents

No deviations from the requirements of the RFP Documents will be valid unless they are set forth in an Addendum prior to receipt of the Offeror's Letter of Submittal.

2.9 Obligation to Meet All of the Requirements of the RFP Documents

If awarded the Design-Build Contract, the Design-Builder will be obligated to meet all of the requirements of the RFP Documents for the Contract Price and within the Contract Time(s). Offerors are on notice that VDOT's review of Attachments to the Letter of Submittal, as well as its issuance of any Addendum, shall not be construed as relieving the Design-Builder of this obligation. Offerors are on further notice that VDOT will review, comment and/or approve the Design-Builder's final design after the award of the Design-Build Contract, in accordance with Part 4, Article 2.

3.0 GENERAL PROCEDURES AND REQUIREMENTS

Part 1, Section 3.0 provides general information, procedures and requirements related to the pre-submittal period to be followed by all Offerors.

3.1 Offeror's Pre-Submittal Responsibilities and Representations

3.1.1 Each Offeror shall be solely responsible for examining the RFP Documents, including any Addenda issued to such documents, and any and all conditions which may in any way affect its Proposal or the performance of the work on the Project, including but not limited to:

- .1 Examining and carefully studying the RFP Documents, including any Addenda and other information or data identified in the RFP Documents;
- .2 Visiting the Project Site and becoming familiar with and satisfying itself as to the general, local, and Site conditions that may affect the cost, progress, or performance of its work on the Project;

-
- .3 Addressing all potential impacts with affected utility owners and third parties and ensuring all such impacts have been included in the Offeror's Proposal;
 - .4 Becoming familiar with and satisfying itself as to all federal, state, and local laws and regulations that may affect the cost, progress, or performance of its work on the Project;
 - .5 Determining that the RFP Documents are sufficient to indicate and convey understanding of all terms and conditions for the performance of Offeror's work on the Project; and
 - .6 Notifying VDOT in writing, in accordance with the process set forth in Part 1, Section 7.0, of all conflicts, errors, ambiguities, or discrepancies that the Offeror discovers in the RFP Documents.

Any failure to fulfill these responsibilities is at the Offeror's sole risk, and no relief will be provided by VDOT.

3.2 Pre-Proposal Meeting

VDOT will hold a Pre-Proposal meeting of potential Offerors on the date and time set forth in Part 1, Section 2.4.1 at the VDOT NOVA District Office in the Accotink Conference Room, located at 4975 Alliance Drive, Fairfax, VA 22030.

3.3 Utility Meeting

VDOT will hold a Utility Meeting of potential Offerors on the date and time set for in Part 1, Section 2.4.1 at the VDOT NOVA District Office in the Accotink Conference Room, located at 4975 Alliance Drive, Fairfax, VA 22030.

3.4 Acknowledgment of Receipt of RFP, Revisions and Addenda

Offeror shall provide VDOT the Acknowledgement of Receipt of RFP, Revisions, and/or Addenda (Form C-78-RFP), set forth as Attachment 3.4, signed by the Offeror's Point of Contact or Principal Officer, with submission of the Proposal, which will serve as acknowledgement that Offeror has received this RFP.

4.0 CONTENTS OF PROPOSALS

Part 1, Section 4.0 describes specific information that must be included in the Letter of Submittal, Attachments to the Letter of Submittal, Price Proposal, and Post Notice of Intent to Award Submittal. The format for the presentation of such information is described in Part 1, Section 6.0.

4.0.1 Offerors will submit a two part Proposal:

- .1 The Letter of Submittal will consist of all information required under Part 1, Section 4.1 and Section 4.2 and will be submitted in a sealed package by the date and time set forth in Part 1, Section 2.4.1, and separate from that submitted for the Price Proposal. Offerors shall complete the Letter of Submittal Checklist, Attachment 4.0.1.1, and include it with their Letter of Submittal. The purpose of the Letter of Submittal checklist is to aid the Offeror in ensuring all submittal requirements have been included in the Offeror's Letter of Submittal and to provide a page reference indicating the location in the Letter of Submittal of each submittal requirement. It shall also include an original signed copy of Acknowledgement of Receipt of RFP, Revisions and/ or Addenda (Form C-78-RFP), Attachment 3.4.
- .2 The Price Proposal will consist of the information required by Part 1, Section 4.3, and will be submitted in a sealed package by the date and time set forth in Part 1, Section 2.4.1, and separate from that submitted for the Letter of Submittal. Offerors shall complete the Price Proposal Checklist, Attachment 4.0.1.2, and include it with their Price Proposal. The purpose of the Price Proposal Checklist is to aid the Offeror in ensuring all submittal requirements have been included in the submittal.

4.0.2 Offerors shall be aware that VDOT reserves the right to conduct an independent investigation of any information, including prior experience, identified in a Proposal by contacting project references, accessing public information, contacting independent parties, or any other means. VDOT also reserves the right to request additional information from an Offeror during the evaluation of that Offeror's Proposal.

4.0.3 If an Offeror has concerns about information included in its Proposal that may be deemed confidential or proprietary, the Offeror shall adhere to the requirements set forth by Part 1, Section 11.1.2.

4.1 Letter of Submittal

4.1.1 The Letter of Submittal shall be on the Offeror's letterhead and identify the full legal name and address of the Offeror. The Offeror is defined as the legal entity who will execute the Contract with VDOT. The Letter of Submittal shall be signed by an authorized representative of Offeror's organization. All signatures shall be original and signed in ink.

4.1.2 Declare Offeror's intent, if selected, to enter into a contract with VDOT for the Project in accordance with the terms of this RFP.

4.1.3 Pursuant to Part 1, Section 8.2, declare that the offer represented by the Price Proposal will remain in full force and effect for one hundred twenty (120) days after the date the Proposal is submitted to VDOT (“Letter of Submittal & Price Proposal Due Date”).

4.1.4 Identify the name, title, address, phone and fax numbers, and e-mail address of an individual who will serve as the Point Of Contact for the Offeror.

4.1.5 Identify the name, address and telephone number of the individual who will serve as the Principal Officer for the Offeror. (e.g., President, Treasurer, Chairperson of the Board of Directors, etc.).

4.1.6 Identify whether the Offeror will be structured as a corporation, limited liability company, general partnership, joint venture, limited partnership or other form of organization. Identify the team members who will undertake financial responsibility for the Project and describe any liability limitations. If the Offeror is a limited liability company, partnership or joint venture, describe the bonding approach that will be used and the members of such organizations who will have joint and several liability for the performance of the work required for the Project. A single 100% performance bond and a single 100% payment bond shall be provided regardless of any co-surety relationship.

4.1.7 Identify the full legal name of both the Lead Contractor and the Lead Designer for this Project. The Lead Contractor is defined as the Offeror that will serve as the prime/ general contractor responsible for overall construction of the Project and will serve as the legal entity who will execute the Contract with VDOT. The Lead Designer is defined as the prime design consulting firm responsible for the overall design of this Project.

4.1.8 State the Offeror’s VDOT prequalification number and current VDOT prequalification status (active, inactive, etc.) in the Letter of Submittal. An 8.5” x 11” copy of the Offeror’s VDOT prequalification certificate or evidence indicating Offeror is currently prequalified will be provided in the Attachments to the Letter of Submittal. The Offeror must be in good standing and prequalified to bid on the Project as outlined in VDOT’s Rules Governing Prequalification Privileges at the time of the Letter of Submittal & Price Proposal Due Date.

4.1.9 Provide a written statement within the Letter of Submittal that the Offeror is committed to achieving an eleven percent (11%) DBE participation goal for the entire value of the contract.

4.1.10 Provide Interim Milestone and Final Completion Dates. The proposed dates herein shall be no later than the date(s) set forth in Part 1, Section 2.4.1. Earlier Interim Milestone and Final Completion date(s) will be deemed by VDOT as the contractual completion date(s) for the Design-Build Contract for all purposes, including liquidated damages in accordance with Part 1, Section 2.4.2.

4.2 Attachments to the Letter of Submittal

4.2.1 Provide the full legal name and address of all affiliated and/or subsidiary companies of the Offeror on Attachment 4.2.1. Indicate which companies are affiliates and which companies are subsidiaries. An affiliate shall be considered as any business entity which is closely associated to another business entity so that one entity controls or has power to control the other entity either directly or indirectly; or, when a third party has the power to control or controls both; or where one business entity has been so closely allied with another business entity through an established course of dealings, including but not limited to the lending of financial wherewithal, engaging in joint ventures, etc. as to cause a public perception that the two firms are one entity. Firms which are owned by a holding company or a third party, but otherwise meet the above conditions and do not have interlocking directorships or joint officers serving, are not considered to be affiliates.

If the Offeror does not have any affiliated and/or subsidiary companies, other than the Offeror's legal business entity, indicate this on Attachment 4.2.1.

The Offeror shall not submit more than one Proposal for this Project. If more than one Proposal is submitted by an individual, partnership, Corporation, or any party of a Joint Venture, then all Proposals submitted by that individual, partnership, Corporation or Joint Venture shall be disqualified. If more than one Proposal is submitted by an affiliate or subsidiary company of an individual, partnership, Corporation or any party of a Joint Venture, then all Proposals submitted by that individual, partnership, Corporation or Joint Venture shall be disqualified.

4.2.2 Execute and return the attached Certification Regarding Debarment Form(s) Primary Covered Transactions, set forth as Attachment 4.2.2(a) and Certification Regarding Debarment Form(s) Lower Tier Covered Transactions, set forth as Attachment 4.2.2(b) for the Offeror and any subconsultant, subcontractor, or any other person or entity on the Offeror's proposed team.

If the Offeror and any subconsultant, subcontractor, or any other person or entity are unable to execute the certification, then prospective participant shall attach an explanation to its Certification Regarding Debarment Form. Failure to execute the certification will not necessarily result in denial of award, but will be considered in determining the Offeror's responsibility. Providing false information may result in federal criminal prosecution or administrative sanctions.

4.2.3 Provide an 8.5" x 11" copy of the Offeror's VDOT prequalification certificate or evidence indicating Offeror is currently prequalified as outlined in Section III H in VDOT's Rules Governing Prequalification Privileges shall be satisfied.

4.2.4 Include a letter from a surety or insurance company (with a Best's Financial Strength Rating of A minus and Financial Size Category VIII or better by A.M. Best Co.) stating that the Offeror is capable of obtaining a performance and payment bond based on the current estimated contract value referenced in Part 1, Section 2.3, which bonds will cover the Project and any warranty periods. The letter of surety shall clearly state the rating categorization noted above

and reference the estimated contract value as identified in Part 1, Section 2.3, in a manner similar to the notation provided below:

“As surety for [the above named Contractor], [XYZ Company] with A.M. Best Financial Strength Rating [rating] and Financial Size Category [Size Category] is capable of obtaining 100% Performance Bond and 100% Labor and Materials Payment Bond in the amount of the anticipated cost of construction, and said bonds will cover the Project and any warranty periods as provided for in the Contract Documents on behalf of the Contractor, in the event that such firm be the successful bidder and enter into a contract for this Project.”

4.2.5 All business entities on the Offeror’s proposed team must comply with the law with regard to their organizational structure, any required registration with governmental agencies and/or entities, and any required governmental licensure, whether business, commercial, individual, or professional in nature, and nothing herein is intended to contradict, nor to supersede, State and Federal laws and regulations regarding the same. All business entities on the Offeror’s proposed team shall be eligible at the time of their Proposal, under the law and relevant regulations, to offer and to provide any services proposed or related to the Project. All business entities on the Offeror’s proposed team shall satisfy all commercial and professional registration requirements, including, but not limited to those requirements of the Virginia State Corporation Commission (SCC) and the Virginia Department of Professional and Occupational Regulations (DPOR). Full size copies of DPOR licenses and SCC registrations, or evidence indicating the same, should be included in the appendix of the Letter of Submittal. Additionally, the following information should be provided on Attachment 4.2.5:

- .1 The SCC registration information for each business entity on the Offeror’s proposed team. Provide the name, registration number, type of corporation and status.
- .2 For this Project, the DPOR registration information for each office practicing or offering to practice any professional services in Virginia. Provide the business name, address, registration type, registration number and expiration date.

Failure to comply with the law with regard to those legal requirements in Virginia (whether federal or state) regarding your organizational structure, any required registration with governmental agencies and/or entities, and any required governmental licensure, whether business, individual, or professional in nature may render your Proposal, in the sole and reasonable discretion of the Department, non-responsive and in that event your Proposal may be returned without any consideration or evaluation.

4.2.6 Complete the Work History Forms for both the Lead Contractor and Lead Designer.

Identify on the Lead Contractor Work History Form (Attachment 4.2.6(a)) three (3) projects that have completed construction in the last fifteen (15) years and were constructed by the Lead

Contractor for this Project as identified in Part 1, Section 4.1.6. Relevant experience to be identified on the Lead Contractor Work History Form shall include:

1. At least one (1) Interstate or major arterial paving project with a minimum contract value of \$10,000,000.
2. At least one (1) Interstate or major arterial projects located in urban areas with a minimum contract value of \$15,000,000.

If work identified on the Lead Contractor Work History Form was performed by an affiliated or subsidiary company of the Lead Contractor, explain the justification for utilizing an affiliated or subsidiary company to satisfy the relevant project experience on this Project and the control the Lead Contractor will exercise over the affiliated or subsidiary company on this Project. Additionally, identify the full legal name of the affiliated or subsidiary company, describe their role on this Project and discuss how the Lead Contractor will be responsible for the work performed by the affiliated or subsidiary company on this Project. For all projects on the Lead Contractor Work History Form, identify the prime design consultant responsible for the overall project design of the projects listed on the Lead Contractor Work History Form.

Identify on the Lead Designer Work History Form (Attachment 4.2.6(b)) three (3) projects that have completed construction within the last fifteen (15) years and were designed by the Lead Designer for this Project identified in Part 1, Section 4.1.6. Relevant experience to be identified on the Lead Designer Work History Form shall include:

1. At least one (1) Interstate or major arterial project located in urban areas with a minimum construction value of \$15,000,000.
2. At least one (1) ITS highway project with a minimum construction value of \$2,000,000.

For all projects on the Lead Designer Work History Form, identify the prime/ general contractor responsible for overall construction of the projects listed on the Lead Designer Work History Form.

4.2.7 Provide Conceptual Roadway Plans showing the general Project layout. Include 11" x 17" copies of (a) plan view, and (b) typical sections of the proposed improvements to I-495. Minimally, the Conceptual Roadway Plans shall meet the requirements of the Design Criteria Table (Attachment 2.2 of Part 2), indicate that the limits of construction are within the existing/proposed right-of-way limits shown in the RFP Conceptual Plans, and, as applicable, identify:

- .1 Lane widths
- .2 Shoulder widths
- .3 Minimum pavement sections

-
- .4 Locations of full depth pavement and milling and overlay
 - .5 Locations of joint repair
 - .5 Cross slopes
 - .6 Plan location of all signs
 - .7 Conceptual layout for ITS devices

4.2.8 Provide a written statement that the Offeror's Technical Proposal is fully compliant with the Design Criteria Table included in the RFP Technical Requirements (Part 2) as Attachment 2.2 and all other requirements of this RFP. Also, certify that the Offeror's proposed limits of construction to include all stormwater management facilities are located within the right-of-way limits shown on the RFP Conceptual Plans with the exception of permanent and temporary easements and that the Offerors design concept does not require Design Exceptions and/or Design Waivers unless they are identified or included in the RFP or Addendum.

4.3 Price Proposal

The information and attachments provided in Part 1, Section 4.3 shall be submitted on the due date and time set forth in Part 1, Section 2.4.1. If the sealed Price Proposal is not submitted on the above specified date and time, then the Offeror shall be deemed non-responsive and will be disqualified from participating in the design-build procurement for this Project. Offerors shall complete the Price Proposal Checklist, Attachment 4.0.1.2, and include it with their Price Proposal. The purpose of the Price Proposal Checklist is to aid the Offeror in ensuring all submittal requirements have been included in the submittal. Additionally, the Offeror shall:

4.3.1 Specify, on the form set forth in Attachment 4.3.1, a Cost Breakdown Summary in whole numbers and the Proposal Price, in both numbers and words. Offerors are advised that the prices set forth above shall be considered full compensation to Offeror for all design and construction of this Project, to include: labor, material, equipment, permits, taxes, overhead, profit and any other expenses of any kind applicable to the work to be undertaken by Offeror associated with such work, including but not limited to any escalation, extended site overhead, acceleration of schedule, and/or shift of construction sequencing.

4.3.2 Provide the required information set forth in Part 3, Section 6.3, Adjustments to Asphalt, Fuel and Steel Prices.

4.3.3 Provide the Proposal Guaranty required by Section 102.07 of Division I Amendments of the VDOT Road and Bridge Specifications. A copy of the Proposal Guaranty Form C-24 may be found at <http://vdotforms.vdot.virginia.gov/>. **If the Price Proposal Guaranty is not submitted with the Price Proposal, then the Offeror shall be deemed non-responsive and will be disqualified from participating in the Design-Build procurement for this Project.**

4.3.4 Provide the Sworn Statement Forms (C-104, C-105), as set forth in Attachments 4.3.4(a) and 4.3.4(b) respectively.

4.3.5 For those DBE's whom Offeror intends to use as a subcontractor, provide the Minimum DBE Requirements Form (C-111; Attachment 4.3.5(a)), and/or DBE Good Faith Effort Documentation Form (C-49; Attachment 4.3.5(b)), if applicable (including Good Faith Effort supporting documentation), and Certification of Binding Agreement Form (C-112; Attachment 4.3.5(c)). The documentation provided on the DBE forms listed above will be subject to review and approval by VDOT's Civil Rights Division. Price Proposals that contain DBE documentation that is not approved by VDOT's Civil Rights Division may be deemed non-responsive.

4.4 Post Notice of Intent to Award Submittals

Within three (3) calendar days of Notice of Intent to Award, the Successful Offeror shall deliver to VDOT documents required by this Section for its review and approval. VDOT may seek clarifications on any such documents. If VDOT disapproves any such submittal, VDOT may, in its sole discretion, disqualify the Successful Offeror.

4.4.1 Furnish an organizational chart showing the "chain of command" of all companies, including individuals responsible for pertinent disciplines, proposed on the Offeror's team. Identify major functions to be performed and their reporting relationships in managing, designing and constructing the Project. The organizational chart should show a clear separation and independence of a contractual relationship of any kind with the Quality Control (QC) and Quality Assurance (QA) programs for construction activities. This includes separation between QA and QC inspection and field/ laboratory testing in accordance with the Minimum Requirements for Quality Assurance and Quality Control on Design Build and P3 Projects, January 2012.

4.4.2 Provide the identity of and information about the following Key Personnel listed below. This information is to be provided on the Key Personnel Resume Form attached hereto as Attachment 4.4.2.

- .1 **Design-Build Project Manager** – This individual should be responsible for the overall Project design, right-of-way acquisition, construction, quality management and contract administration for the Project.
- .2 **Quality Assurance Manager (QAM)** – This individual shall be from an independent firm that has no contractual relationship of any kind with the Quality Control (QC) firm unless the Design-Builder's firm is to self perform the QC and no involvement in construction operations (to include QC inspection and testing) for the Project. The QAM shall be responsible for the quality assurance (QA) inspection and testing of all materials used and work performed on the Project, to include monitoring of the contractor's quality control (QC) program. The QAM

will ensure that all work and materials, testing, and sampling are performed in conformance with the contract requirements and the "approved for construction" plans and specifications. This individual shall be a registered, licensed, Professional Engineer in the Commonwealth of Virginia.

- .3 **Design Manager** – This individual shall be responsible for coordinating the individual design disciplines and ensuring the overall Project design is in conformance with the Contract Documents. The Design Manager shall be responsible for establishing and overseeing a QA/QC program for all pertinent disciplines involved in the design of the Project, including, review of design, working plans, shop drawings, specifications, and constructability of the Project. This individual shall be a registered, licensed, Professional Engineer in the Commonwealth of Virginia.

- .4 **Construction Manager** – This individual, who will be required to be on the Project site for the duration of construction operations, shall be responsible for managing the construction process to include all Quality Control (QC) activities to ensure the materials used and work performed meet contract requirements and the “approved for construction” plans and specifications. This individual shall hold a Virginia Department of Environmental Quality (DEQ) Responsible Land Disturber (RLD) Certification and a VDOT Erosion and Sediment Control Contractor Certification (ESCCC) or a statement shall be included indicating this individual will hold these certifications prior to the commencement of construction. Note that effective July 1, 2013 the administration of the Virginia Erosion and Sediment Control and Stormwater Management regulatory programs was transferred from the Virginia Department of Conservation and Recreation (DCR) to the Virginia Department of Environmental Quality (DEQ). Current active RLD Certifications are still valid.

- .5 **Electrical/ITS Supervising Technician:** This individual should serve as the lead electrical and ITS supervisor during construction and shall be responsible for wiring, splicing, ITS device installation, inspection and testing. The Electrical/ITS Supervisor shall be certified as a Master Electrician, Licensed by the Virginia Department of Professional and Occupational Regulation Board for Contractors Tradesman and shall successfully complete OSHA training in electrical safety for Arc Flash Protection and Lockout/Tagout, or a statement shall be included indicating this individual will have obtained these certifications and training prior to the commencement of construction. This individual shall report directly to the Construction Manager.

4.4.3 In accordance with the requirements set forth in Part 1, Section 4.2.5, the following information should be provided on Attachment 4.4.3:

- .1 For this Project, the DPOR license information for each Key Personnel practicing or offering to practice professional services in Virginia. Provide the name, the address, type, the registration number, expiration date and the office location where each Key Personnel member is offering to practice professional services in Virginia.
- .2 For this Project, the DPOR license information for those services not regulated by the Board for Architects, Professional Engineers, Land Surveyors, Certified Interior Designers, and Landscape Architects (i.e. real estate appraisal). Provide the name, address, type, the registration number, and the expiration date of the individual offering services in Virginia.

4.4.4 Identify and submit a DBE subcontracting narrative indicating how the DBE participation goal of eleven percent (11%) will be met for the entire value of the contract.

4.4.5 Provide a Proposal Schedule for the entire Project outlining the Offeror's proposed plan to accomplish the Work. The Proposal Schedule submission should include:

- .1 **Proposal Schedule:** The Proposal Schedule should depict the Offeror's proposed overall sequence of work, and times during each work task and deliverable required to complete the Project will be accomplished. The Proposal Schedule should be organized using a hierarchical Work Breakdown Structure (WBS), broken down into major phases of the Project (i.e. project milestones, project management, Scope Validation Period, design, public involvement, environmental, right-of-way, utility, and construction, etc.) The Proposal Schedule should depict the anticipated project critical path (based on the longest path), reviews by Department, FHWA, other regulatory agencies; and work by suppliers, subcontractors, and other involved parties, as applicable.
- .2 **Proposal Schedule Narrative:** A Proposal Schedule Narrative describing the Offeror's proposed overall plan to accomplish the Work including, but not limited to the overall sequencing, a description and explanation of the Critical Path, proposed means and methods, and other key assumptions on which the Proposal Schedule is based.

In addition to hard copy, the Offeror shall provide "PDF" copies of the Proposal Schedule and narrative; as well as a back-up copy of the Proposal Schedule's source document in any of the following electronic file formats: "XER", "PRX", "MPP", or "MPX", on a CD-ROM. Offerors are to note that in addition to the Proposal Schedule, the Design-Builder will develop and submit a Preliminary Schedule and a Baseline Schedule in accordance with Part 3, Section 11.1.

4.4.6 Provide a Schedule of Items for the Price Proposal utilizing the Schedule of Items Form attached hereto as Attachment 4.4.6. This Schedule of Items shall identify the material quantities

and costs of each proposed pay item that make up the total Contract Price. The material quantities and costs listed for each proposed pay item shall, to the extent possible, correspond to VDOT's list of standard and non-standard pay items. Any items considered for price adjustments shall be identified. The value associated with each pay item shall be inclusive of all direct and indirect costs, overhead, profit and any other expenses of any kind. The values and quantities shall be clearly supported by the escrowed pricing documents.

4.4.7 Submit, for the Price Proposal, a proposed monthly payment schedule showing the anticipated monthly earnings schedule on which funds will be required.

4.4.8 Provide the Escrow Proposal Documents in accordance with Part 1, Section 11.7

5.0 PROPOSAL EVALUATION AND RESPONSIVENESS REVIEW

5.0.1 VDOT will open and read the Price Proposals publicly on the date and time set forth in Part 1, Section 2.4.1.

5.0.2 After opening the Price Proposals, VDOT will determine if the Proposal of the Offeror with the lowest Proposal Price for the Project is responsive.

5.0.3 If VDOT considers the Proposal of the Offeror with the lowest Proposal Price to be non-responsive, then VDOT will determine if the Proposal of the Offeror with the next lowest Proposal Price is responsive.

6.0 PROPOSAL SUBMITTAL REQUIREMENTS

Part 1, Section 6.0 describes the requirements that all Offerors must satisfy in submitting Proposals. Failure of any Offeror to submit its Proposal in accordance with this RFP may result in rejection of its Proposal.

6.1 Due Date, Time and Location

6.1.1 All Proposals must be received by the Due Date and time set forth in Part 1, Section 2.4.1. All submissions, including hand-delivered packages, US Postal Service regular mail, US Postal Service express mail, or private delivery service (FEDEX, UPS, courier etc.) must be delivered to the following individual at the following address:

Commonwealth of Virginia
Department of Transportation (VDOT)
Central Office Mail Center
Loading Dock Entrance
1401 E. Broad Street
Richmond, Virginia 23219
Attention: Brenda L. Williams

Neither fax nor email submissions will be accepted. Offerors are responsible for effecting delivery by the deadline above, and late submissions will be rejected without opening, consideration, or evaluation, and will be returned unopened to the sender. VDOT accepts no responsibility for misdirected or lost Proposals.

6.2 Format

The Proposal format is prescribed below. If VDOT determines that a Proposal does not comply with or satisfy requirements of this Section, VDOT may find such Proposal to be non-responsive and may be disqualified from participating in the design-build procurement for this Project.

6.2.1 Two (2) separate sealed parcels, one (1) containing the Letter of Submittal and Attachments to the Letter of Submittal and one (1) containing the Price Proposal shall be submitted by the due date and time set forth in Part 1, Section 2.4.1. Parcels shall be clearly marked to identify the Project and the Offeror, and to identify the contents as the “Letter of Submittal and Attachments” or “Price Proposal” as applicable.

6.2.2 Each Offeror shall deliver one (1) copy of the Letter of Submittal and Attachments to the Letter of Submittal, which must bear original signatures, and one (1) CD-ROM or DVD-ROM containing the entire Letter of Submittal and Attachments to the Letter of Submittal in a single cohesive Adobe PDF file.

The Letter of Submittal and Attachments to the Letter of Submittal shall be securely bound and contained in a single volume with an identity on its front cover. **Three ring binders are not permissible.**

The Letter of Submittal and Attachments to the Letter of Submittal shall be:

- Typed on one (1) side only.
- Separated by numbered tabs with sections corresponding to the order set forth in Part 1, Section 4.0, except for that required by Part 1, Section 4.3 and 4.4.
- The Letter of Submittal Checklist and Form C-78-RFP shall be provided in the front of the Letter of Submittal

Except for charts, schedules, Work History Forms, exhibits, and other illustrative and graphical information, all information shall be prepared on 8.5” x 11” white paper. Charts, schedules, exhibits, and other illustrative and graphical information may be on 11” x 17” paper, but must be folded to 8.5” x 11”. **The format and appearance of the Work History Forms should not be modified. The Work History Forms shall not exceed one (1) page per project for each the Lead Contractor and the Lead Designer.**

All printing, except for the front cover of the Letter of Submittal and any appendices, should be Times New Roman, with a font of 12-point. (Times New Roman 10 point font may be used for filling out information on charts, tables and/ or exhibits).

~~The format and appearance of the Key Personnel Resume Form and the Work History Forms should not be modified. The Key Personnel Resume Forms shall not exceed two (2) pages for each Key Personnel. The Work History Forms shall not exceed one (1) page per project for each the Lead Contractor and the Lead Designer.~~

6.2.3 Each Offeror shall deliver one (1) paper copy of the Price Proposal, which must bear original signatures on the Price Proposal Form, and one (1) CD-ROM containing the entire Price Proposal in a single cohesive Adobe PDF file.

The Price Proposal shall be securely bound and contained in a single volume. **Three ring binders are not permissible.** Additionally, the Price Proposal shall be typed on one (1) side only and separated by numbered tabs with sections corresponding to the order set forth in Part 1, Section 4.3. The Price Proposal Checklist shall be provided in the front of the Price Proposal

6.2.4 Within three (3) calendar days of Notice of Intent to Award, the Successful Offeror shall deliver a sealed parcel containing one (1) paper copy of the Post Notice of Intent to Award Submittals, excluding the Escrow Proposal Documents, and one (1) CD-ROM containing the entire Post Notice of Intent to Award Submittals, excluding the Escrow Proposal Documents in a single cohesive Adobe PDF file.

The Post Notice of Intent to Award Submittals shall be securely bound and contained in a single volume. **Three ring binders are not permissible.** Additionally, the Post Notice of Intent to Award Submittals shall be typed on one (1) side only and separated by numbered tabs with sections corresponding to the order set forth in Part 1, Section 4.4.

Except for charts, schedules, exhibits, and other illustrative and graphical information, all information shall be prepared on 8.5" x 11" white paper. Charts, schedules, exhibits, and other illustrative and graphical information may be on 11" x 17" paper, but must be folded to 8.5" x 11".

~~The format and appearance of the Key Personnel Resume Form should not be modified. The Key Personnel Resume Forms shall not exceed two (2) pages for each Key Personnel.~~

All printing, except for the front cover of the Post Notice of Intent to Award Submittals and any appendices, should be Times New Roman, with a font of 12-point. (Times New Roman 10 point font may be used for filling out information on charts, tables and/ or exhibits).

7.0 QUESTIONS AND CLARIFICATIONS

7.0.1 All questions and requests for clarification regarding this RFP shall be submitted to VDOT's POC in writing in electronic format (submission by email is acceptable). All questions

and requests for clarification shall be submitted in Microsoft Office Word format. No requests for additional information, clarification or any other communication should be directed to any other individual. **NO ORAL REQUESTS FOR INFORMATION WILL BE ACCEPTED.**

7.0.2 All questions or requests for clarification must be submitted by the due date and time set forth in Part 1, Section 2.4.1. Questions or clarifications requested after such time will not be answered, unless VDOT elects, in its sole discretion, to do so.

7.0.3 VDOT's responses to questions or requests for clarification shall be in writing and may be accomplished by an Addendum to this RFP. VDOT will not be bound by any oral communications, or written interpretations or clarifications that are not set forth in an Addendum.

7.0.4 VDOT, in its sole discretion, shall have the right to seek clarifications from any Offeror to fully understand information contained in the Proposal.

8.0 AWARD OF CONTRACT, PROPOSAL VALIDITY AND CONTRACT EXECUTION

VDOT has determined that the Negotiation and Award of Contract will be made in the following manner:

8.1 Negotiations and Award of Contract

8.1.1 VDOT will review the Proposal submitted by the Offeror with the lowest Proposal Price. If the Proposal is responsive and the Proposal Price is within VDOT's budget for design and construction services, then VDOT will issue a Notice of Intent to Award to the Successful Offeror.

8.1.2 Pursuant to 23 CFR 636.513, VDOT may conduct limited negotiations with the Successful Offeror to clarify any remaining issues regarding scope, schedule, financing or any other information provided by the Successful Offeror.

8.1.3 Pursuant to 23 CFR 636.404, if the Proposal Price submitted by the Offeror with the lowest Proposal Price is not within VDOT's budget for design and construction services, VDOT may establish a competitive range among the Offerors who have submitted a responsive Proposal.

8.1.4 Pursuant to 23 CFR 636.402, 636.404, and 636.406, prior to VDOT establishing a competitive range, VDOT may hold communications with only those Offerors whose exclusion from or inclusion in, the competitive range is uncertain. Communications will (a) enhance VDOT's understanding of Proposals; or (b) allow reasonable interpretation of the Proposal.

8.1.5 Pursuant to 23 CFR 636.404, after VDOT establishes the competitive range, VDOT will notify any Offeror whose Proposal is no longer considered to be included in the competitive range.

8.1.6 Pursuant to 23 CFR 636.506, 636.507, and 636.508, VDOT will hold discussions with all Offerors in the competitive range. Offerors are advised that VDOT may, in its reasonable discretion, determine that only one Offeror is in the competitive range.

8.1.7 Pursuant to 23 CFR 636.510, VDOT may determine to further narrow the competitive range once discussions have begun. At which point, VDOT will notify any Offeror whose Proposal is no longer considered in the competitive range.

8.1.8 Pursuant to 23 CFR 636.509, at the conclusion of discussions, VDOT, will request all Offeror(s) in the competitive range to submit a final Proposal revision, also called Best and Final Offer (BAFO). Thus, regardless of the length or number of discussions, there will be only one request for a revised Proposal (*i.e.*, only one BAFO).

8.1.9 Pursuant to 23 CFR 636.512, VDOT will review the final Proposals in accordance with the review and selection criteria and complete a final ranking of the Offerors in the competitive range, and then VDOT will issue a Notice of Intent to Award to the Successful Offeror.

8.1.10 Pursuant to 23 CFR 636.513, VDOT may conduct limited negotiations with the Successful Offeror to clarify any remaining issues regarding scope, schedule, financing or any other information provided by the Successful Offeror.

8.2 Proposal Validity

8.2.1 The offer represented by the Proposal will remain in full force and effect for one hundred twenty (120) days after the Letter of Submittal/Price Proposal Due Date set forth in Part 1, Section 2.4.1. If Award of Contract has not been made by the CTB within one hundred twenty (120) days after the Letter of Submittal/Price Proposal Due Date, each Offeror that has not previously agreed to an extension of such deadline shall have the right to withdraw its Proposal.

8.3 Submittals after Notice of Intent to Award

8.3.1 Within three (3) calendar days of Notice of Intent to Award, the Successful Offeror shall deliver to VDOT all of the information required by Part 1, Section 4.4.

8.3.2 Within fifteen (15) days of Notice of Intent to Award, the Successful Offeror shall deliver to VDOT all pertinent documents in accordance with Section 103 of the Division I Amendments to the Standard Specifications.

8.3.3 Failure to comply with submittal requirements provided in Part 1, Sections 8.3.1 and 8.3.2 above may result in disqualification of the Offeror by VDOT in its sole and reasonable discretion.

8.4 Contract Execution and Notice to Proceed

8.4.1 Upon Award of Contract, VDOT will deliver an executed copy of the Design-Build Contract to the Successful Offeror, who shall execute and deliver such copy to VDOT within seven (7) days of receipt.

8.4.2 VDOT reserves the right to issue Notice to Proceed within fifteen (15) days after execution of the Design-Build Contract.

9.0 RIGHTS AND OBLIGATIONS OF VDOT

9.1 Reservation of Rights

9.1.1 In connection with this procurement, VDOT reserves to itself all rights (which rights shall be exercisable by VDOT in its sole discretion) available to it under applicable law, including without limitation, the following, with or without cause and with or without notice:

- .1 The right to cancel, withdraw, postpone or extend this RFP in whole or in part at any time prior to the execution by VDOT of the Design-Build Contract, without incurring any obligations or liabilities.
- .2 The right to issue a new RFP.
- .3 The right to reject any and all submittals, responses and Proposals received at any time.
- .4 The right to modify all dates set or projected in this RFP.
- .5 The right to suspend and terminate the procurement process for the Project, at any time.
- .6 The right to waive or permit corrections to data submitted with any response to this RFP until such time as VDOT declares in writing that a particular stage or phase of its review of the responses to this RFP has been completed and closed.
- .7 The right to issue addenda, supplements, and modifications to this RFP.
- .8 The right to permit submittal of Addenda and supplements to data previously provided with any response to this RFP until such time as VDOT declares in

writing that a particular stage or phase of its review of the responses to this RFP has been completed and closed.

- .9 The right to hold meetings and conduct discussions and correspondence with one or more of the Offerors responding to this RFP to seek an improved understanding of the responses to this RFP.
- .10 The right to seek or obtain data from any source that has the potential to improve the understanding and evaluation of the responses to the RFP, including the right to seek clarifications from Offerors.
- .11 The right to permit Offerors to add or delete firms and/or key personnel until such time as VDOT declares in writing that a particular stage or phase of its review has been completed and closed.
- .12 The right to add or delete Offeror responsibilities from the information contained in this RFP.
- .13 The right to waive deficiencies, informalities and irregularities in a Proposal, accept and review a non-conforming Proposal or seek clarifications or supplements to a Proposal.
- .14 The right to disqualify any Offeror that changes its submittal without VDOT approval.
- .15 The right to change the method of award at any time prior to submission of the Proposals.
- .16 The right to respond to all, some, or none of the inquiries, questions and/or request for clarifications received relative to the RFP.
- .17 The right to negotiate the allocation of prices identified for specific portions of the work depicted within a Price Proposal.
- .18 The right to disqualify and/or cease negotiations with an Offeror if VDOT, in its sole discretion, determines that the Offeror's Post Notice of Intent to Award Submittals are not acceptable or its Price Proposal contains unbalanced pricing among the specific portions of work identified therein.

9.2 No Assumption of Liability

9.2.1 VDOT assumes no obligations, responsibilities, and liabilities, fiscal or otherwise, to reimburse all or part of the costs incurred or alleged to have been incurred by parties considering

a response to and/or responding to this RFP. All of such costs shall be borne solely by each Offeror and its team members.

9.2.2 In no event shall VDOT be bound by, or liable for, any obligations with respect to the Project until such time (if at all) a contract, in form and substance satisfactory to VDOT, has been executed and authorized by VDOT and, then, only to the extent set forth therein.

10.0 PROTESTS

This Section simply summarizes protest remedies available with respect to the provisions of the Code of Virginia that are relevant to protests of awards or decisions to award Design-Build Contracts by VDOT. This section does not purport to be a complete statement of those provisions and is qualified in its entirety by reference to the actual provisions themselves.

In accordance with §2.2-4360, of the *Code of Virginia*, if an unsuccessful Offeror wishes to protest the award or decision to award a contract, such Offeror must submit a protest in writing to VDOT's POC no later than ten (10) calendar days after the award or the announcement posting the decision to award, whichever occurs first. The written protest shall include the basis for the protest and the relief sought. No protest shall lie for a claim that the selected Offeror is not a responsible bidder.

Public notice of the award or the announcement of the decision to award shall be given by the public body in the manner prescribed in the terms or conditions of the Invitation to Bid or Request for Proposal. However, if the protest of any Offeror depends in whole or in part upon information contained in public records pertaining to the procurement transaction that are subject to inspection under § 2.2-4342, of the *Code of Virginia*, then the time within which the protest must be submitted shall expire ten (10) calendar days after those records are available for inspection by such Offeror under § 2.2-4342, of the *Code of Virginia*.

VDOT shall issue a decision in writing within ten (10) calendar days of the receipt of any protest stating the reasons for the action taken. This decision shall be final unless the Offeror appeals within ten (10) calendar days of receipt of the written decision, by instituting legal action in accordance with § 2.2-4364, of the *Code of Virginia*.

Pursuant to § 2.2-4362, of the *Code of Virginia*, an award need not be delayed for the period allowed a bidder or Offeror to protest, but in the event of a timely protest, no further action to award the Contract will be taken unless there is a written determination by the Commissioner, or his designee, that proceeding without delay is necessary to protect the public interest or unless the Design-Build Proposal would expire. Further, pursuant to §2.2-4361, of the *Code of Virginia*, pending a final determination of a protest or appeal, the validity of the contract awarded and accepted in good faith shall not be affected by the fact that a protest or appeal has been filed.

11.0 MISCELLANEOUS

11.1 Virginia Freedom of Information Act

11.1.1 All Proposals submitted to VDOT become the property of VDOT and are subject to the disclosure requirements of Section 2.2-4342 of the Virginia Public Procurement Act and the Virginia Freedom of Information Act (FOIA) (Section 2.2—3700 et seq.). Offerors are advised to familiarize themselves with the provisions of each Act referenced herein to ensure that documents identified as confidential will not be subject to disclosure under FOIA. In no event shall the Commonwealth, the Commissioner of Highways, or VDOT be liable to an Offeror for the disclosure of all or a portion of a Proposal submitted pursuant to this request.

11.1.2 If a responding Offeror has special concerns about information which it desires to make available to VDOT but which it believes constitutes a trade secret, proprietary information, or other confidential information exempted from disclosure, such responding Offeror should specifically and conspicuously designate that information as such in its Proposal and state in writing why protection of that information is needed. The Offeror should make a written request to the Alternate Project Delivery Office. The written request shall:

- .1 Invoke such exemption upon the submission of the materials for which protection is sought.
- .2 Identify the specific data or other materials for which the protection is sought.
- .3 State the reasons why the protection is necessary.
- .4 Indicate that a similar process with the appropriate officials of the affected local jurisdictions is or will be conducted. Failure to take such precautions prior to submission of a Proposal may subject confidential information to disclosure under the Virginia FOIA.

11.1.3 Blanket designations that do not identify the specific information shall not be acceptable and may be cause for VDOT to treat the entire Proposal as public information. Nothing contained in this provision shall modify or amend requirements and obligations imposed on VDOT by applicable law, and the applicable law(s) shall control in the event of a conflict between the procedures described above and any applicable law(s).

11.1.4 In the event VDOT receives a request for public disclosure of all or any portion of a Proposal identified as confidential, VDOT will attempt to notify the Offeror of the request, providing an opportunity for such Offeror to assert, in writing, claimed exemptions under the FOIA or other Commonwealth law. VDOT will come to its own determination whether or not the requested materials are exempt from disclosure. In the event VDOT elects to disclose the requested materials, it will provide the Offeror advance notice of its intent to disclose.

11.1.5 Because of the confidential nature of the negotiation process associated with this Project, and to preserve the propriety of each Offeror's Proposal, it is VDOT's intention, subject to applicable law, not to consider a request for disclosure until after VDOT's issuance of a Notice of Intent to Award. Offerors are on notice that once a Design-Build Contract is executed, some or all of the information submitted in the Proposal may lose its protection under the applicable laws of the Commonwealth.

11.2 Conflict of Interest

11.2.1 Each Offeror shall require its proposed team members to identify potential conflicts of interest of a real or perceived competitive advantage relative to this procurement. Offerors are notified that prior or existing contractual obligations between a company and a federal or state agency relative to the Project or VDOT's design build program may present a conflict of interest or a competitive advantage. If a potential conflict of interest or competitive advantage is identified, the Offeror shall submit in writing the pertinent information to VDOT's POC.

VDOT, in its sole discretion, will make a determination relative to potential organizational conflicts of interest or a real or perceived competitive advantage, and its ability to mitigate such a conflict. An organization determined to have a conflict of interest or competitive advantage relative to this procurement that cannot be mitigated, shall not be allowed to participate as a Design-Build team member for the Project. Failure to abide by VDOT's determination in this matter may result in a Proposal being declared non-responsive.

11.2.2 Conflicts of interest and a real or perceived competitive advantage are described in state and federal law, and, for example, may include, but are not limited to the following situations:

1. An organization or individual hired by VDOT to provide assistance in development of instructions to Offerors or evaluation criteria for the Project.
2. An organization or individual hired by VDOT to provide assistance in development of instructions to Offerors or evaluation criteria as part of the programmatic guidance or procurement documents for VDOT's Design-Build program, and as a result has a unique competitive advantage relative to the Project.
3. An organization or individual with a present or former contract with VDOT to prepare planning, environmental, engineering, or technical work product for the Project, and has a potential competitive advantage because such work product is not available to all potential Offerors in a timely manner prior to the procurement process.
4. An organization or individual with a present contract with VDOT to provide assistance in Design-Build contract administration for the Project.

11.2.3 VDOT reserves the right, in its sole discretion, to make determinations relative to potential conflicts of interest on a Project specific basis.

11.2.4 VDOT may, in its sole discretion, determine that a conflict of interest or a real or perceived competitive advantage may be mitigated by disclosing all or a portion of the work product produced by the organization or individual subject to review under this section. If documents have been designated as proprietary by Virginia law, the Offeror will be given the opportunity to waive this protection from disclosure. If Offeror elects not to disclose, Offeror may be declared non-responsive.

11.2.5 The firms listed below will not be allowed to participate as a Design-Build team member due to a conflict of interest:

- Whitman, Requardt & Associates, LLP
- CH2M Hill
- ATCS, PLC
- Serco Inc.

11.3 Ethics in Public Contracting Act

VDOT may, in its sole discretion, disqualify the Offeror from further consideration for the award of the Design-Build Contract if it is found after due notice and examination by VDOT that there is a violation of the Ethics in Public Contracting Act, § 2.2-4367 of the *Code of Virginia*, or any similar statute involving the Offeror in the procurement of the contract.

11.4 Requirement to Keep Team Intact

The team proposed by Offeror, including but not limited to the Offeror's organizational structure, the lead contractor, the lead designer, Key Personnel, and other individuals identified pursuant to Part 1, Section 4.4.2, shall remain on Offeror's team for the duration of the procurement process and, if the Offeror is awarded the Design-Build Contract, the duration of the Design-Build Contract. If extraordinary circumstances require a proposed change, it must be submitted in writing to VDOT's POC, who, at his sole discretion, will determine whether to authorize a change. Unauthorized changes to the Offeror's team at any time during the procurement process may result in the elimination of the Offeror from further consideration.

11.5 Disadvantaged Business Enterprises

11.5.1 It is the policy of VDOT that Disadvantaged Business Enterprises (DBEs), as defined in 49 CFR Part 26, shall have every opportunity to participate in the performance of construction/consultant contracts. The DBE contract goal for this procurement is identified in Part 1, Section 4.1.9. Offerors are encouraged to take all necessary and reasonable steps to ensure that DBEs have every opportunity to compete for and perform services on contracts,

including participation in any subsequent supplemental contracts. If a portion of the work on the Project is to be subcontracted out, Offerors must seek out and consider DBEs as potential subcontractors. DBEs must be contacted to solicit their interest, capability and qualifications. Any agreement between an Offeror and a DBE whereby the DBE promises not to provide services to any other Offeror or other contractors/consultants is prohibited.

11.5.2 If a DBE is not certified, the DBE must become certified with the Virginia Department of Minority Business Enterprises (VDMBE) prior to the Proposal Due Date. If the DBE is a prime, the firm will receive full credit for the planned involvement of their own workforce, as well as the work they commit to be performed by DBE subcontractors. DBE primes are encouraged to make the same outreach. DBE credit will be awarded only for work actually performed by DBEs themselves. When a DBE prime or subcontractor subcontracts work to another firm, the work counts toward the DBE goals only if the other firm itself is a DBE. A DBE must perform or exercise responsibility for at least 30% of the total cost of its contract with its own workforce.

11.5.3 DBE certification entitles a firm to participate in VDOT's DBE Program. However, it does not guarantee that the firm will obtain VDOT work nor does it attest to the firm's abilities to perform any particular type of work.

11.5.4 This Project has federal funding. In accordance with the Governor's Executive Order No. 33, VDOT requires utilization of Small, Women and Minority (SWaM) Businesses to participate in the performance of state funded projects. VDOT also encourages the utilization of SWaM Firms to participate in the performance of federally funded projects. A list of the DMBE certified SWaM firms is maintained on the DMBE web site (<http://www.dmb.e.state.va.us/>) under the SWaM Vendor Directory link. Offerors are encouraged to take all necessary and reasonable steps to ensure that SWaM firms have the maximum opportunity to compete for and perform services in the Design-Build contract. If the Offeror intends to subcontract a portion of the services on the Project, the Offeror is encouraged to seek out and consider SWaM firms as potential subconsultants. The Offeror is encouraged to contact SWaM firms to solicit their interest, capability and qualifications. Any agreement between an Offeror and a SWaM firm whereby the SWaM firm promises not to provide services to other Offerors is prohibited.

11.5.5 When preparing bids for projects with DBE goals, VDOT encourages prospective bidders to seek the assistance of the following offices:

Virginia Department of Minority Business Enterprises
1111 East Main Street, Suite 300
Richmond, VA 23219
Phone: (804) 786-6585
<http://www.dmb.e.virginia.gov/>

Metropolitan Washington Airports Authority
Equal Opportunity Programs Department
1 Aviation Circle

Washington, DC 20001
Phone: (703) 417-8625
www.metwashairports.com

Contractors are also encouraged to seek help from the VDOT Districts Equal Employment Opportunity (EEO) Offices, Central Office Civil Rights Office and the VDOT Business Opportunity and Workforce Development (BOWD) Center as listed below:

VDOT Central Office
1221 East Broad Street
Richmond, VA 23219
(804) 786-2085

Lynchburg District
4219 Campbell Avenue
Lynchburg, VA 24506
(434) 856-8168

Bristol District
870 Bonham Drive
Bristol, VA 24203
(276) 669-9907

Northern Virginia District
4975 Alliance Drive
Fairfax, VA 22030
(703) 259-1775

Culpeper District
1601 Orange Road
Culpeper, VA 22701
(540) 829-7523

Richmond District
2430 Pineforest Drive
Colonial Heights, VA 23834
(804) 524-6091

Fredericksburg District
87 Deacon Road
Fredericksburg, VA 22405
(540) 899-4562

Salem District
731 Harrison Avenue
Salem, VA 24153
(540) 387-5453

Hampton Roads District
1700 N. Main Street
Suffolk, VA 23434
(757) 925-2519

Staunton District
811 Commerce Road
Staunton, VA 24401
(540) 332-7888

BOWD
1602 Rolling Hills Drive
Suite 110
Richmond, VA 23229
Phone: (804) 662-9555

The following informational websites may also be of assistance:

www.virginiadot.org/business/bu_bizDev.asp

www.virginia.gov/business/bu-civil-rights-home.asp

11.6 Trainee and Apprenticeship Participation

11.6.1 VDOT will not require trainee and apprenticeship participation for this Project.

11.7 Escrow Proposal Documents

11.7.1 Scope

Pursuant to Part 1, Section 11.7.5.1 below, the Successful Offeror shall submit to the individual set forth in Part 1, Section 6.1.1 within three (3) calendar days of Notice of Intent to Award, one copy of all documentary information generated in preparation of its Proposal. This material is hereinafter referred to as Escrow Proposal Documents (EPDs). The EPDs will be held in a secure location at the VDOT Central Office until immediately prior to award of the Project. The EPDs of the Successful Offeror will be transferred to and then held in escrow at the banking institution specified in this Part 1, Section 11.7.6.

An Escrow Proposal Documents Checklist has been provided for reference in Attachment 11.7.1

11.7.2 Ownership

- .1 The EPDs are, and shall always remain, the property of the Successful Offeror, subject to joint review by VDOT and the Successful Offeror, as provided herein.
- .2 VDOT stipulates and expressly acknowledges that the EPDs constitute trade secrets. This acknowledgement is based on VDOT's express understanding that the information contained in the EPDs is not known outside Successful Offeror's business, is known only to a limited extent and only by a limited number of employees of the Successful Offeror, is safeguarded while in Successful Offeror's possession, is extremely valuable to Successful Offeror and could be extremely valuable to Successful Offeror's competitors by virtue of its reflecting Successful Offeror's contemplated techniques of design and construction. VDOT further acknowledges that Successful Offeror expended substantial sums of money in developing the information included in the EPDs and further acknowledges that it would be difficult for a competitor to replicate the information contained therein. VDOT further acknowledges that the EPDs and the information contained therein are made available to VDOT only because such action is an express prerequisite to Award of Contract. VDOT further acknowledges that the EPDs include a compilation of the information used in Successful Offeror's business, intended to give Successful Offeror an opportunity to obtain an advantage over competitors who do not know of or use the contents of the documentation.

11.7.3 Purpose

EPDs may be used to assist in the negotiation of price adjustments and change orders and in the settlement of disputes and claims.

11.7.4 Format and Contents

- .1 Successful Offerors may submit EPDs in their usual cost estimating format provided that all information is clearly presented and ascertainable. It is not the intention of this Part 1, Section 11.7 to cause the Successful Offeror extra work during the preparation of the Proposal, but to ensure that the EPDs will be adequate to enable complete understanding and proper interpretation for their intended use. The EPDs shall be submitted in the language (i.e., English) of the Specifications.
- .2 It is required that the EPDs clearly itemize the estimated costs of performing the work of each item contained in Successful Offeror's schedule of values. Cost items shall be separated into sub-items as required to present a detailed cost estimate and allow a detailed cost review. The EPDs shall include: estimates for costs of the design professionals and consultants itemized by discipline both for development of the design, all quantity take-offs, crew size and shifts, equipment, calculations of rates of production and progress, copies of quotes from subcontractors and suppliers, and memoranda, narratives, drawings and sketches showing site or work area layouts and equipment, add/deduct sheets, geotechnical reviews and consultant reports, and all other information used by the Successful Offeror to arrive at the prices contained in the Proposal. Estimated costs shall be broken down into estimate categories for each bid items such as direct labor, repair labor, equipment ownership and operation, expendable materials, permanent materials and subcontract costs as appropriate. Plant and equipment, indirect costs, bond rates and calculations, insurance costs and financing should be detailed. The Successful Offeror's allocation of indirect costs, contingencies, and mark-up shall be identified.
- .3 All costs shall be identified. For bid items amounting to less than \$10,000, estimated unit costs are acceptable without a detailed cost estimate, provided that labor, equipment, materials and subcontracts, as applicable, are included, and provided that indirect costs, contingencies, and mark-up, as applicable, are allocated.
- .4 RFP Documents provided by VDOT should not be included in the EPDs unless needed to comply with these requirements.

11.7.5 Submittal

- .1 The EPDs shall be submitted in a sealed container to the individual set forth in Part 1, Section 6.1.1 above, which container shall be clearly marked on the outside with the

-
- Offeror's name, date of submittal, Project name, and the words "Escrow Proposal Documents."
- .2 Prior to Award of Contract, EPDs of the Successful Offeror will be transferred to the banking institution referenced in Part 1, Section 11.7.6 and will be examined, organized, and inventoried by representatives of VDOT, together with members of the Successful Offeror's staff who are knowledgeable in how the Proposal was prepared. This examination is to ensure that the EPDs are legible and complete. It will not include review of, and will not constitute approval of proposed construction methods, estimating assumptions, or interpretations of any RFP Documents or the Design-Build Contract. Examination will not alter any condition or term of the Design-Build Contract.
 - .3 If all the documents required by this section, Part 1, Section 11.7, have not been included in the original submittal, additional documentation may be submitted, at VDOT's discretion, prior to Award of Contract.
 - .4 If the Design-Build Contract is not awarded to the Successful Offeror, the EPDs of the next Offeror to be considered for award shall be processed as described above.
 - .5 Timely submission of complete EPDs is an essential element of the Successful Offeror's responsibility and a prerequisite to Award of Contract.
 - .6 If Successful Offeror's Proposal is based upon subcontracting any part of the work, each subcontractor whose total subcontract price exceeds ten percent (10%) of the Total Proposal Price proposed by the Successful Offeror, shall provide separate Escrow Documents to be included with those of the Successful Offeror. Such documents shall be opened and examined in the same manner and at the same time as the examination described above for the Successful Offeror.
 - .7 If the Design-Builder wishes to subcontract any portion of the work after Award of Contract, VDOT retains the right to require the Design-Builder to submit Escrow Documents from the subcontractor before the subcontract is approved.

11.7.6 Storage

The Successful Offeror's EPDs shall be stored at SunTrust Bank at the following address:

SunTrust Bank
ATTN: Charles Henderson
919 East Main Street, 7th Floor
Richmond, Virginia 23219
(804) 782-7087

The cost for storing the EPDs will be paid by the Successful Offeror.

11.7.7 Examination

- .1 The EPDs shall be examined by VDOT and the Design-Builder, at any time deemed necessary by VDOT.
- .2 VDOT may delegate review of EPDs to members of VDOT's staff or consultants. The foregoing notwithstanding, the EPDs and information contained therein may be used in the resolution of any claim or dispute before any entity selected to resolve disputes and in any litigation or arbitration commenced hereunder. No other person shall have access to the EPDs.
- .3 Access to the documents will take place in the presence of duly designated representatives of both VDOT and the Design-Builder, except that, if the Design-Builder refuses to be present or to cooperate in any other way in the review of the documents, VDOT may upon notice to the Design-Builder, review such documents without the Design-Builder being present.

11.7.8 Final Disposition and Return of EPDs

The EPDs of the Successful Offeror will be returned to the Design-Builder at such time as the Design-Build Contract has been completed, final payment has been made, and all claims or disputes arising under or related to the Design-Build Contract have been fully and finally resolved and/or adjudicated.

11.7.9 Execution of Escrow Agreement

The Successful Offeror, as a condition of Award of Contract, agrees to execute the Escrow Agreement in the form set forth in Attachment 11.7.9.

11.8 Administrative Requirements

In addition to the specific submittal requirements set forth in Part 1, Sections 3.0 and 4.0 above, all Offerors shall comply with the following:

11.8.1 All business entities, except for sole proprietorships, are required to be registered with the Virginia State Corporation Commission (a Business Registration Guide is available on the Internet at <http://www.state.va.us/scc/division/clk/brg.htm>). Foreign Professional Corporations and Foreign Professional Limited Liability Companies must possess a Commonwealth of Virginia Certificate of Authority from the State Corporation Commission to render professional services. Any business entity other than a professional corporation, professional limited liability company or sole proprietorship must be registered in the Commonwealth of Virginia with the Department of Professional & Occupational Regulation, Virginia Board for Architects,

Professional Engineers, Land Surveyors, Certified Interior Decorators and Landscape Architects (http://www.dpor.virginia.gov/dporweb/ape_reg.pdf). Board regulations require that all professional corporations and business entities that have branch offices located in Virginia which offer or render any professional services relating to the professions regulated by the Board be registered with the Board. Registration involves completing the required application and submitting the required registration fee for each and every branch office location in the Commonwealth. All branch offices that offer or render any professional service must have at least one full-time resident professional in responsible charge that is licensed in the profession offered or rendered at each branch. All firms involved that are to provide professional services must meet this criteria prior to a contract being executed by VDOT.

11.8.2 VDOT will not consider for award any Proposals submitted by any Offerors and will not consent to subcontracting any portions of the proposed Design-Build Contract to any subconsultants in violation of the provisions of the Federal Immigration Reform and Control Act of 1986, which prohibits employment of illegal aliens.

11.8.3 All Offerors must have internal control systems in place that meet federal requirements for accounting. These systems must comply with requirements of 48 CFR 31, "Federal Acquisition Regulations, Contract Cost Principles and Procedures," and 23 CFR 172, "Administration of Engineering and Design Related Service Contracts."

11.8.4 VDOT assures compliance with Title VI of the Civil Rights Act of 1964, as amended. The consultant and all subconsultants selected for this Project will be required to submit a Title VI Evaluation Report (EEO-D2) when requested by VDOT to respond to the RFP. This requirement applies to all consulting firms with fifteen (15) or more employees.

11.8.5 VDOT does not discriminate against an Offeror because of race, religion, color, sex, national origin, age, disability, or any other basis prohibited by state law relating to discrimination in employment.

11.8.6 Offerors shall note and comply with the requirements relative to the eVA Business-to-Government Vendor system. The eVA Internet electronic procurement solution, web site portal (<http://www.eva.state.va.us>), streamlines and automates government purchasing activities in the Commonwealth. The portal is the gateway for vendors to conduct business with state agencies and public bodies. All vendors desiring to provide goods and/or services to the Commonwealth shall participate in the eVA Internet e-procurement solution through either eVA Basic Vendor Registration Service or eVA Premium Vendor Registration Service. For more detailed information regarding eVA, registrations, fee schedule, and transaction fee, use the website link: <http://www.eva.state.va.us>. All Offerors must register in eVA; failure to register will result in a Proposal being rejected.

11.8.7 The required services may involve the handling of Critical Infrastructure Information/Sensitive Security Information (CII/SSI) material. Personnel handling CII/SSI material, visiting Critical Infrastructure (CI) facilities or performing bridge/tunnel inspections are required to sign

CII/SSI Non-Disclosure Agreements and pass a fingerprint-based Criminal History Background Check (CHBC). An individual employee's failure to successfully pass the fingerprint-based CHBC will not negate the selection and Offerors will be allowed to replace those individuals. VDOT reserves the right to conduct fingerprint-based CHBC on all employees of the Design-Builder's team members, or on any proposed replacements during the term of the contract who will be involved in this Project. All costs associated with the fingerprint-based CHBC are the responsibility of the Offeror or Design-Builder. A VDOT issued photo-identification badge is required for each employee of the Offeror's or Design-Builder's team who will need access to VDOT CI facilities or who will be performing bridge/tunnel inspections. Based upon the results of the fingerprint-based CHBC, VDOT reserves the right to deny access to CII/SSI material and issuance of a VDOT security clearance or a VDOT issued photo-identification badge.

CII/SSI material includes bridge inspection reports and bridge plans. Bridge inspection reports and bridge plans are not included in the Information Package and CII/SSI Non-Disclosure Agreements are not required to respond to the RFP. Firms desiring to obtain a copy of the bridge inspection report and bridge plans must complete a CII/SSI Non-Disclosure Agreement Form (Attachment 11.8.7).

11.9 Compliance with the Law in Virginia

Failure to comply with the law with regard to those legal requirements in Virginia (whether federal or state) regarding your ability to lawfully offer and perform any services proposed or related to the Project may render your RFP submittal, in the sole and reasonable discretion of VDOT, non-responsive and/or non-responsible, and in that event your RFP submittal may be returned without any consideration for selection of contract award.

11.10 Attachments

The following attachments are specifically made a part of, and incorporated by reference into, these Instructions for Offerors:

- EXHIBIT 1 TO PART 3 -- PROJECT SPECIFIC TERMS
- ATTACHMENT 2.6 -- RFP INFORMATION PACKAGE ORDER FORM
- ATTACHMENT 3.4 -- FORM C-78-RFP (ACKNOWLEDGEMENT OF RECEIPT OF RFP, REVISIONS, AND/OR ADDENDA)
- ATTACHMENT 4.0.1.1 -- LETTER OF SUBMITTAL CHECKLIST
- ATTACHMENT 4.0.1.2 -- PRICE PROPOSAL SUBMITTAL CHECKLIST
- ATTACHMENT 4.2.1 -- AFFILIATED/ SUBSIDIARY COMPANIES LIST
- ATTACHMENT 4.2.2(a) -- CERTIFICATION REGARDING DEBARMENT (PRIMARY COVERED TRANSACTIONS)
- ATTACHMENT 4.2.2(b) -- CERTIFICATION REGARDING DEBARMENT (LOWER TIER COVERED TRANSACTIONS)
- ATTACHMENT 4.2.5 -- LICENSE AND REGISTRATION INFORMATION - BUSINESSES
- ATTACHMENT 4.2.6(a) -- LEAD CONTRACTOR WORK HISTORY FORM
- ATTACHMENT 4.2.6(b) -- LEAD DESIGNER WORK HISTORY FORM
- ATTACHMENT 4.3.1 -- PRICE PROPOSAL FORM
- ATTACHMENT 4.3.4(a) -- FORM C-104 (BIDDER'S STATEMENT)
- ATTACHMENT 4.3.4(b) -- FORM C-105 (BIDDER'S CERTIFICATION)
- ATTACHMENT 4.3.5(a) -- FORM C-111 (MINIMUM DBE REQUIREMENTS)
- ATTACHMENT 4.3.5(b) -- FORM C-49 (DBE GOOD FAITH EFFORTS DOCUMENTATION)
- ATTACHMENT 4.3.5(c) -- FORM C-112 (CERTIFICATION OF BINDING AGREEMENT FORM)
- ATTACHMENT 4.4.2 -- KEY PERSONNEL RESUME FORM
- ATTACHMENT 4.4.3 -- LICENSE AND REGISTRATION INFORMATION - INDIVIDUALS
- ATTACHMENT 4.4.6 -- SCHEDULE OF ITEMS FORM
- ATTACHMENT 11.7.1 -- ESCROW PROPOSAL DOCUMENTS CHECKLIST
- ATTACHMENT 11.7.9 -- ESCROW AGREEMENT FORM
- ATTACHMENT 11.8.7 -- CII/SSI NON-DISCLOSURE AGREEMENT FORM

END OF PART 1
INSTRUCTIONS FOR OFFERORS

ATTACHMENT 3.4

**COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION**

RFP NO. C00105130DB72
PROJECT NO.: (FO) 0495-029-123, P101, C501

ACKNOWLEDGEMENT OF RFP, REVISION AND/OR ADDENDA

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

By signing this Attachment 3.4, the Offeror acknowledges receipt of the RFP and/or following revisions and/or addenda to the RFP for the above designated project which were issued under cover letter(s) of the date(s) shown hereon:

1. Cover letter of February 6, 2014– RFP
(Date)
2. Cover letter of Addendum #1- March 6, 2014
(Date)
3. Cover letter of _____
(Date)

SIGNATURE

DATE

ATTACHMENT 11.7.9
ESCROW AGREEMENT

THIS ESCROW AGREEMENT (“Agreement”) is made and entered into as of _____, 20__, by and among the Virginia Department of Transportation (“Department”), _____ (“Offeror”) and **Sun Trust Bank** (“Escrow Agent”) with reference to the following facts:

WHEREAS, Department has issued a Request for Proposals dated ~~January 29, 2014~~**February 6, 2014** (“RFP”) for the completion of the **I-495 Express Lane Shoulder Use-Northern Section**, in Fairfax County, Virginia (“Project); and

WHEREAS, Offeror has submitted to Department a proposal (“Proposal”) in response to the RFP; and

WHEREAS, as part of the Proposal, Offeror is submitting one copy of all information regarding the assumptions made in developing the Proposal, as required under Part 1, Section 11.7 of the RFP, in one (1) separately sealed and labeled boxes (“EPDs”); and

WHEREAS, Department and Offeror wish to employ the services of Escrow Agent to act as the escrow holder with regard to the EPDs for the limited purposes set forth below, and Escrow Agent has agreed to serve as such escrow holder under the terms and conditions provided in this Agreement.

NOW, THEREFORE, in consideration of the mutual covenants and agreements hereinafter set forth and other good and valuable consideration, the receipt and adequacy of which are hereby acknowledged, the parties hereby agree as follows:

1. Deposit. Offeror hereby deposits with Escrow Agent the EPDs. Escrow Agent hereby acknowledges receipt of such EPDs, and such EPDs shall be held in escrow under the terms and conditions of this Agreement.

2. Holding of EPDs. Escrow Agent shall hold the EPDs in escrow in a designated are on the premises of Escrow Agent located at **919 East Main St., 7th Floor, Richmond, VA 23219** on a confidential basis. The EPDs shall be stored in an area which is locked at all times. No third party, including the employees of Escrow Agent, shall be allowed access to any of the EPDs except as provided in Section 3 hereof, although this shall not preclude employees of Escrow Agent from having access to the locked area for other purposes.

3. Review of EPDs. Escrow Agent shall provide facilities for joint review of the EPDs by representatives of Department and Offeror in accordance with the terms of the RFP, upon at least one business days’ advance notice.

4. Release of EPDs. Escrow Agent shall release the EPDs as follows:

(a) Escrow Agent shall release the EPDs to Offeror, and Offeror shall pick up the EPDs at Offeror's expense, upon delivery by Department of a certificate certifying the Department has entered into a Design-Build Contract with another Offeror (the "Contractor") and that all EPDs of other Offerors are to be released.

(b) Escrow Agent shall release the EPDs to the Design-Builder and Department for delivery and retention to the Department as set forth in the Design-Build Contract at such time as it is notified by Department and the Design-Builder.

5. Representation and Warranty. Offeror represents and warrants to Department that, prior to delivery of the EPDs to Escrow Agent, the EPDs were personally examined by an authorized representative of Offeror and that they constitute all the documentation and information used in the preparation of the Proposal.

6. Rights of Escrow Agent. If conflicting demands are made or notices served upon Escrow Agent with respect to this escrow, the parties hereto expressly agree that Escrow Agent shall have the absolute right at its election to do any of the following:

(a) withhold and stop all further proceedings in, and performance of, this escrow;

(b) file a suit in interpleader and obtain an order from the court requiring the parties to interplead and litigate in such court their several claims and rights amongst themselves, or

(c) deliver all EPDs with seals intact to another location to be selected by Department within thirty (30) days after Escrow Agent delivers notice thereof to Department.

7. Fees. Offeror shall be responsible for any escrow fees. If Offeror fails to pick up the EPDs under Section 4(a), Offeror shall pay any fees accruing thereafter.

8. Notices. All notices which may be or are required to be given or made by either party hereto to the other shall be in writing. Such notices shall be either personally delivered or sent by registered mail, postage prepaid, to:

If to the Offeror:

Attention: _____

If to Department:

Virginia Department of Transportation
1401 East Broad St.
Richmond, VA 23219
Attention: Bryan W. Stevenson, P.E.

If to Escrow Agent:

Sun Trust Bank
919 East Main St., 7th Floor
Richmond, VA 23219
Attention: Charles Henderson

or to such other addressees and such other places as any party hereto may from time to time designate by written notice to the others.

9. Counterparts. This Agreement may be executed in one or more counterparts, all of which together shall be deemed an original.

10. Headings. The title headings of the respective paragraphs of this Agreement are inserted for convenience only, and shall not be deemed to be part of this Agreement or considered in construing this Agreement.

11. Governing Law. The laws of the Commonwealth of Virginia, excluding its conflict of laws, shall govern this Agreement.

12. Attorneys' Fees. If either Department or Offeror commences or engages in any action by or against the other party directly or indirectly arising out of or in connection with this Agreement, the prevailing party shall be entitled to have and recover from the losing party reasonable attorneys' fees and other costs incurred in the action and in preparation for said action and any subsequent appeal. All parties agree to indemnify and hold Escrow Agent harmless from and against all costs, expenses, and reasonable attorneys' fees in connection with any such action.

~~February 6, 2014~~ Addendum #1- March 6, 2014

IN WITNESS WHEREOF, the parties hereto, each intending to be legally bound by this writing, have caused this Agreement to be executed the date first above written.

VIRGINIA DEPARTMENT OF TRANSPORTATION

By: _____

Name: Jeffrey A. Roby

Title: Design-Build Program Manager

OFFEROR

By: _____

Name: _____

Title: _____

The escrow provided for this Agreement is hereby accepted by Escrow Agent.

Sun Trust Bank _____:

By: _____

Name: _____

Title: _____

TABLE OF CONTENTS

1.0	DESIGN-BUILDER’S SCOPE OF WORK.....	4
1.1	Project Description.....	4
1.2	Anticipated Scope of Work.....	4
1.3	Anticipated Design Services.....	5
1.4	Anticipated Environmental Services.....	5
1.5	Anticipated Right of Way and Utilities.....	6
1.6	Anticipated Construction Services.....	7
1.7	Coordination with I-495 Express Lanes.....	7
2.0	PROJECT TECHNICAL INFORMATION & REQUIREMENTS.....	8
2.1	References and Information.....	8
2.1.1	Standards and Reference Documents.....	8
2.1.2	RFP Information Package.....	15
2.1.3	Design Exceptions and Design Waivers.....	16
2.2	Mainline and Other Roadway Improvements.....	17
2.3	Structures.....	18
2.3.1	Bridge Pier Protection.....	18
2.3.1A	Structure Load Rating.....	18
2.3.1B	Scotts Run Bridge Joints.....	19
2.3.2	Structures for Traffic Control Devices, Including Signs and ITS Components.....	19
2.4	Environmental.....	23
2.4.1	Environmental Document.....	23
2.4.2	Cultural Resources.....	24
2.4.3	Section 4(f) Resources.....	24
2.4.4	Water Quality Permits and Compensatory Mitigation.....	25
2.4.5	Threatened and Endangered Species.....	25
2.4.6	Hazardous Materials.....	25
2.4.7	Air Quality.....	26
2.4.8	Noise Mitigation.....	26
2.4.9	Environmental Compliance.....	28
2.5	Survey.....	29
2.6	Geotechnical Work.....	30
2.6.1	Minimum Pavement Sections.....	32
2.6.2	Geotechnical Requirements.....	35
2.6.3	Unsuitable Materials.....	35
2.6.4	Pipe Installation Methods.....	36
2.7	Hydraulics.....	36
2.7.1	Drainage.....	36
2.7.2	Post-Construction SWM, SWPPP and ESC Plans.....	38
2.7.3	Post-Construction Stormwater Management Facilities.....	41
2.7.4	Other Drainage Requirements.....	41
2.8	Traffic Control Devices.....	41
2.8.1	Signs.....	42
2.8.2	Guardrail/Barrier.....	43

2.8.3	Concrete Median Barriers	44
2.8.4	Pavement Markings/Markers	45
2.8.5	Lighting.....	45
2.9	Intelligent Transportation System Infrastructure Components.....	46
2.9.1	Fiber Optic Cable System	47
2.9.2	Cabinets.....	48
2.9.3	Uninterruptible Power System.....	49
2.9.4	Conduit Systems for Fiber Optic and ITS Infrastructure.....	50
2.9.5	ITS Communication and Power Upgrades	50
2.10	Device Components of Intelligent Transportation System.....	50
2.10.1	Closed-Circuit Television (CCTV) Cameras.....	51
2.10.2	Dynamic Message Sign (DMS)	52
2.10.3	Lane Control Signals.....	52
2.10.4	One Line DMS.....	53
2.10.5	Vehicle Detection.....	54
2.10.6	Shoulder Lane Monitoring System	55
2.11	Network Components of Intelligent Transportation System	55
2.11.1	Field Ethernet Switches	56
2.11.2	Field Video Encoders.....	56
2.11.3	Network Configuration	57
2.12	Inspection, Integration, and Testing of Intelligent Transportation System	58
2.13	System Support Equipment for Intelligent Transportation System	60
2.14	Training.....	60
2.15	Transportation Management Plan	60
2.15.1	Maintenance of Traffic	61
2.15.2	Lane and Road Closure Restrictions.....	62
2.15.3	Use of Virginia State Police.....	66
2.15.4	Portable Changeable Message Signs	66
2.16	Public Involvement / Public Relations.....	67
2.17	Right of Way.....	68
2.18	Utilities.....	73
2.18.1	Utility Coordination with ITS and Traffic Control Device Plan	76
2.19	Quality Assurance / Quality Control (QA/QC)	76
2.19.1	Design Management	77
2.19.2	Construction Management	78
2.20	Field Office	80
2.21	Plan Preparation.....	80
2.21.1	GEOPAK and MicroStation	80
2.21.2	Software License Requirements	81
2.21.3	Drafting Standards	81
2.21.4	Electronic Files	81
2.21.5	Plan Submittals	82
2.21.6	Construction Plans	84
2.21.7	Released for Construction Plans	85
2.21.8	Record (As-Built) Plans.....	85
2.22	Virginia Occupational Safety and Health Standards	85

~~February 6, 2014~~ Addendum #1 – March 6, 2014

3.0 ATTACHMENTS..... 86

PART 2

TECHNICAL INFORMATION & REQUIREMENTS

1.0 DESIGN-BUILDER'S SCOPE OF WORK

1.1 Project Description

The Project is located in Fairfax County, Virginia, and involves the milling and overlay and re-striping of Interstate 495 (I-495) to convert the existing northbound inside shoulder to a lane-controlled travel lane during the AM and PM peak periods. The shoulder use will begin at the existing terminus of the Express Lanes (approximately 0.2 miles south of Old Dominion Drive) and end in the vicinity of the George Washington Memorial Parkway, for a total length of approximately 1.8 miles. In order to accommodate this shoulder use lane, all lanes of I-495 Northbound will be repaved and restriped within the Project limits. The shoulder lane will not be tolled, and all vehicles will be allowed to access the shoulder during prescribed hours. It is noted that the description and length are approximate only and are based on the RFP Conceptual Plans included in the RFP Information Package. The final Project length may vary depending on the Design-Builder's final design; however, any change in the project limits requires approval by VDOT.

A conceptual design has been developed and made available for public review via a Citizen's Information Meeting held on November 19, 2013. The major design features of the Project were approved by the Chief Engineer on January 23, 2014. The RFP Conceptual Plans included in the RFP Information Package reflects a basic horizontal alignment, preliminary median barrier modifications, pavement joint repair locations, typical sections, minimum pavement structures, Intelligent Transportation System (ITS) devices, signing and pavement markings. These elements are considered to be the basic Project configuration. The Design-Builder is responsible for final design in accordance with the Contract Documents.

1.2 Anticipated Scope of Work

The anticipated scope of work to be undertaken by the Design-Builder under the Design-Build contract for this Project will include, but is not limited to:

- Survey
- Developing and completing the design
- Acquiring the necessary environmental permits
- Coordinating and performing, or causing to be performed, required utility relocations, additions, and adjustments
- Roadway construction
- Full depth patches/joint repairs of existing pavement
- Milling and overlaying and/or building up of existing pavement
- Guardrail/barrier modifications and/or replacement
- Signs, sign structures, and foundations

- Overhead signs structures and other traffic control measures
- Removal of existing bridge mounted signs
- Intelligent Transportation System (ITS) components including Closed Circuit Television (CCTV) Cameras, Dynamic Message Signs (DMS), Detectors, and Fiber Optic Communications (COMM) Infrastructure
- System integration, testing, maintenance until final acceptance, and documentation
- Lighting for sign structures
- Traffic maintenance and management during all phases of construction
- Pavement markers and markings
- Storm drainage
- Storm water management
- Quality Assurance and Quality Control for design and construction
- Stakeholder coordination and public outreach
- Overall Project management
- Movable barrier installation

Descriptions and technical requirements of the anticipated work are set forth in Part 2, Section 2.

1.3 Anticipated Design Services

Design services shall address all items necessary for construction and operation of the completed facility. Design services are anticipated to include, but are not limited, those services necessary to produce roadway construction plans relative to the technical disciplines listed in Part 2, Section 1.2 above. Other data collection and technical studies anticipated include, but are not necessarily limited to: geotechnical investigation, borings and analysis, materials analysis, pavement design, sign structure foundation design, traffic counts and analyses, additional environmental studies and noise analyses (if warranted as described in Part 2, Section 2.4.8), and hydraulic and hydrologic analysis. Offerors should note that all work performed on this Project shall be completed using English Units.

1.4 Anticipated Environmental Services

The Design-Builder shall carry out environmental commitments during design and construction, as applicable, as identified in the Categorical Exclusion (CE) dated December 18, 2013; the Plans, the Specifications, and Estimates (PS&E) Re-evaluation Authorization (EQ-200); and the Environmental Certification/Commitments Checklist (EQ-103). All commitment compliance shall be supported by the appropriate documentation, to be provided by the Design-Builder to the VDOT Project Manager. Further details are provided in Part 2, Section 2.4.

The Design-Builder shall provide the necessary environmental services to obtain remaining necessary environmental clearances, permits, and approvals required to accomplish the work as noted in Part 4 (General Conditions of Contract), Article 2.6. The Design Builder shall acquire all water quality permits for the Project in the Design-Builder's name (i.e. the

Design-Builder will be the “Permitee”) and shall provide for any necessary stream and/or wetland compensation required by permits to accomplish the work.

The Design-Builder shall be responsible for compliance with pre-construction and construction-related environmental commitments and will be responsible for compliance with pre-construction, construction-related permit conditions, as well as post-construction monitoring if required by regulatory agencies. The Design-Builder will assume all obligations and costs incurred by complying with the terms and conditions of the permits and environmental certifications. Any fines associated with environmental permit or regulatory violations will be the responsibility of the Design-Builder.

Any changes in scope or project footprint from that contained in the Contract Documents proposed by the Design-Builder, which are acceptable to VDOT, may require additional environmental technical studies and analysis to be performed by the Design-Builder at their cost. VDOT will be responsible for the coordination of any NEPA document re-evaluations with FHWA. The Design-Builder shall then carry out any additional environmental commitments that result from such coordination at its sole expense and at no additional cost and/or time delays to the Project.

1.5 Anticipated Right of Way and Utilities

The Offeror’s conceptual design included in its Proposal shall be wholly contained within the existing right of way limits shown on the RFP Conceptual Plans. It is anticipated that no right-of-way and/or easements acquisition is necessary for this project. Deviations from the right of way limits shown on the RFP Conceptual Plans will be subject to VDOT approval in accordance with Part 1, Sections 2.8 and 2.9.

The Design-Builder shall be responsible for assuming all risks associated with the acquisition of additional right-of-way or easements (to accommodate its unique solution), including any public hearings that may be required, and no modifications to the Contract Price or Contract Time will be granted or considered. Any additional easements for the convenience of construction access shall be the responsibility of the Design-Builder. Any additional right-of-way acquisition costs (compensation paid to landowners for right-of-way or easements and administrative expenses) will be paid by the Design-Builder and should be included in the design-build price proposal. These costs are specifically payments to the landowner for land, damages, relocation of displaced people and businesses and do include administrative expenses incurred by the Design-Builder. Access shall be maintained at all times to properties during construction. Design-Builder’s Right-of-Way team shall be a member of the VDOT prequalified contracting consultant list, and include a VDOT prequalified Fee Appraiser.

The Design-Builder’s final design shall also be contained within the right of way limits shown on the RFP Conceptual Plans. If the Design-Builder proposes a change to the right of way limits shown on the RFP Conceptual Plans, then this shall be consider a deviation of the Contract Documents and shall be addressed as described in Part 2, Section 2.0.

All costs for utility relocations, excluding betterments, shall be included in the Offeror's Price Proposal. Utility betterments shall not be included in the Offeror's Price Proposal but shall be reimbursed to the Design-Builder through agreement with the requesting utility owner. Betterments must be requested by and/or approved by the affected utility owner and must meet Buy America requirements as described in Part 5, Exhibit 102.05(g.1) Use of Domestic Material.

1.6 Anticipated Construction Services

The construction services to be undertaken by the Design-Builder for this Project are anticipated to include, but are not limited to: earthwork, roadway, structures (including all necessary excavation, foundation work), the demolition and removal of portions of the existing pavements, full depth patches/joint repairs, milling and overlaying or building up of existing pavement, demolition and removal of existing structures, drainage improvements/upgrades, utility relocations/adjustments and coordination, transportation management plan, traffic control and ITS devices, erosion and sediment control, and compliance with all environmental requirements, commitments and permit conditions, as described in Part 2, Section 2 of this RFP. The Design-Builder shall provide construction engineering inspection and management, quality assurance and quality control, including plant quality assurance inspection and testing, but excluding items listed under Part 2, Section 2.19.2.

1.7 Coordination with I-495 Express Lanes

The Design-Builder shall coordinate all work activities that may affect the operations of the I-495 Express Lanes with the concessionaire (Transurban), including but not limited to, signing, striping, ATM/ITS devices, utilities, and traffic management. Authorization to Work forms shall be submitted and approved by Transurban a minimum of 72 hours prior to any work activities potentially affecting the Express Lanes operations. In addition, a Safe Work Method Statement will need to be completed and approved prior to any work within the concessionaire's jurisdiction.

VDOT has coordinated the lane closure permitted hours with Transurban. Single-lane closures only (no multiple lane closures) will be allowed in the Express Lanes during the same time frames as indicated in Section 2.15.2 for the I-495 roadway. The lane user fees shown are also applicable to any work within the Express Lanes jurisdiction as well as within the general project limits.

The concessionaire contacts for work authorizations and the Safe Work Method Statement forms are as follows:

Mr. Rami Chehade, Road Maintenance Supervisor (Primary Contact)
571-419-6117 (o)
571-239-3412 (c)
rcnehade@transurban.com

Mr. Rob Kerns, Road Operations Manager (Alternate)
571-419-6028 (o)

703-209-9654 (c)
rkerns@transurban.com

2.0 PROJECT TECHNICAL INFORMATION & REQUIREMENTS

The Offeror's proposed conceptual design shall meet all requirements of the RFP. Any proposed deviations from the requirements of the RFP Documents by the Offerors shall be in accordance with Part 1, Sections 2.8 and 2.9.

The Design-Builder's final design shall meet or exceed all requirements included in the Contract Documents, except under the following conditions. If the Design-Builder proposes any deviation that results in a modification to the Contract Documents then the Design-Builder shall follow the Value Engineering Proposals (VEP) process as described in Section 104.02 of Division I Amendments to the Standard Specifications (Part 5) (even though the proposed deviations may not qualify as a VEP), unless otherwise directed by VDOT. Ultimately, any modification to the Contract Documents requires VDOT approval.

2.1 References and Information

The design and construction work for the Project shall be performed in accordance with the applicable federal and state laws and VDOT Standards, Specifications and Reference Documents to include, but not limited to the documents listed herein. The Design-Builder must verify and use the latest version of the documents listed herein as of the date of the RFP or latest Addenda. The Design-Builder must meet or exceed the minimum roadway design standards and criteria.

2.1.1 Standards and Reference Documents

If during the course of the design, the Design-Builder determines that a specific Standard, Specification or Reference Document is required but is not listed herein, it is the responsibility of the Design-Builder to identify the pertinent Standard, Specification, or Reference Document and submit to VDOT for review and approval prior to inclusion in the Contract Documents.

The VDOT 2007 Road and Bridge Specifications, and its associated Special Provision Copied Notes, contain pricing language under sections entitled "Measurement and Payment" that is not applicable in the Design-Build context of this RFP. Thus, in accordance with the hierarchy of documents, the Design-Builder will refer to Part 3, Articles 6 and 7, Part 4, Article 6, and applicable portions of the Division I Amendments (Part 5) to the Standard Specifications for more information regarding the pricing and payment to the Design-Builder. Similarly, other references below which contain pricing methodologies for the "Contractor" shall likewise not be used. The requirements as described in the text of Part 2 herein take precedence over the referenced documents listed below, unless otherwise indicated.

The standards and references for the Project are listed below in the following order: (a) Standards and Specifications; (b) Reference Manuals; (c) Special Provisions List including

Special Provisions, Special Provision Copied Notes and Supplemental Specifications. Items (a) and (b) are published references that are available publicly, for which copies are not provided to the Offerors in the RFP Information Package, but these items are to be used as manuals for design and construction. Items listed in (c) are included in the RFP Information Package.

(a) Standards and Specifications

- 2011 Virginia Supplement to 2009 MUTCD
- 23CFR625 – Design Standards for Highways
- 23CFR650 Subpart C - National Bridge Inspection Standards (“NBIS”), Subsection 650.301 or the latest revision(s)
- 49CFR Part 24 – The Uniform Relocation Assistance and Real Properties Acquisitions Act of 1970
- AASHTO A Policy on Design Standards Interstate System, 5th Edition, January 2005
- AASHTO A Policy on Geometric Design of Highways and Streets, 6th Edition, 2011
- AASHTO Construction Handbook for Bridge Temporary Works, 1st Edition, 1995, 2008 Interim
- AASHTO Guide Design Specifications for Bridge Temporary Works, 1st Edition, 1995, 2008 Interim
- AASHTO Guide for Design of Pavement Structures (Rigid Pavement and Flexible Pavement), 1993 Edition
- AASHTO Guide for Protective Screening of Overpass Structures, 1990
- AASHTO Guide for Roadway Lighting Design, 6th Edition, 2005
- AASHTO Guide for the Development of Bicycle Facilities, 2012
- AASHTO Guide for the Planning, Design, and Operation of Pedestrian Facilities, 2004
- AASHTO Guide Specifications for Seismic Isolation Design, 2nd Edition, with 2000 Interim Revisions
- AASHTO Guide Specifications for Structural Design of Sound Barriers
- AASHTO LRFD Bridge Construction Specifications, 3rd Edition, 2010 Interim Revisions, Single User Digital Publication
- AASHTO LRFD Bridge Design Specifications, 6th Edition, and 2010 Interim Specifications; and VDOT Modifications
- AASHTO Manual for Assessing Safety Hardware, First Edition, 2009
- AASHTO Roadside Design Guide, 4th Edition, 2011
- AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaries, and Traffic Signals, 2009 Edition, with 2010 and 2011 Interim Review
- AASHTO’s Manual of Bridge Evaluation, 2nd Edition, 2010, 2011 and 2013 Interim Revisions
- Americans with Disabilities Act Accessibility Guidelines for State and Local Government Facilities
- Corps of Engineers EM-1110-2-1906, Laboratory Soils Testing, 1986
- DCR Virginia Erosion and Sediment Control Handbook, Third Edition, 1992
- DCR Virginia Stormwater Management Handbook, Vol. 1 and Vol. 2, First Edition, 1999

- DEQ (Formerly DCR) Virginia Stormwater Management Program Technical Bulletin 1 (See <http://www.deq.virginia.gov/Portals/0/DEQ/Water/Publications/TechBulletin1.pdf>)
- Engineering Properties of Clay Shales, Report 1 by W. Heley and B. N. McIver
- FHWA's Mitigation Strategies for Design Exceptions, July 2007
- FHWA's Standard Highway Signs including Pavement Markings and Standard Alphabets, 2004 Edition and 2012 Supplement (For use with the 2009 Manual on Uniform Traffic Control Devices for Streets and Highways), or most current Edition
- Guideline for Context Sensitive Solutions/Design, February 25, 2004
- Highway Traffic Noise Impact Analysis Guidance Manual, dated September 16, 2011
- IEEE National Electric Safety Code (NESC) Standards
- IES RP-08-00, American National Standard for Roadway Lighting
- IES RP-19-01, Roadway Sign Lighting
- Manual of Uniform Traffic Control Devices (MUTCD), 2009 Edition and latest updates as of date of release of RFP or applicable addenda
- NCHRP Report 350 Recommended Procedures for the Safety Performance Evaluation of Highway Features
- Transportation Research Board Highway Capacity Manual, 2010 Edition
- VDOT Appraisal Guidelines
- VDOT CADD Manual, 2012 (including all revisions)
- VDOT Construction Inspection Manual, April 2008
- VDOT Construction Manual, 2005 (including July 2008 revisions)
- VDOT Drainage Manual, Revised July 2013 (including current Errata Sheet)
- VDOT Guardrail Installation Training Manual (GRIT), Revised November 2013
- VDOT Guide Manual for Causes and Repair of Cracks in Bridge Decks, dated September 25, 2009
- VDOT Guidelines for 1993 AASHTO Pavement Design, Revised May 2003
- VDOT State Noise Abatement Policy
- VDOT Highway Traffic Noise Impact Analysis Guidance Manual, Version 4, Updated August 6, 2013
- FHWA, Highway Traffic Noise Analysis and Abatement Guidance, Revised January 2011
- VDOT Noise Report Development and Guidance Document, Updated August 16, 2013
- VDOT Hydraulic Design Advisories (all current)
- VDOT Instructional & Information Memorandums (I&IM), All Divisions
- VDOT Land Use Permit Regulations, 24 VAC 30-151, March 17, 2010
- VDOT Manual of Instruction for Material Division, including revisions through May 2012
- VDOT Manual of Structure and Bridge Division, Vol. V
- VDOT Materials Division Approved List, November 2013
- VDOT Materials Division Memorandum Number MD299-07 for Materials Acceptance, October 4, 2007

- VDOT Policy Manual for Public Participation in Transportation Projects, updated August 2011
- VDOT Post Construction Manual, May 2011 Edition
- VDOT Right of Way Manual of Instruction (January 2011, including July 2011 revisions)
- VDOT Road and Bridge Specifications, 2007 (all except Section 100), including all revisions
- VDOT Road and Bridge Standards, Vol. 1 and Vol. 2, 2008, including all revisions through July 2011
- VDOT Road Design Manual, Vol. I, including all revisions
- VDOT Survey Manual, 2013 Edition, including all revisions
- VDOT Traffic Engineering Design Manual, 2011
- VDOT Traffic Engineering Division Numbered Memoranda (Traffic Engineering (TE) and Mobility Management (MM))
- VDOT Traffic Operations Analysis Tool Guidebook
- VDOT Utilities Manual of Instruction (January 2011, including February 2011 revisions)
- VDOT Virginia Work Area Protection Manual, June 2011
- VDOT's Minimum Requirements for Quality Assurance & Quality Control on Design Build and Public-Private Transportation Act Projects, January 2012
- VDOT's Project Management Policy PMO-Policy-2011-1, July 1, 2011
- VDOT's Stormwater Program Advisory 12-01, dated April 5, 2012
- VDOT's Stormwater Program Advisory 12-02, dated April 26, 2012

(b) Reference Manuals

- AASHTO's Highway Safety Manual, 1st Edition, Vol. 1-3, 2010
- American National Standards Institute (ANSI)/Insulated Cable Engineers Association (ICEA) S-87-640-2006 requirements
- American Water Works Associations Standards
- American Welding Society Standards
- Bellcore/Telcordia Standards
- Bridge Welding Code: AASHTO/AWS-D1.5M/D1.5: 6th Edition, with 2011 AASHTO Interim
- Duncan, J.M. (April 2000) Factors of Safety and Reliability in Geotechnical Engineering, Journal of Geotechnical and Geoenvironmental Engineering, ASCE, Discussions and Closure, August 2001
- Field Partnering Guide for VDOT Projects, November 2005
- FHWA publications HDS-6, HEC-11, HEC-14, HEC-15, HEC-18, HEC-20, HEC-22, and HEC-23
- FHWA publication HEC No. 5, Hydraulic Design of Highway Culverts, 3rd Edition dated April 2012
- gINT[®] Manual
- Institute of Electrical and Electronics Engineer (IEEE) Standards

- International Mechanical Code
- International Telecommunication Union (ITU) Requirements
- ISEE Blasters Handbook (Current Edition)
- National Electric Code (NEC)
- National Electric Safety Code (NESC) Standards
- National Electrical Manufacturers Association (NEMA) Standards
- National Transportation Communications for ITS Protocol (NTCIP)
- Society for Protective Coatings (SSPC) Standards
- Telecommunications Industry Association (TIA) and Electronic Industries Alliance (EIA) Standards and Specifications
- U.S. Department of Agriculture Rural Utilities Service (RUS) 7 CFR 1755.900
- Underwriters Laboratories (UL) Standards
- VA Statewide Fire Prevention Code (referenced in Special Provision for Section 107.11 - Use of Explosives)
- VDOT Land Use Permit Regulations Guidance Manual, Revised November 8, 2011
- Virginia Calibration Methods, June 2011
- Virginia State Noise Abatement Policy, July 13, 2011
- Virginia Test Methods Manual, May 2012
- Virginia Uniform Statewide Building Code

(c) Special Provisions List, Special Provision Copied Notes and Supplemental Specifications

Division 1: General Provisions

- Special Provision for Section 105.02 – Plans and Working Drawings (Contract Management Software®), June 13, 2007
- Special Provision for Work Zone Traffic Control Management for Design-Build, revised November, 2009
- SS52200 Supplemental Section 522—Partnering Design-Build Projects, June 1, 2012
- Special Provision for Personnel Requirements for Work Zone Traffic Control, June 11, 2009

Division 2: Materials

- S302B00-0708 Restoring Existing Pavement, January 14, 2008c
- SPCN Polymer Modified (PG 76-22 and PG 70-28) Asphalt Cement Adjustment Design-Build Projects, August 9, 2013
- SPCN c211gg0-0609 Warm Mix Asphalt Pavement, December 7, 2009
- SPCN c248fg0-0708 Surface and Intermediate Mixes using Rap, January 14, 2008
- SPCN c315gg0-0609 Warm Mix Asphalt Pavement, December 7, 2009
- Special Provision for Design-Build Tracking (DBT) Numbers, December 8, 2009
- SS40402-211 Supplemental Section 404 - Hydraulic Cement Concrete Operations, December 17, 2010
- Special Provision for Jack and Bore for DB Projects, October 13, 2009

- Special Provision for Lime Modification of Soils for DB Projects, revised November 23, 2009
- Special Provision for Low Permeability Concretes For Design-Build Projects, September 6, 2009
- Special Provision for Micro Tunneling for DB Projects, September 14, 2009
- Special Provision for Rideability, November 19, 2013
- Special Provision for High Friction Epoxy Aggregate Roadway Surface Treatment, January 24, 2012
- Special Provision for BM-25.0D with Increased Asphalt Content, February 24, 2014~~November 25, 2013~~
- Special Provision for Sealing Cracks in Asphalt Concrete or Hydraulic Cement Concrete Pavement, November 25, 2013
- Supplemental Section 248 – Stone Matrix Asphalt Concrete, September 28, 2012
- Supplemental Section 315 – Asphalt Concrete Placement, October 22, 2012
- Supplemental Section 317 – Stone Matrix Asphalt Concrete Placement, September 28, 2012
- Supplemental Section 515 – Planing or Milling Pavement, September 27, 2011
- Special Provision for Cold Planing (Milling) Asphalt Concrete Operations, October 12, 2012

Division 3: Roadway Construction

- SPCN c302h00-0708 Precast Drainage Structures, January 14, 2008
- S302602-0610 Special Provision for Flowable Backfill, March 11, 2010
- Special Provision for Pipe Rehabilitation, dated December 11, 2013.
- Special Provision for Pipe Replacement, dated February 28, 2013.
- Special Provision for Right of Way Monumentation and Final Boundary Stakeout, December 2, 2009a
- SS30204-0613 Supplemental Section 302 – Drainage Structures, March 14, 2013

Division 4: Bridges and Structures

Division 5: Incidental Construction

- Special Provision for Movable Barrier, January 30, 2014

Division 6: Roadside Development

- Special Provision for Section 244 – Roadside Development Materials, August 29, 2008

Division 7: Traffic Control Devices

- S704E02-1211 Special Provision for Type B, Class VI Pavement Line Marking, October 21, 2011
- S704F01-1209 Special Provision for Transitory Pavement Markers (“TPM”), December 14, 2009

- SPCN c510am1-1010 Locating, Removing and Disposing of Recessed Pavement Markers and Raised Snow-Plowable Markers, October 17, 2010
- Special Provision for Preformed Thermoplastic Pavement Markings, November 29, 2011b
- Special Provision for Replacement of Pavement Line Markings, Pavement Markers and Loop Detectors, September 27, 2011
- Special Provision for Square Tube Steel Sign Post, March 3, 2008
- Special Provision for Glare Screens, October 25, 2013
- S704M02-1211 Special Provision for Temporary Construction and Permanent Pavement Markings, November 8, 2011

Intelligent Transportation Systems:

- Special Provision for CCTV Video Equipment and CCTV General Requirements, August 26, 2013
- Special Provision for Intelligent Transportation System - Dynamic Message Sign, September 6, 2013
- Special Provision for Field Equipment Cabinet, October 9, 2012
- Special Provision for Intelligent Transportation System - Fiber Optic Cable and Interconnect, August 26, 2013
- Special Provision for Intelligent Transportation Systems - Field Video Encoders, December 10, 2012
- Special Provision for Intelligent Transportation Systems - Inspection, Testing and Integration, December 10, 2012
- Special Provision for Intelligent Transportation Systems - ITS Support Structures, December 10, 2012
- Special Provision for Intelligent Transportation System - Record (As-Built) Plans, March 23, 2012
- Special Provision for Uninterruptible Power Supply for ITS Applications, August 26, 2013
- Special Provision for Intelligent Transportation Systems - Vehicle Detection and Data Collection, August 26, 2013
- Special Provision for Shoulder Lane Monitoring System, March 23, 2012
- Special Provision for Intelligent Transportation Systems- Training, March 23, 2012

Other Special Provisions

Federal:

- c100ai03 General Project Requirements, Supplemental Specifications (SSs), Special Provisions (SPs) and Special Provision Copied Notes (SPCNs), 12-1-2011 (SPCN)
- S100B00 Project Communication and Decision Making for Design-Build Projects, January 3, 2005c, Reissued August 2009
- SS51202 Supplemental Section 512—Maintaining Traffic Design-Build Projects, December 2, 2009

Environmental:

- S107E02-0910 Volatile Organic Compounds (VOC) Emissions Control Areas, August 12, 2010
- S107G01-0309 Storm Water Pollution Prevention Plan (SWPPP) General Permit for the Discharge of Stormwater from Construction Activities Contractor and Subcontractor Certification Statement, February 19, 2009
- Special Provision for Storm Water Pollution Prevention Plan (SWPPP), February 19, 2009
- Special Provision for Sound Barrier Walls, revised March 29, 2013

The above list of Special Provisions is not intended to be an all-inclusive list. The Design-Builder is responsible for achieving the Work in accordance with all current VDOT standards as of the date of the RFP issuance, including any revisions and/or addenda thereof. If a construction element is not adequately addressed within VDOT Standard Specifications or the Special Provisions listed for the purpose of the Design-Builders design, it is the responsibility of the Design-Builder to develop an alternative specification that is acceptable to VDOT for that element of work.

In the event of a discrepancy between VDOT and non-VDOT Standards and References listed herein, the VDOT Road and Bridge Specifications, design standards, and manuals shall take precedence, with the following exception. If AASHTO or the MUTCD require that a higher or better standard be applied, then AASHTO and/or the MUTCD shall take precedence. In accordance with Part 2, Section 2.1.3 below, all deviations from AASHTO minimum specified design values shall be documented, justified, and approved by VDOT and FHWA.

Special Provisions included in this contract document or other Special Provisions approved by VDOT shall govern over the VDOT specifications, design standards and manuals. Special Provision Copied Notes approved by VDOT and requirements specified within the text of this RFP shall govern over both the Special Provisions and VDOT specifications, design standards and manuals.

2.1.2 RFP Information Package

An RFP Information Package is available for interested Offerors on CD for \$50. Interested Offerors should complete the RFP Information Package Order Form included as Attachment 2.6 of Part 1. An RFP Information Package will be provided to the point of contact for each short listed firm. The RFP Information Package includes the following:

- Special Provisions and Special Provision Copied Notes listed in Part 2, Section 2.1.1(c) above (revisions with Addendum #1)
- RFP Conceptual Roadway Plans, including electronic reference files (revisions with Addendum #1)
- RFP Conceptual Traffic Plans, including electronic reference files
- Survey Information as listed in Part 2, Section 2.5
- Design Waivers listed in Part 2, Section 2.1.3

~~February 6, 2014~~ Addendum #1 – March 6, 2014

- Drainage, SWM and Outfall Analysis (RFP Concept), dated ~~January~~March 2014
- Geotechnical Engineering Data Report for “I-495 Northern Section Shoulder Use Lane”, dated December 3, 2013
- Supplemental Specifications, Sec. 2.1.1 (c) – Soil Design Parameters for Sound Barrier Walls, Retaining Walls and Non-Critical Slopes, April 14, 2011
- Categorical Exclusion (CE), dated December 18, 2013.
- Preliminary Environmental Document Re-evaluation for Plans, Specifications and Estimates (PS&E) Authorization, dated January 16, 2014.
- Preliminary Environmental Certification/Commitments Checklist, dated January 16, 2014
- Preliminary VDOT Permit Determination, dated October 28, 2013.
- Preliminary Fish, Plant and Wildlife Resources Clearance dated August 7, 2013
- Cultural Resources Summary Report dated September 25, 2013
- Hazardous Materials Summary Report dated September 24, 2013
- Air Quality Analysis Report, dated December 13, 2013
- Final Design Noise Analysis and Appendices dated December 2013.
- Asset identification Table for ITS Devices (required for adding new equipment to NRO inventory database)
- I-495 Northern Section Shoulder Use Project Concept of Operations, dated February 2014
- Architecture 940 Conformance Checklist
- Letter of Approval for Public Interest Finding (PIF) for use of MOXA Model EDS 510A 3SFP-T, dated January 7, 2014
- FHWA concurrence for Public Interest Finding (PIF) for use of MOXA Model EDS 510A 3SFP-T, dated January 16, 2014
- Traffic Forecasting and Analysis Report, dated February 2014
- Route I-495 Telecommunications Upgrade (UPC 98896), dated September 29, 2011

Requirements described in the Technical Information and Requirements (Part 2 of the RFP) shall supersede the information contained in the RFP Information Package, including the information depicted in the RFP Conceptual Plans. In the event that there is a discrepancy between the RFP Conceptual Plans (or other information contained in the RFP Information Package) and the Technical Information and Requirements (Part 2 of the RFP) herein, the Technical Information and Requirements (Part 2) shall take precedence.

2.1.3 Design Exceptions and Design Waivers

VDOT has identified the following design exceptions, with respect to the RFP Conceptual Plans, for which VDOT shall be responsible for obtaining approval:

- (1) Design Exception No. 1 Reduced NB Lane and Shoulder Widths
- (2) Design Exception No. 2 SB Inside Shoulder Width at Sign Structures
- (3) Design Exception No. 3 Horizontal Sight Distance NB For The Inside Shoulder, Outside and Auxiliary Lanes

VDOT has identified the following design waivers, with respect to the RFP Conceptual Plans, for which VDOT has executed:

- (1) Design Waiver No. 1 Vertical Clearance at Georgetown Pike
- (2) Design Waiver No. 2 Vertical Clearance at Old Dominion Drive

VDOT has identified the following Design Waiver, with respect to the RFP Conceptual Plans, for which VDOT shall be responsible for obtaining approval:

- (3) Design Waiver No. 3 Vertical Clearance at Live Oak Drive

The executed Design Waivers for the Project are included in the RFP Information Package. The Design-Builder shall design the Project in accordance with all requirements and mitigation items contained in the Design Waivers, unless other mitigation measures or designs are presented to and approved by VDOT.

The Design-Builder shall design the Project in accordance with all requirements and mitigation items noted in Attachment 2.1A Design Exception and Mitigation Table, unless other mitigation measures or designs are presented to and approved by VDOT and FHWA. The approved Design Exceptions will be provided prior to Contract Execution.

The Design-Builder shall be responsible for documenting and submitting any Design Exceptions and/or Waivers with respect to its final design above and beyond those listed above. Where the Design/Builder alters the design elements that are subject of previously approved exceptions and/or waivers, then the Design/Builder shall update/revise and resubmit the applicable exception(s)/waiver(s) for review and approval. Additionally, in certain instances, the approved Design Exception and Design Waiver reports contain mitigation measures that must be implemented by the Design-Builder. Note, in accordance with Part 1, Section 4.2.8, the Offeror's RFP Conceptual Plans submitted with their Letter of Submittal shall not require Design Exceptions and/ or Design Waivers that are not identified in the RFP or Addendum.

2.2 Mainline and Other Roadway Improvements

The roadway inventory information and major design criteria are summarized in Attachment 2.2. The information contained in the Attachment 2.2 shall serve as a basis for the Design-Builder to determine the appropriate criteria to apply to the design of the Project. Offerors are on notice that the entirety of the information contained in the Design Criteria Table and Part 2, Section 2.2 of this document including but not limited to the design criteria, and other notes and data, contain the minimum roadway geometric design requirements that the Design-Builder shall meet in its performance of the Work. By submitting its Proposal, Offeror certifies that the Project Concept presented in its proposal is fully compliant with such minimum requirements. Unless otherwise approved by VDOT, no changes to or deviation from the listed criteria shall be allowed.

The Design-Builder shall match the lane configuration, including the 12' lane locations, as shown in the RFP Conceptual Plans. The right shoulder widths shall be maximized where possible. The left shoulder shall be no less than 2.5' as shown on the RFP Conceptual Plans.

The lane configuration and shoulder widths shall be in accordance with all requirements and mitigation items described in Part 2, Section 2.1.3.

Any schedule delays as a result of changes or deviations are the responsibility of the Design-Builder.

2.3 Structures

2.3.1 Bridge Pier Protection

This scope of work shall consist of upgrading the existing median barrier along NBL I-495, at the overpasses (bridges) listed below, to meet the standard BPPS-1 Bridge Pier Protection requirements as outlined in Volume V – Parts 2 and 3 of the Manual of the Structure and Bridge Division.

Bridge on Old Dominion Drive over I-495 (VA Str. No. 6216)
Bridge on Georgetown Pike over I-495 (VA Str. No. 1107), (*)
Bridge on Live Oak Drive over I-495 (VA Str. No. 2056)

(*) At Bridge on Georgetown Pike over I-495, pier protection barrier will also be required along the outside (right) shoulder of NBL I-495.

The minimum vertical clearance of the Georgetown Pike and Old Dominion Drive bridges shall not be less than 16'-0".

Bridge inspection reports and structure condition assessments are designated Critical Infrastructure Information/ Sensitive Security Information (CII/SSI) materials and are not included in the RFP Information Package. Offerors desiring to obtain copies of the bridge inspection reports and structure condition assessments must complete a CII/SSI Non-Disclosure Agreement Form (Attachment 11.8.8) as prescribed in Part 1, Section 11.8.8 of the RFP. CII/SSI Non-Disclosure Agreements are not required to respond to the RFP.

2.3.1A Structure Load Rating

Modifications to the Bridge on NBL I-495 over Scotts Run (for example, an increase in the thickness of the asphalt concrete overlay on the bridge deck to correct the Shoulder Lane cross slope) will require the submission of a new load rating for the bridge in accordance with the requirements of IIM-S&B-86 Load Rating and Posting of Structures (Bridges and Culverts). Please note that the Load Factor Method was used for the load rating of the existing bridge. The VIRTIS .XML file for the bridge is available and will be provided to the successful Offeror upon request.

2.3.1B Scotts Run Bridge Joints

Modifications to the existing Type F-2 expansion dams at the bridge over Scotts Run shall not be permitted. If it is necessary to raise top of joint header to accommodate an increase in the thickness of asphalt deck overlay, complete joint reconstruction of impacted sections of the joint will be required. Joint reconstruction, when required, shall be performed in accordance with details shown for joint reconstruction, plan no. 138-25E. When joint reconstruction is performed in phases, welding of extruded metal joint sections may be permitted provided that furnished length of extruded sections is not less than 10 feet.

2.3.2 Structures for Traffic Control Devices, Including Signs and ITS Components

.1 Standard Sign Installations

The scope of work shall consist of installation of sign supports for standard signs, as specified in Part 2, Section 2.8.1. The Design-Builder shall use standard VDOT sign supports as specified in the VDOT Road and Bridge Standards for all standard sign installations. Non-standard supports for signs required due to mounting restrictions along the Project corridor shall be designed in accordance with Section 700 of the VDOT Road and Bridge Specifications, 2007, including all revisions.

.2 Overhead Structures for Static Sign Installations

The scope of work shall consist of installation of sign supports for overhead static signs on butterfly, cantilever, and half span overhead sign structures, as depicted in the RFP Conceptual Traffic Plans and as required by Part 2, Section 2.8.1. Half span structures shall be constructed with an appropriate width to span ratio across all travel lanes and shoulders of a single direction of travel. The Design-Builder shall use standard VDOT truss structures, as specified in the VDOT Road and Bridge Standards, for all overhead sign structures.

.3 Structures for Dynamic Message Signs

The scope of work shall consist of installation of supporting structures for Dynamic Message Sign (DMS) as identified in Part 2, Section 2.10 and depicted in the RFP Conceptual Traffic Plans. The Design-Builder shall use standard VDOT truss structures, as specified in the VDOT Road and Bridge Standards for all butterfly, half span, and full span overhead sign structures. Post mounted DMS signs structures shall be designed in accordance with Section 700 of the VDOT Road and Bridge Specifications, 2007, including all revisions. The RFP Conceptual Traffic Plans propose the following support types by DMS type:

- Type 1 DMS shall be mounted on half span or full span overhead sign structures. Type 1 DMS sign structures shall be designed to include catwalks with toe stops, handrails, harness clip-ons, and other design features to provide OSHA compliant access to the entry of the walk-in sign cabinet from the edge of pavement.

- Type 2 DMS shall be mounted on butterfly, half span, or full span overhead sign structures
- Type 3 DMS shall be mounted to the face of overhead static signs, see Part 2, Section 2.8.

.4 CCTV Camera and MVD Poles

The camera poles are intended to support ITS components consisting of one or more of the following: Closed Circuit Television (CCTV cameras), Microwave Vehicle Detectors (MVD) detectors, and/or ITS controller cabinets. The camera poles shall be round tapered galvanized steel poles. The Design-Builder shall design, furnish, and install two standard camera pole sizes. One shall be 50 feet in height with a mounting bracket; and one shall be 80 feet in height with a CCTV camera lowering device.

The Design-Builder shall furnish and install a CCTV lowering device on all 80-foot camera poles. The Design-Builder shall provide a lowering device that maintains an uninterrupted electrical and communication connection between the control cabinet and the equipment without reducing the function or effectiveness of the equipment or degrading the overall system in any way.

The Design-Builder shall furnish and install a lowering device as detailed herein. The lowering device and camera pole shall be two interdependent components of a single unit, and function together such that the pole and lowering device are fully compatible and interoperable.

All CCTV installations on 50-foot poles shall use a typical mounting bracket to attach the CCTV camera to the pole. Lowering devices shall not be used on 50-foot poles.

The detector poles are intended to support ITS components consisting of one or more of the following: Microwave Vehicle Detectors (MVD), and/or ITS controller cabinets. The MVD poles shall be round tapered galvanized steel poles. The Design-Builder shall design, furnish, and install MVD poles with a minimum height of 25 feet.

Structural design of steel poles and associated foundations shall be performed on a case-by-case basis and shall account for the individual or combined loads of ITS components at each discreet pole location. All designs for camera and/or detector poles shall be designed in accordance with Section 700 of the VDOT Road and Bridge Specifications, 2007, including all revisions

.5 Shoulder Lane Monitoring System

The CCTV units for the Shoulder Lane Monitoring System (SLMS) may be mounted on structures installed for other ITS devices (MVD, CCTV) or overhead span, cantilever or butterfly structures for DMS and static signs furnished and installed under the Project with approval from VDOT depending on mounting method, structure capacity, access, clearance and other related factors. The CCTV units for the SLMS may utilize the existing ITS mounting structures or sign

structures by installing new extension arms with approval from VDOT on a case by case basis with certification sealed by a Professional Engineer in the Commonwealth of Virginia.

In all installations, the CCTV units for the SLMS shall be mounted with a minimum height of the camera from the roadway being 30 feet.

In cases where a new pole is required for the mounting of a CCTV unit for the SLMS unit, the design shall conform to Part 2, Section 2.3.4.

.6 Lane Control Signal Support Installations

The scope of work shall consist of installation of supports for Lane Control Signals (LCS) standard signs, as identified in Part 2, Section 2.10 and depicted in the RFP Conceptual Traffic Plans. The lane control supports shall consist of signal mast arms and poles, as specified in the VDOT Road and Bridge Standards, and shall be designed in accordance with Section 700 of the VDOT Road and Bridge Specifications, 2007, including all revisions.

.7 Reuse of Existing Sign/ITS Structures

The Design-Builder may reuse an existing sign/ITS structure for proposed signs/ITS devices after inspection, repair of any defects, and certification that the structure meets all current sign structure design criteria and is fully compliant with the Technical Information and Requirements and Special Provisions listed in Part 2, Section 2.1 for this Project. Any existing structure that the Design-Builder proposes to reuse must be certified for the identified loads, including a statement sealed by a Professional Engineer in the Commonwealth of Virginia that the reused structure is fully compliant with the Technical Information and Requirements and Special Provisions listed in Part 2, Section 2.1 for this Project. In addition, base plates on poles/uprights of all existing overhead sign structures proposed to be re-used on this Project—including butterfly—shall have a minimum of six (6), 1 ½ inch diameter anchor bolts. All sign structures shall maintain a minimum vertical clearance of 19 feet over all roadways and shoulders at all times during and after construction, or not less than the existing clearance. The VDOT ID for any sign / ITS structure to be modified for reuse shall be clearly shown on the plans. The VDOT ID for any existing sign may be obtained by contacting the VDOT Northern Virginia District Structure and Bridge Section. Existing structures not meeting these criteria shall not be re-used or shall be replaced. Existing structures within project limits not meeting these criteria that are not impacted, modified and/or re-used may remain.

.8 Foundations for Sign and ITS Installations

The scope of work shall consist of installation of sign structure foundations for all signs and ITS structures as specified in Part 2, Section 2.3. The Design-Builder shall use standard foundation details where appropriate as specified in the VDOT Road and Bridge Standards. All cantilever signs shall be supported on spread footings or twin shafts / grade beam combination. Non-standard foundations required due to structure type and/or mounting restrictions along the

project corridor shall be designed in accordance with Section 700 of the VDOT Road and Bridge Specifications, 2007, including all revisions. Design Exceptions and Waivers were prepared for the reduced inside shoulder width due to insufficient offset to obstructions, including bridge piers, existing and proposed sign structures. The Design-Builder shall minimize the width of median foundations for sign/ITS structures to the maximum extent possible, but in no case shall the shoulder be reduced more than specified in the approved Project Design Exceptions and Waivers.

.9 Acceptance for New or Modified Sign / ITS Structures

Acceptance of New or Modified Sign / ITS Structures will require a safety initial inspection. The purpose of an initial inspection is to verify compliance with the requirements of IIM-S&B-73 High Mast Light Poles: Inspection and Maintenance, and IIM-S&B-82 Traffic Structures and to identify deficiencies, including incomplete work, and variances from approved plans and specifications and which must be rectified before the structure can be accepted.

The initial inspections shall be performed by VDOT. The Design-Builder shall provide the VDOT Project Manager with Approved for Construction drawings including all revisions at least two weeks prior to scheduling the inspections.

During initial inspection, data about location, date completed, description, horizontal / vertical clearances, structure element description and condition, and traffic safety features will be gathered.

The Design-Builder shall ensure that all structural elements are accessible for inspection of all structures. This requirement may dictate that the Design-Builder provide:

Man-lifts, barges, remote operated vehicles, bucket trucks, or other equipment necessary to inspect the structure and Plans, personnel, and equipment to implement traffic control measures.

Upon completion of the initial inspection, VDOT shall submit an inspection report to the Design-Builder within ten (10) days of the inspection either recommending acceptance of the structure or identifying deficiencies, including incomplete work, which must be rectified before the structure can be accepted. If a structure is not accepted, the Design-Builder shall rectify the deficiencies and notify VDOT in writing, certifying that the deficiencies have been corrected. Within five (5) Days of receipt of such certification, VDOT may require that a follow-up inspection be performed to verify that the deficiencies have been corrected or recommend in writing to the Design-Builder that the structure is acceptable without a further inspection.

The final acceptance of Sign / ITS Structures will occur when the initial inspection is completed and any necessary follow-up (verification) inspections are performed. The initial inspection may be scheduled as more than one inspection as long as it is coordinated with VDOT.

.10 Removal and Disposal of Existing Bridge-Mounted Sign Structures

The bridge-mounted signs shown on the RFP Conceptual Plans to be removed (Old Dominion Drive, Georgetown Pike, and Live Oak Drive overpasses) shall be completely removed, including frames, sign panels, hardware, and incidentals. Removed materials shall become the property of the Design-Builder and shall be properly disposed of off-site. Connection bolts anchored into concrete parapets shall be mechanically cut flush with the surface of the parapet, and then removed by mechanical drilling to a depth of one-half inch below the surface of the parapet. The holes shall be patched to match the color and texture of the existing parapet surface with hydraulic cement mortar or grout conforming to Section 410.02 of the Road and Bridge Specifications. Connection bolts to steel beams shall be removed, and the affected areas of steel beams cleaned, primed, and painted in accordance with the requirements of Section 411 of the Road and Bridge Specifications to match the existing structure. Electrical service shall be disengaged at the nearest junction box, and all conductors shall be capped and sealed in place unless existing service is to be reused for lighting of replacement structures.

2.4 Environmental

2.4.1 Environmental Document

FHWA has approved NEPA for this Project. A copy of the Categorical Exclusion (CE) dated December 18, 2013 is included in the RFP Information Package. VDOT has completed a preliminary document re-evaluation for Plans, Specifications and Estimates (PS&E) Authorization (EQ-200) dated January 16, 2014, and a preliminary Environmental Certification/Commitments Checklist (EQ-103) dated January 16, 2014, which are included in the RFP Information Package. VDOT shall complete a final document re-evaluation for PS&E Authorization (EQ-200) and final Environmental Certification/Commitments Checklist (EQ-103) prior to the VDOT Project Manager releasing the Project for construction.

The Design-Builder shall carry out environmental commitments during design, right-of-way acquisition, and construction, as applicable, as identified in the CE, the PS&E Re-evaluation, and the Environmental Certification forms. All commitment compliance shall be supported by appropriate documentation, to be provided by the Design-Builder to the VDOT Project Manager.

Any changes in the scope or footprint of the established basic Project concept, proposed by the Design-Builder and acceptable to VDOT, may require additional environmental technical studies and analysis to be performed by the Design-Builder at their cost. The Design-Builder will be responsible for notifying VDOT of plan revisions, scope changes, and providing any necessary studies and other necessary information to support VDOT's completion and re-evaluation of the NEPA document. VDOT will be responsible for the coordination of any environmental documentation re-evaluation with FHWA. If acquisition of right of way and/or easements is necessary, the Design-Builder shall furnish final right-of-way (RW) plans for VDOT to complete an environmental document reevaluation for RW Authorization (EQ-201). The Design-Builder shall then carry out any additional environmental commitments that result from such coordination at its sole expense and no additional cost and/or time delays to the Project.

The Design-Builder is solely responsible for any costs or schedule delays related to the permit acquisition, permit modifications, and NEPA document re-evaluations associated with Design-Builder's design changes and no time extensions will be granted. All costs associated with complying with these requirements shall be included in the Offeror's Price Proposal.

2.4.2 Cultural Resources

VDOT, in accordance with the efficiencies of quarterly reporting provided by Stipulation 2 of the 1999 Programmatic Agreement between VDOT and Virginia Department of Historic Resources (VDHR) has determined that there are no historic properties present or affected by the Project as proposed in the RFP Conceptual Plans.

Please note that any changes to the design, alignment, right-of-way limits, or easements shown on the RFP Conceptual Plans may require review by VDOT and could require additional cultural resources studies and/or coordination with the Virginia State Historic Preservation Officer (VA SHPO). The Design-Builder is responsible for conducting all cultural resources studies necessitated by the proposed changes, while the VDOT is responsible for coordinating both the studies and the proposed changes with the VA SHPO. The Design-Builder shall then carry out any additional cultural resources commitments that result from such coordination at its sole expense and at no additional cost to the Project.

2.4.3 Section 4(f) Resources

Three Section 4(f) resources are located adjacent to the Project: George Washington Memorial Parkway, Scotts Run Nature Preserve and Scotts Run Stream Valley Park. VDOT has determined that the Project will not use land from any of these resources.

The Design-Builder should consider 4(f) resources to be design constraints and avoid any impacts to them. In addition, the Design-Builder shall avoid any other project-related activities on these resources, including but not limited to staging, borrow/disposal, and temporary or permanent easements.

Any changes to the right-of-way or easements as shown on the RFP Conceptual Plans, proposed by the Design-Builder and acceptable to VDOT, may require additional technical studies and analysis to be performed by the Design-Builder. The Design-Builder will be responsible for notifying the VDOT Project Manager of plan revisions, right-of-way/easement changes, and providing any necessary studies and other necessary information to support VDOT's completion and re-evaluation of the 4(f) evaluation document. VDOT will be responsible for the coordination of any 4(f) documentation with FHWA. The Design-Builder shall then carry out any additional commitments that result from such coordination at its sole expense and no additional cost and/or time delays to the Project.

2.4.4 Water Quality Permits and Compensatory Mitigation

The Design-Builder is responsible for obtaining all water quality permits required to construct the Project (including utility relocations by the Design-Builder). The Design-Builder will be the Permittee. Should the Design-Builder propose design changes acceptable to VDOT, permitting requirements may also change; the Design-Builder remains responsible for obtaining any and all necessary water quality permits and permit modifications required by the regulatory agencies.

VDOT's preliminary Permit Determination dated October 28, 2013 is included in the RFP Information Package. The Offeror should note that VDOT's preliminary Permit Determination and wetland delineations are provided for informational purposes only. The Design-Builder will be responsible for verifying permit requirements prior to construction. Regulatory agencies will make the final determination which state/federal water quality permits will be required during coordination with the Design-Builder.

2.4.5 Threatened and Endangered Species

VDOT has performed preliminary database reviews to determine the Project's potential effects on threatened and endangered (T&E) species, indicating that Project will have no adverse effect on T&E species. A copy of VDOT's preliminary Fish, Plant, and Wildlife Resources Form dated, August 7, 2013, is included in the RFP Information Package.

New and updated T&E information is continually added to agency databases. The Design-Builder will be responsible for any subsequent coordination to obtain updated information, requirements, and clearances from environmental regulatory agencies that provide threatened and endangered species oversight. This additional T&E species coordination is also a standard component of the water quality permit acquisition process and may result in permit conditions for which the Design-Builder will be responsible. The Design-Builder is responsible for ensuring that all T&E species are correctly identified and impacts assessed, noting that more or less resources may be present than initially identified. Avoidance and minimization shall be implemented to the greatest extent possible. The Design-Builder shall provide to the VDOT Project Manager copies of all documentation and correspondence with regulatory agencies.

2.4.6 Hazardous Materials

VDOT has reviewed the Project area and to determine that there is no potential for hazardous materials and/or contamination within the Project area. Information pertaining to this determination is included in the RFP Information Package and constitutes Known Pre-existing Hazardous Materials as defined in [Part 4, Article 1](#).

The Design-Builder shall manage solid waste, hazardous waste, and hazardous materials in accordance with all applicable federal, state, and local environmental regulations and shall implement good housekeeping, waste minimization and pollution prevention practices.

For any non-hazardous waste, the Design-Builder shall have the signatory responsibility for the waste shipping manifest(s) and/or bill(s) of lading. For hazardous waste the Design-Builder shall be considered the co-generator and shall be responsible for preparing the hazardous waste shipping manifest(s) for the VDOT representative's signature and as otherwise consistent with the signatory requirement under Section 411 of the VDOT Road and Bridge Specifications.

The Design-Builder shall be responsible for the development of a Spill Prevention, Control, and Countermeasure Plan as required by regulation and for submission of any required plan to the VDOT Project Manager prior to start of construction. In the event of spills or releases of petroleum products and other hazardous liquids or solid materials, the Design-Builder shall take immediate action to contain and eliminate the spill release, including the deployment of environmental protection measures to prevent the migration of the spill into the waters of the United States and of worker exposure protection measures. The Design-Builder shall notify the VDOT Project Manager immediately of all instances involving the spill, discharge, dumping or any other releases or discovery of hazardous materials into the environment and shall provide all required notifications and response actions.

2.4.7 Air Quality

The Project has been assessed for potential air quality impacts and conformity with all applicable Federal and state air quality regulations and requirements. The Air Quality Analysis Report, dated December 13, 2013, is provided in the RFP Information Package. The Report identifies federal and state regulatory requirements that must be adhered to during construction of the project.

This Project is located within an 8-Hour Ozone Nonattainment area, a Fine Particulate Matter (PM_{2.5}) Nonattainment area, and a volatile organic compounds (VOC) and nitrogen oxides (NO_x) emission control area. As such, all reasonable precautions should be taken to limit the emissions of VOC, NO_x, and particulate matter during construction of the project. In addition, the following VDEQ air pollution regulations must be adhered to during the construction of this project: 9 VAC 5-130-10 et seq., Open Burning restrictions; 9 VAC 5-45 Article 7, Cutback Asphalt restrictions; and 9 VAC 5-50 Article 1, Fugitive Dust precautions. The Design-Builder will be required to adhere to the limitations outlined in the Special Provision for Volatile Organic Compound Emissions Control Areas.

Construction activities will be performed in accordance with VDOT's current "Road and Bridge Specifications." The specifications conform to the State Implementation Plan and require compliance with all applicable local, state, and federal regulations.

2.4.8 Noise Mitigation

A Final Design Noise Analysis was performed by VDOT. It was determined from the Final Design Noise Analysis that no mitigation measures are required for the Project. A copy of the report Final Design Noise Analysis Report date December 2013 is included in the RFP Information Package.

Any changes in the scope or footprint of the established basic Project concept, proposed by the Design-Builder and acceptable to VDOT, may require a reevaluation if the Final Design Noise Analysis consisting of but not limited to additional traffic noise modeling to be performed by the Design-Builder at their cost.

The reevaluated Final Design Noise Analysis shall be submitted to VDOT for review and approval. The reevaluation, consisting of a re-analysis of all noise sensitive receptors identified in the project area, will be required to confirm that there are no noise impacts and that no further analysis of noise abatement is required.

If the results of the Final Design Noise Analysis Reevaluation dictate; the Design-Builder will provide permanent noise mitigation in compliance with the Virginia State Noise Abatement Policy, the Highway Traffic Noise Impact Analysis Guidance Manual (August 2013), FHWA, Highway Traffic Noise Analysis and Abatement Guidance (January 2011), the VDOT Noise Report Development and Guidance Document Version 1, Special Provision for Sound Barrier Walls, and the Soil Design Parameters for Sound Barrier Walls, Retaining Walls and Non-Critical Slopes.

The Design-Builder is prohibited from deviating on VDOT's sound wall policy, guidance, or special provisions without allowance granted in this document or prior written approval from VDOT.

The final barrier location(s) and dimension(s) will be determined during the reevaluation of the Final Design Noise Analysis. A draft Noise Abatement Design Report (NADR) shall be submitted for review and approved prior to the submittal of a final Noise Abatement Design Report (NADR). The NADR shall be conducted by an individual qualified in the field of highway traffic noise impact analysis as noted in Section 3.0 of the Highway Traffic Noise Analysis Guidance Manual. The Noise Abatement Design Report (NADR) shall be furnished by the Design-Builder at its sole cost and expense. The final noise mitigation design will utilize the design year traffic volumes defined in the Final Design Noise Analysis unless otherwise directed due to traffic updates. A copy of this report is included in the RFP Information Package.

Final design of noise abatement measures shall be based on the preliminary noise abatement design developed in the preliminary noise analysis as noted in Section 10.5 of the Highway Traffic Noise Analysis Guidance Manual.

Upon approval of the NADR the Department shall prepare a concurrence letter outlining the results of the analysis for the Department's Chief Engineer and FHWA. Once concurrence is achieved the Design-Builder shall prepare and mail letters "certified return receipt" to benefitted receptors to ascertain the desire to have noise barriers constructed as part of the project. Upon completion of the citizen survey the Department shall prepare a second concurrence letter documenting the results, if necessary. All sound walls should be named as presented within the NADR.

All noise barriers recommended for construction and concurred with by the Chief Engineer and FHWA are included in the scope of the Construction Project and shall be funded by the Design-Builder at its sole cost and expense. This includes barriers with conditions, as long as those conditions have been met.

Prior to submitting a sound wall plan for the Department's review, the Design-Builder will have the noise consultant that completed the NADR review the plan set and certify that the proposed design meets the noise abatement requirements. This certification will be included in the plan set when it is submitted to the Department for review.

If deviations in the horizontal or vertical alignment of a noise barrier (or the roadway alignment) are proposed following concurrence from the Chief Engineer or FHWA, then additional noise analysis will be provided to the Department for review and approval prior to construction. This will include a plan and profile view of the roadway with the alignments recommended barrier and the proposed design. A justification of the deviation will be included with the plan set. The revised NADR chapter for the noise barrier for which modification is requested will be submitted with this additional information.

A key plan will be clearly labeled to show the location of the ground-mounted combo wall (sound wall on retaining wall) and bridge-mounted noise barriers.

Plan view will provide the alignment of the noise barrier with the roadway plan view.

Profiles of the wall alignment will include the noise attenuation line and the existing and proposed elevation. If combo walls or bridge-mounted barriers are present along the alignment, the pattern of the line will be different so that all lines can be distinguished.

Stations of the roadway and noise barrier will be included on both the plan and profile views.

Access shall be provided by access doors for VDOT maintenance personnel. Sound barrier wall design shall also be coordinated with first responders to ensure access to fire hydrants and other emergency equipment. In lieu of access doors, gaps may be provided in the walls with a minimum 3:1 ratio of barrier overlap.

2.4.9 Environmental Compliance

The Design-Builder is responsible for compliance with all applicable state and federal environmental laws, regulations, and permits. If, at any time, the Design-Builder is not in compliance with all applicable environmental laws, regulations, Executive Orders, commitments, etc., the VDOT Project Manager has the authority to suspend work, in whole or in part, until such time as the deficiencies or non-compliant items have been corrected. Should any non-compliant item(s) be identified during construction, immediate and continuous corrective action shall be taken by the Design-Builder to bring the item(s) back into compliance.

The Design-Builder shall be responsible for any schedule delays and associated costs as a result of any delays and/or shut downs associated with non-compliance. Any monetary fines associated with violations and/or any environmental restoration activities required to resolve violations shall be the responsibility of the Design-Builder.

The Design-Builder shall carry out environmental commitments during design and construction, as applicable, as identified in the CE, the Document Re-evaluations for RW Authorization (EQ-201) [if applicable] and PS&E Authorization (EQ-200), and the Environmental Certification/Commitments Checklist (EQ-103). All commitment compliance shall be supported by appropriate documentation, to be provided by the Design-Builder to the VDOT Project Manager.

The Design-Builder shall be responsible for compliance with pre-construction and construction-related environmental commitments and permit conditions. The Design-Builder shall assume all obligations and costs incurred by complying with the terms and conditions of the permits and certifications. Any fines associated with environmental permit or regulatory violations shall be the responsibility of the Design-Builder.

2.5 Survey

VDOT has completed a field survey according to VDOT Survey Manual, conforming to VDOT Standards, between Survey Station 100+00 and Station 221+02.47. The field survey was conducted using conventional and mobile LiDAR survey methods and data was collected within the tolerances defined in the VDOT Survey Manual. Preliminary field survey and utility data have been obtained, including, but not limited to the following:

- Horizontal control
- Vertical control
- Notification of property owners*
- Field data
- Topography
- Existing Right of Way
- Utilities
- Levels
- Digital Terrain Model

*The Virginia Code 33.1-94 requires that Notice of Intent letter (RUMS Forms I1, I2, I3, and I4) “shall be sent to the owner at the address recorded in the tax records, or delivered by guaranteed overnight courier or otherwise delivered to the owner in person with proof of delivery **not less than 15 days prior** to the first date of the proposed entry. Notice of intent to enter shall be deemed made on the earlier of the date of mailing, if mailed, or on the date delivered.” The notice shall include the anticipated date/dates such entry is proposed to be made and the purpose of such entry. Advance notification of property owners is required for all data collection efforts related to the development of highway plans. Copies of the letters and address labels shall be

provided to the VDOT Project Manager for forwarding to the District Survey Manager as soon as they become available.

The Design-Builder is advised that such survey is not represented to be complete for purposes of designing the Project, and that Design-Builder's scope of work shall include performing all additional surveying and utility designation that is necessary to supplement the above-referenced survey as required for design purposes.

The Design-Builder shall be responsible for obtaining any survey data, including all right-of-entry and land use permits, locating and/or designating underground utilities (including VDOT traffic management utilities), digital terrain model (DTM), utility test holes and obtaining other related data necessary for the design, right of way acquisition, limited access revisions, and construction of the Project. Additionally, the Design-Builder will be responsible for any update (property owner changes, subdivisions, etc.) that may occur; updates need to be reflected on the plans in order to acquire right of way and complete the final design. Any additional survey changes will be verified and certified, and submitted in final documentation.

The Design-Builder will be responsible to reset or relocate and survey control damaged, destroyed or located within the footprint of the final design construction limits. The control will be established by a land surveyor licensed in the Commonwealth of Virginia with LD-200 information and supporting computations submitted to the VDOT Project Manager.

Prior to Project completion, the Design-Builder shall provide and set final VDOT RW-2 right of way monuments within the Project Limits. The Design-Builder shall depict the monuments on the Right of Way Plans in accordance with the VDOT's Survey Manual.

2.6 Geotechnical Work

VDOT has completed a preliminary geotechnical subsurface investigation for this Project. The results of the investigation are presented in the Geotechnical Data Report dated December 3, 2013, which is included in the RFP Information Package.

The data included in this RFP is being provided for Offeror's information in accordance with Section 102.04 of Division I Amendments (Part 5). The Design-Builder shall perform a design-level geotechnical investigation to validate and augment the geotechnical information included in this RFP. The geotechnical engineering investigation performed by the Design-Builder shall meet or exceed both Chapter 3 of the VDOT Material Division's Manual of Instructions (MOI); the current AASHTO LRFD *Bridge Design Specifications*, 6th Edition, 2012 and VDOT Modifications; and Section 700.04 (c) of the Road and Bridge Specifications.

The Design-Builder shall collect appropriate data for geotechnical evaluation of pavements, culverts, sign structures, storm water management facilities, signal pole, high mast, or overhead signs, minor structures including drainage pipes, and any other earth-supported or earth-retaining structures or elements of highway design and construction required for this Project. The Design-Builder will be responsible for obtaining all necessary permits and utility clearances as required by VDOT, the Commonwealth of Virginia, or any other jurisdictional

body or owner prior to accessing public or private property for the purpose of conducting geotechnical field work and shall provide the necessary traffic control in accordance with the Work Area Protection Manual. The Design-Builder shall complete laboratory tests in accordance with pertinent ASTM or AASHTO standards and analyze the data to provide design and construction requirements. Soils, rock, aggregate, asphalt, concrete and other materials tests shall be performed by a laboratory accredited through the AASHTO Accreditation Program (AMRL and CCRL) for each test it conducts for the Project, unless otherwise approved by VDOT.

The Design-Builder shall provide VDOT with all records of subsurface explorations and describe the soils encountered and their depth limits in accordance with the requirements outlined in Chapter 3 of the VDOT Materials Division MOI. The Design-Builder shall provide to VDOT electronic copies of all subsurface explorations in accordance with the boring log template available on the website included in Chapter 3 of the VDOT Materials Division MOI. The electronic files shall be provided by a certified professional geologist or a suitably qualified registered professional engineer in the Commonwealth of Virginia, in gINT© software. The gINT© file for the borings contained in Geotechnical Engineering Data Report, dated December 3, 2013, are provided in the RFP Information Package.

Unless otherwise addressed by AASHTO LRFD, the Design-Builder shall incorporate reliability assessments in conjunction with standard analysis methods in accordance with Chapter 3 of the Materials MOI. An acceptable method for evaluation of reliability is given by Duncan, J.M. (April 2000) *Factors Of Safety and Reliability in Geotechnical Engineering*, Journal of Geotechnical and Geoenvironmental Engineering, ASCE, Discussions and Closure August 2001. The Design-Builder may propose to identify specific, non-critical features, and alternative methods for evaluating variability of subsurface conditions, reliability and minimum factors of safety, prior to submission of its design calculations and drawings. VDOT may, in its sole discretion, accept or reject such proposed methods.

The Design-Builder shall submit to the VDOT for its review all geotechnical design and construction memoranda and/or reports that summarize pertinent subsurface investigations, tests, and geotechnical engineering evaluations and recommendations utilized in support of their design/construction documents. This submittal shall be made at least 30 days in advance of the submittal of any final design/construction documents that are dependent upon the geotechnical evaluations and recommendations. Technical specifications for construction methods that are not adequately addressed in the Standard Specifications shall be provided by the Design-Builder as part of the final design/construction documentation. Prior to submittal of any final design/construction documentation, the Design-Builder shall review the final design/construction documents to assure that it appropriately incorporated the geotechnical components and shall submit evidence of this review to accompany the final design/construction documentation. The Design-Builder shall reference the drawings that incorporate the pertinent results. The Design-Builder's Quality Assurance and Quality Control (QA/QC) Plan shall document how each specific geotechnical recommendation or requirement will be addressed in the final design/construction documentation. The results of the geotechnical investigation and laboratory results shall support design and construction efforts to meet the requirements outlined in this Section.

2.6.1 Minimum Pavement Sections

Minimum pavement sections and locations for these sections shall be utilized for Proposal preparation purposes only. The locations for full depth patches/joint repairs, mill and overlay, demolition and replacement of the existing pavement and new pavement construction are provided on the RFP Conceptual Plans included in the RFP Information Package. The Design-Builder shall be required to validate the adequacy of the minimum pavement sections and to notify the Department of its findings. If the Design-Builder confirms that the minimum pavement sections and locations of these sections are inadequate for actual design/construction conditions, it shall notify VDOT during the Scope Validation Period of the necessary changes and proposed price adjustments, if any. Acceptable changes to the minimum pavement sections are limited to increasing the thickness of the base or subbase layers specified below. Any changes to the minimum pavement sections provided in this Part 2, Section 2.6.1 and/or location for the pavement sections shown on the RFP Conceptual Plans shall be approved by VDOT. The final pavement surface will be tested by VDOT for smoothness in accordance with the “*Special Provision for Rideability*”, dated November 19, 2103 included in the RFP Information Package. The Design-Builder shall be responsible for the final design and construction of the pavements for this Project in accordance with the Contract Documents.

The Design-Builder shall photographically document the existing condition of all pavements within and adjacent to the Project limits prior to the Design-Builder’s submission of final construction plans for VDOT approval and provide all photos to the VDOT Project Manager. Photos shall be color digital images in .jpg format with 4 megapixels (approximately 2400 pixels wide x 1600 pixels high) or greater resolution. The Design-Builder shall be responsible for full-depth replacement of all pavement damaged resulting from Project construction activities, regardless of the method or location of the pavement damage.

The Design-Builder shall prepare and incorporate into the plans, typical sections, profiles and cross-sections the validated pavement sections in accordance with the applicable manuals noted in Part 2, Section 2.1. This includes drainage and subdrainage requirements to ensure positive drainage both within the pavement structure and on the pavement surface. Underdrains are identified in the Geotechnical Engineering Data Report, which governs over the location of underdrains shown in the RFP Conceptual Plans. The minimum pavement sections are as follows:

I-495 Widening (Low Side of Existing Pavement Cross-Slope)

Surface – 1.5” Asphalt Concrete, Type SMA-9.5 (PG 76-22)

Base – 14” Asphalt Concrete, Type BM-25.0D+0.4 (high modulus, high binder) (PG 70-22)

Subbase – 8” Aggregate Base Material, Type I, Size No. 21B extended to a standard UD-4 edgedrain beneath the outside edge of paved shoulder.

I-495 Widening (High Side of Existing Pavement Cross-Slope)

Surface – 1.5” Asphalt Concrete, Type SMA-9.5 (PG 76-22)

Base – 12” Asphalt Concrete, Type BM-25.0D+0.4 (high modulus, high binder) (PG 70-22)

Subbase – 6” Aggregate Base Material, Type I, Size No. 21A pugmill mixed with 4% hydraulic cement by weight.

For **paved shoulders** use full depth pavement as specified above.

All pavement widening shall be completed in accordance with VDOT standard WP-2 with the pavement section identified above and in accordance with the RFP Conceptual Plans. Where widening existing pavement, the existing pavement shall be cut full depth to expose the existing edge of full depth concrete pavement as identified by 9” (+/- 1”) of Portland cement concrete overlaid with variable depths of asphalt concrete. The existing outside shoulder shall be demolished to within 2 feet of the existing outside jersey barrier (adjacent to existing sound barrier or retaining walls) and reconstructed with the pavement sections above and as identified on the RFP Conceptual Plans. All existing underdrains that are impacted by the proposed construction shall be removed and replaced to the nearest available outlet. The widened base layer shall be constructed to 1.5” below the surface of the existing adjacent pavement. All pavement widening shall be completed up to the base layer prior to building up and/or placing the surface course over both the existing pavement and the widened pavement.

The existing pavement shall be milled to a minimum depth of 4” or to the top of concrete and replaced with a minimum 2.5” of asphalt concrete BM-25.0D+0.4 (high modulus, high binder, PG 70-22) prior to building up and/or placing the new surface course. All BM-25.0D that is not used for joint repair shall be placed using a material transfer vehicle (MTV). The MTV shall have remixing capability to produce uniform, non-segregated mix with uniform temperature. The MTV and paver combination shall have a minimum storage capacity of 15 tons. In the event of a breakdown of the MTV, paving shall be discontinued and no more material shall be shipped from the hot-mix plant. All milling and repaving operations shall be in accordance with Supplemental Section 515 – Planing or Milling Pavement, September 27, 2011 and Special Provision for Cold Planing (Milling) Asphalt Concrete Operations, October 1, 2012. After milling, all cracks shall be cleaned of all debris and sealed with a Type B crack sealant in accordance with the Special Provision Sealing Cracks in Asphalt Concrete or Hydraulic Cement Concrete Pavements, dated November 25, 2013.

The final design shall provide a minimum of 16’-0” vertical clearance at the Georgetown Pike overpass. The existing surface of the pavement may be reduced by up to a maximum of 4” below its existing grade only as necessary to provide the 16’-0” of vertical clearance beneath the Georgetown Pike overpass.

The final surface asphalt shall be placed uniformly over the entire pavement (mainline and paved shoulders). The final pavement surface will be tested by the Department for rideability in accordance with the Special Provision for Rideability, dated November 19, 2013.

High Friction Surface Coating

The Design-Builder shall place a high friction surface coating in a light gray color throughout the length and width of the I-495 Northbound shoulder use lane, in order to provide a contrasting color to the general purpose lanes. Proposed materials and methods, along with color samples shall be submitted to VDOT and FHWA for approval prior to installation. All installation shall be in accordance with the Special Provision for High Friction Epoxy Aggregate Roadway Surface Treatment.

Full Depth Patches/Joint Repairs

Full depth transverse patches/joint repairs shall be performed in accordance with the details and at the locations identified on the RFP Conceptual Plans. For the purpose of Price Proposal development, the Offeror may assume the quantity for length of joint repair is as indicated on the RFP Conceptual Plans. The Design-Builder shall notify the VDOT Northern Virginia District Materials Engineer (DME) at least 48 hours in advance of each joint repair so that the DME can verify the correct repair locations on the pavement.

Temporary Pavement (Maintenance of Traffic)

The Design-Builder shall be responsible for any temporary pavement design. Temporary pavements shall be designed in accordance with the AASHTO Guide for the Design of Pavement Structures (1993 edition) and the VDOT Materials Division's Manual of Instructions. All temporary pavement designs shall be submitted to VDOT for review. All temporary pavement shall be completely removed once it is no longer in service. All temporary pavement designs for mainline or ramp pavements shall have a minimum 6 inches of asphalt concrete and a minimum 6 inches of plain aggregate (21B) and shall meet the following minimum design criteria.

- Design Life – 6 months minimum
- Reliability – 85% minimum
- Initial Serviceability – 4.2 minimum
- Terminal Serviceability – 2.8 minimum
- Standard Deviation – 0.49 minimum
- CBR value for subgrade soils determined by laboratory tests

The minimum pavement sections require that proper grading be maintained to direct surface water away from paved areas and to provide for efficient runoff from surrounding areas.

Any utility excavations or excavations for storm drains within pavement areas shall be backfilled with compacted structural fill in accordance with applicable sections of the Road and Bridge Specifications and applicable Special Provisions.

VDOT guidelines specify that edgedrains/underdrains be provided for all pavements with daily traffic volumes in excess of 1,000 vehicles per day. Therefore, standard UD-4 edgedrains will be required for all pavements on this project. Modified UD-1 underdrain shall be provided in lieu of standard UD-4 edgedrain for pavement sub-drainage in areas of high ground water, springs or cuts in excess of 15 feet; the modification consists of wrapping the aggregate with geotextile drainage fabric. Standard Combination Underdrain (CD-1) shall be provided at the

lower end of cuts. Standard Combination Underdrain (CD-2) shall be provided at grade sags, bridge approaches, and at the lower end of undercut areas.

2.6.2 Geotechnical Requirements

Embankments and certain aspects of retaining wall design are not addressed by LRFD. Embankments and cut slopes shall be designed in accordance with Section 305 of the VDOT Materials MOI. The maximum slope ratio to be used for cut and/or roadway embankment fill slopes shall not be steeper than 2H:1V. The Design-Builder is responsible for verifying the stability of all slopes, including those retained by structures.

All retaining walls shall be designed in accordance with applicable VDOT and AASHTO requirements, including Soil Design Parameters for Sound Barrier Walls, Retaining Walls and Non-Critical Slopes included in the RFP Information Package. If the Design-Builder elects to use mechanically stabilized earth (MSE) walls, the fill material used in the reinforced zone shall be a crushed aggregate with properties in accordance with VDOT's Special Provisions for approved proprietary MSE walls located in Chapter 10: Earth Retaining Structures, in Volume V, Part 11 of the Manual of the Structure and Bridge Division. The Design-Builder shall provide both global and external stability analysis utilizing a computer program acceptable to VDOT and submit the results of the analysis, including boring logs, laboratory data, and any other applicable data, to VDOT geotechnical engineers for review. The wall supplier shall provide to the Design-Builder, for submittal to VDOT, an internal stability analysis that validates the design of the wall. Retaining walls shall be designed to control settlements within tolerances identified in VDOT Guidelines for Preparation of Alternate Retaining Wall Plans located in Chapter 10: Earth Retaining Structures, in Volume V, Part 11 of the Manual of the Structure and Bridge Division.

Material and Construction requirements shall follow VDOT *Manual of the Structure and Bridge Division*, Volume V – Part 11 “Geotechnical Manual for Structures” and applicable special provisions list in Part 2, Section 2.1.1(c). Where undercutting and material replacement is required to reduce settlement or improve bearing capacity/global stability, areas requiring repair shall be clearly identified on the plans with notes provided to aid plan review, construction, and inspection.

2.6.3 Unsuitable Materials

Unsuitable Material is defined as material used as embankment fill, and in cut areas to a depth of at least 3 feet below subgrade directly beneath pavements and at least 2 feet beneath the bedding of minor structures and laterally at least 2 feet beyond the outside edge of the pavement shoulders and bedding limits of the minor structures that meets one or more of the following criteria: classifies as CH, MH, OH and OL in accordance with the Unified Soil Classification System (USCS); contains more than 5 percent by weight organic matter; exhibits a swell greater than 5 percent as determined from the California Bearing Ratio (CBR) test using VTM-8; exhibits strength, consolidation, durability of rock or any other characteristics that are deemed unsuitable by the Design-Builders' geotechnical engineer or as denoted in the Contract Documents for use in the Work. All materials within the uppermost 3 feet of a pavement subgrade that exhibits a CBR value less than that stipulated in the pavement design shall also be

considered unsuitable. The locations and methods of treatment for unsuitable materials identified by the design-builder's qualified geotechnical engineer shall be shown on the design plans and cross sections. Saturated or very dry and/or loose or very soft coarse- and fine-grained soils that exhibit excessive pumping, weaving or rutting under the weight of construction equipment are also considered unsuitable unless they can be moisture conditioned through either mechanical or chemical means to an acceptable moisture content that allows adequate compaction to meet project specifications, and classification testing indicates they are not otherwise unsuitable. Topsoil, peat, coal and carbonaceous shale shall also be considered unsuitable material. All unsuitable material shall be disposed of and/or treated as discussed in Section 106.04 at no additional cost to the Department. Topsoil or other organic soils are also considered unsuitable for use in embankment fill other than as a cover for slopes for the purpose of establishing vegetative cover. When used as cover for slopes, the thickness of topsoil shall not exceed 12 inches.

2.6.4 Pipe Installation Methods

Culverts or utility pipes shall be installed by either conventional methods in accordance with Section 302.03 of VDOT's Road and Bridge Specifications, or Jack and Bore and/or by Micro-tunneling in accordance with the applicable Special Provisions contained in the RFP Information Package. Trenchless technology other than these methods of installation is not permitted unless otherwise approved by VDOT. The Design-Builder shall determine which of the methods of installation is best suited for the ground and site conditions where the work is to be performed and that will meet the design requirements of the proposed culverts or utility pipes. The Design-Builder shall be responsible to establish both the vertical and horizontal tolerances in support of the design. Such tolerances shall be noted on the construction plans. The design tolerance may be more stringent than what is called for in the both the Jack and Bore and Micro-Tunneling Special Provisions; however, under no circumstances shall the design tolerances used in design of either culverts or utility pipes exceed those specified in the VDOT Road and Bridge Specifications and the applicable Special Provisions. Performance requirements and tolerances stipulated in the Special Provisions shall also apply to conventional tunneling methods. If trenchless technology is used to complete roadway crossings, surface settlement monitoring must be performed to verify that there is no adverse impact on the stability and performance of the embankment and pavement structure above the pipe alignments in accordance with Section 302.03 of the VDOT Road and Bridge Specifications and the Special Provisions for Jack and Bore and/or Micro-Tunneling, as applicable.

2.7 Hydraulics

The Design-Builder shall provide and/or perform all investigations, evaluations, analysis, coordination, documentation, and design required to meet all Hydrologic and Hydraulic, Drainage, Stormwater Management, Erosion and Sedimentation Control, Stormwater Pollution Prevention, and Virginia Storm Water Management Program permitting requirements of the standards and reference documents listed in Part 2, Section 2.1.

2.7.1 Drainage

The drainage work shall include the analysis of the existing storm sewer systems and the design and construction of culverts, open channels, storm sewer systems, underdrains, adequate outfall analysis, stormwater management facilities, and erosion and sediment control measures in compliance with the standards and reference documents listed in Part 2, Section 2.1 and the VDOT Erosion and Sediment Control & Stormwater Management Programs. The Design-Builder shall be responsible for modifying existing drainage structures to accommodate the modified median barrier, the new grades of the overlaid pavement, and for ensuring that gutter flow spread does not exceed allowable criteria when the project is complete. The Design-Builder is also responsible analyzing the existing downstream storm sewer system to verify the adequacy of the outfall to accommodate the changes to the flow from the increased impervious area and cross slope changes. If necessary, the Design Builder shall upgrade storm sewer pipes and other drainage structures to provide adequate outfall.

The Design-Builder shall provide VDOT two (2) paper and two (2) electronic copies on compact disc (CD) of a final drainage report incorporating all drainage calculations including pre and post development discharges, capacities, and supporting data such as drainage areas (with maps), ground cover calculations, etc. in accordance with the documentation requirements as outlined in the VDOT Drainage Manual.

Preliminary spread computations are included in the Drainage, SWM and Outfall Analysis (RFP Concept) report which is included in the RFP Information Package. Inside shoulder widths based on the conceptual design are also available. The Design-Builder shall complete revised spread computations based on the final design in accordance with the VDOT Drainage Manual. For the shoulder-use lane, the Maximum Design Spread Width shall be the shoulder width plus three (3) feet throughout.

For the purpose of developing the Price Proposal, the Offeror shall assume that the drainage pipes and culverts within the Project limits which are a functional element of the proposed final drainage design, are in a serviceable condition. Offerors should note that none of the existing pipes and culverts within the project limits has been surveyed for structural and functional deficiencies. If after award the Design-Builder determines that the serviceability and functionality of the existing pipes and culverts requires rehabilitation or replacement of some or all of the structures, then it shall be done only with VDOT's approval under work order. The Design-Builder shall assess the serviceability of the structure by performing a visual/video inspection of the existing pipes and culverts utilizing the assessment criteria for Post Installation Inspections presented in VDOT Supplemental Specification 30204. The Design-Builder will provide VDOT with an inspection report documenting the assessment as prescribed in the supplemental specification. Drainage pipes and box culverts deemed repairable shall be rehabilitated in accordance with VDOT's guidelines including, but not limited to those methods outlined in the latest version of IIM-LD-244 and Special Provisions for Pipe Replacement and Pipe Rehabilitation.

Underdrain outfall locations are not shown on the RFP Conceptual Plans included and it shall be the responsibility of the Design-Builder to develop the underdrain design including adequate outfall locations. The Design-Builder may, at its discretion, utilize access structures (i.e. manholes, cleanouts, etc.) in lieu of EW-12's in order to outfall an underdrain according to the guidelines set forth in the 2008 VDOT Road and Bridge Standards and the VDOT Drainage

Manual while maintaining the ability for the underdrain to be accessed in the future for maintenance purposes.

2.7.2 Post-Construction SWM, SWPPP and ESC Plans

The Department will acquire in advance the Virginia Stormwater Management Program (VSMP) Construction Permit for this Project based on the RFP Conceptual Plans land disturbance limits. Any changes to land disturbance limits shown on the RFP Conceptual Plans, proposed by the Design-Builder based on their unique design concept, may require modification of the VSMP Construction Permit. Any modification to the VSMP Construction Permit that was acquired by the Department shall be responsibility of the Design-Builder.

It shall be the responsibility of the Design-Builder to have a qualified person within their team structure, other than the ESC and post construction SWM Plan designer, who is authorized by the Department of Environmental Quality (DEQ) (previously Department of Conservation and Recreation) to perform plan reviews, independently review and certify that the ESC Plans and Narrative and post construction SWM Plan for the Project are in accordance with VDOT's Approved ESC and SWM Standards and Specifications. The Design-Builder, as part of their final design, shall validate the VDOT submitted SWM, SWPPP, and ESC plans. Before implementing any ESC or post construction SWM measures not included in VDOT's approved ESC and SWM Standards and Specifications, a variance or exception respectively must be requested through the District Drainage Engineer in accordance with the latest versions of IIM-LD-11 and IIM-LD-195.

Design-Builder shall provide a completed SWPPP Certification form (LD-455E) before commencement of any land disturbing activity and shall complete and include the SWPPP General Information Sheets in the plan assembly per the latest version of IIM-LD-246. The SWPPP Certification form (LD-455E) and SWPPP General Information Sheets shall be updated with each work segment submittal as necessary. The Design-Builder shall be responsible for compliance with construction-related permit conditions and shall assume all obligations and costs incurred by complying with the terms and conditions of the permit. Any fines associated with permit or regulatory violations shall be the responsibility of the Design-Builder. Upon completion of the entire regulated land disturbing activity (including final stabilization of all disturbed areas), the Design-Builder shall provide as built Permanent Best Management Practice (BMP) information in Section VI of the SWPPP General Information Sheets for each post construction BMP placed into service on the project, complete and sign the VSMP Construction Permit Termination Notice form (LD-445D) and submit both documents to the VDOT Project Manager for processing. The Design-Builder shall also have on-site during any land disturbing operations an individual or individuals holding a DCR Inspector Certification, a DCR Responsible Land Disturber (RLD) Certification and a VDOT Erosion and Sediment Control Contractor Certification (ESCCC) to ensure compliance with all DCR and VDOT erosion and sediment control plan implementation requirements.

Effective July 1, 2013 the administration of the Virginia Erosion and Sediment Control and Stormwater Management regulatory programs was transferred from the Virginia Department of Conservation and Recreation (DCR) to the Virginia Department of Environmental Quality

(DEQ). References and links to DCR manuals and documents contained herein may no longer be correct as these programs are being transferred between the State agencies. The erosion and sediment control certification requirements shall still apply, but with the DEQ having oversight over the certification program beginning July 1, 2013.

If the Design-Builder is required to modify and acquire the VSMP Construction Permit, then the following shall apply:

An Erosion and Sediment Control (ESC) Plan and Narrative, Stormwater Pollution Prevention Plan (SWPPP), and a post construction Stormwater Management (SWM) Plan shall be prepared and implemented by the Design-Builder in compliance with applicable requirements of the standards and reference documents listed in Part 2, Section 2.1 including the Virginia Erosion and Sediment Control Law and Regulations and the Virginia Stormwater Management Program (VSMP) Law and Regulations.

~~It shall be the responsibility of the Design-Builder to have a qualified person within their team structure, other than the ESC and post construction SWM Plan designer, who is authorized by the Department of Environmental Quality (DEQ) (previously Department of Conservation and Recreation) to perform plan reviews, independently review and certify that the ESC Plans and Narrative and post construction SWM Plan for the Project are in accordance with VDOT's Approved ESC and SWM Standards and Specifications. Before implementing any ESC or post construction SWM measures not included in VDOT's approved ESC and SWM Standards and Specifications, a variance or exception respectively must be requested through the District Drainage Engineer in accordance with the latest versions of IIM-LD-11 and IIM-LD-195.~~

The Design-Builder shall complete and submit the ESC and SWM Plan Certification form (LD-445C) to the VDOT Project Manager. The Design-Builder shall provide VDOT two (2) paper and two (2) electronic copies each on CD of the final ESC Plan and Narrative, SWPPP and post construction SWM Plan incorporating all calculations, analysis, documentation and evaluations required. The ESC Narrative shall specifically include calculations (with supporting data) documenting that the design meets the adequate outfall requirements of the VSMP Regulations for each location where stormwater is discharged from the Project.

The land-disturbing activity for the Project is greater than 2,500 square feet and coverage under the VSMP General Construction Permit For The Discharges From Construction Activities (VSMP Construction Permit) is required. The Design-Builder shall coordinate and submit the required permit coverage application information to the VDOT Project Manager. The Design-Builder shall complete the applicable sections of the VSMP Construction Permit Registration form (LD-445), VSMP Construction Permit Contact Information (LD-445A), VSMP Construction Permit Fee Registration form (LD-445B). These forms along with the completed ESC and SWM Plan Certification form (LD-445C) shall be submitted to the VDOT Project Manager. The VDOT Project Manager will review the submitted information and, if complete and acceptable, process a request for coverage under the VSMP Construction Permit in accordance with VDOT's guidelines as outlined in the latest version of IIM-LD-242.3. If any information submitted by the Design-Builder is found to be incomplete and/or unacceptable, the

assembly will be returned to the Design-Builder for corrective action and resubmission. The Design-Builder will be the Permittee and shall be responsible for all permitting fees.

A working conceptual ESC and post construction SWM Plan and SWPPP for the entire Project must be submitted for review and approval with the initial application for permit coverage. This initial conceptual Plan submittal shall include the proposed total expected Land Disturbance Area and Land Development Area, including any off-site facilities, for the entire Project. Where the Project will be constructed in segments, the Design-Builder shall submit a finalized ESC Plan, a post construction SWM Plan and a SWPPP, including the expected Land Disturbance Area, for the proposed initial work segment in addition to the conceptual plan for the entire project. It is expected that the individual work segment submittals will be self-sustaining and not incur a deficit in post construction SWM design requirements requiring mitigation on future work segments. Subsequent work segment submittals shall include required modifications to the Land Disturbance Area value. However, these modifications, in total, shall not exceed the initially submitted Land Development Area value. The Design-Builder shall not proceed with work to be covered by the permit until permit coverage is secured and the VDOT Project Manager releases the work in writing. It is noted that permit coverage, and subsequent release of work, can take up to 90 days from the time that the Design-Builder submits a request for coverage that includes all required information. This represents a hold point in the Design-Builder's CPM Schedule. ~~Design-Builder shall provide a completed SWPPP Certification form (LD-455E) before commencement of any land disturbing activity and shall complete and include the SWPPP General Information Sheets in the plan assembly per the latest version of HM-LD-246. The SWPPP Certification form (LD-455E) and SWPPP General Information Sheets shall be updated with each work segment submittal as necessary. The Design-Builder shall be responsible for compliance with construction related permit conditions and shall assume all obligations and costs incurred by complying with the terms and conditions of the permit. Any fines associated with permit or regulatory violations shall be the responsibility of the Design-Builder. Upon completion of the entire regulated land disturbing activity (including final stabilization of all disturbed areas), the Design-Builder shall provide as built Permanent Best Management Practice (BMP) information in Section VI of the SWPPP General Information Sheets for each post construction BMP placed into service on the project, complete and sign the VSMP Construction Permit Termination Notice form (LD-445D) and submit both documents to the VDOT Project Manager for processing. The Design-Builder shall also have on-site during any land disturbing operations an individual or individuals holding a DCR Inspector Certification, a DCR Responsible Land Disturber (RLD) Certification and a VDOT Erosion and Sediment Control Contractor Certification (ESCCC) to ensure compliance with all DCR and VDOT erosion and sediment control plan implementation requirements.~~

~~Effective July 1, 2013 the administration of the Virginia Erosion and Sediment Control and Stormwater Management regulatory programs was transferred from the Virginia Department of Conservation and Recreation (DCR) to the Virginia Department of Environmental Quality (DEQ). References and links to DCR manuals and documents contained herein may no longer be correct as these programs are being transferred between the State agencies. The erosion and sediment control certification requirements shall still apply, but with the DEQ having oversight over the certification program beginning July 1, 2013.~~

2.7.3 Post-Construction Stormwater Management Facilities

The Design-Builder shall be responsible for the design and construction of stormwater management facilities as required for the Project in accordance with the latest version of IIM-LD-195, and the other standards and reference documents listed in Part 2, Section 2.1 including the Virginia Stormwater Management Program Law and Regulations, and shall comply with the minimum geotechnical requirements contained therein. ~~VDOT has identified potential locations for post construction stormwater management facilities as part of the RFP Conceptual Plans. These locations are suitable for underground manufactured BMP devices. Also, these locations are preliminary and have not been fully evaluated to determine if these locations are suitable, feasible or sufficient to address all of the stormwater management requirements of the Project. The Design Builder, as part of their final design, shall evaluate these locations, and if found acceptable, develop a final post construction stormwater management plan. VDOT approval will be required during the final design for the type and location of the BMP facilities.~~

~~If any of the locations are found to be unacceptable, the Design Builder must identify other acceptable location(s) to meet the post construction stormwater management requirements of the Project. The Design Builder is to insure proper ingress and egress to any stormwater management facility and that any specific proprietary facilities have proper maintenance details included in the project plans. When a stormwater management basin is located outside limited access fencing, maintenance access should be provided from a separate public road where economically feasible. When maintenance access can only be provided from a limited access roadway, a locked gate shall be provided.~~

Preliminary stormwater management analysis is part of the Drainage, SWM, and Outfall Analysis report included in the RFP information package. Based on the RFP conceptual plans and drainage report, the Department will purchase nutrient offset credits for 2.7 acres of total impervious area within the disturbed area. The Design-Builder, as part of their final design, shall validate the preliminary calculations shown in the drainage report and develop the final SWM design; and if found acceptable, develop the final post construction stormwater management plan. Any deviations from the nutrient offset credits purchased shall be addressed by the Design-Builder and associated cost included in their Price Proposal.

2.7.4 Other Drainage Requirements

All drainage facilities (existing and newly constructed) within the Project area that are disturbed or extended as a part of the Project and are functional elements of the final design shall be rendered in a serviceable condition. Accumulated debris resulting from construction activities shall be removed by the Design-Builder, as such maintaining the original line and grade, hydraulic capacity or construction of the facility prior to the final acceptance of the Project.

2.8 Traffic Control Devices

The Project shall include all Traffic Control Devices (TCD), including temporary and permanent installation of the following: signage, guardrail, pavement markings/markers and

delineation. All TCD designed and installed under the Project shall be in accordance with standards and references in Part 2, Section 2.1. The Signing and Pavement Marking Plans, Transportation Management Plan (TMP), including Temporary Traffic Control/ Public Information and Traffic Operations Plans are required from the Design-Builder for final approval by VDOT and shall be included as a planned work package. The Design-Builder shall comply with the Special Provision for Personnel Requirements for Work Zone Traffic Control and the Special Provision for Work Zone Traffic Control Management, Design-Build Projects.

All existing TCD impacted by the Project shall be modified, upgraded, or replaced by the Design-Builder to meet current VDOT standards.

2.8.1 Signs

The Design-Builder shall be responsible for modifications to existing signs and sign structures, and furnishing and installing all required new temporary and permanent signs and structures and removal of existing bridge mounted signs as noted in Part 2, Section 2.3.2.10. The final lines of sight and sight distances must be considered in the placement of all Project signage.

An existing sign inventory shall be completed prior to site demolition in accordance with the VDOT Traffic Engineering Design Manual. This existing information shall be submitted at the same time as the first plan submittal for proposed signing.

All signs and sign structures to be removed during the construction of the Project shall be disposed of by the Design-Builder. All sign structures and non-salvageable signs removed during construction should be disposed of by the Design-Builder. Temporary relocation of signs may be necessary as part of this Project and it is the responsibility of the Design-Builder to perform all the required sign relocations.

All proposed overhead signs shall be illuminated in accordance with Part 2, Section 2.8.4 – Lighting.

.1 Limits of Project Signing

The Design-Builder shall replace all existing ground mounted and overhead mounted signage impacted by the Project and install new signing within the Project limits. Any signing on adjacent roadways beyond the project limits that require relocation, replacement, or modification due to the proposed design shall be the responsibility of the Design-Builder.

.2 Signing Plan Requirements

The signing plans shall be prepared at a one (1) inch = fifty (50) feet scale when plotted full size at thirty-five (35) inches by twenty-three (23) inches. The signing plans shall show the proposed sign message, MUTCD or Virginia Supplement sign designation (if applicable), size and location of all signs. The structure type used for mounting sign shall be noted on the signing plans. These signing plans shall show the location and messages of all existing signs. All existing sign removals and relocations shall be shown on the signing plans. The signing plans

also shall include the location and type of delineation devices (including recessed pavement markings, pavement markings and markers, post- and barrier-mounted delineators).

.3 Design of Sign Panels and Locations

Proposed and replaced sign panels shall be in accordance with the VDOT 2007 Road & Bridge Specifications and other references in Part 2, Section 2.1. Overhead sign structures shall be located, designed, fabricated, and constructed in accordance with applicable standards and specifications. The Design-Builder shall coordinate all sign locations with all proposed and existing signing, landscaping, fencing, signals, utility, drainage, and all other roadside features to assure proper clearances and adequate sight distances. Sign sizes shall adhere to the latest edition of the FHWA Standard Highways Signs Book, the current edition of the MUTCD, the 2011 Virginia Supplement to the 2009 MUTCD, and all applicable Traffic Engineering Division Numbered memoranda. All Advance Guide Signs shall be mounted on overhead sign structures; Supplemental Guide Signs may be ground mounted. No guide signs shall be mounted on bridges.

The Design-Builder shall use Standard VDOT sign structures for new and relocated VDOT owned signs. Ground-mounted VDOT sign structures on Interstate 495 shall use Standard SSP-VIA or SSP-VA structures, unless otherwise approved by VDOT. For all non-standard signs, the Design-Builder shall use GUIDSIGN software to design the sign panels. The Design-Builder shall utilize the current edition of the MUTCD, 2011 Virginia Supplement to the 2009 MUTCD, the FHWA's Standard Highway Signs including Pavement Markings and Standard Alphabets to design all non-standard signs that do not have a MUTCD or VDOT standard sign designation. The Clearview font shall only be utilized for all positive contrast guide signs in accordance with the 2011 Virginia Supplement to the 2009 MUTCD and applicable Traffic Engineering Division Numbered Memoranda. Overhead signage shall be illuminated using luminaire retrieval system in accordance with VDOT Road and Bridge Standards. Use of a LED illumination system will not be permitted.

2.8.2 Guardrail/Barrier

The Design-Builder shall ensure that the clear zone within the Project limits is free from hazards and fixed objects. In the event that removal or relocation of hazard and fixed objects from the clear zone is not feasible, the Design-Builder shall design and install an approved guardrail barrier system and end treatments, where appropriate, for protection in accordance with NCHRP 350 or AASHTO Manual for Assessing Safety Hardware, First Edition. The same clear zone requirement applies to existing conditions affected by this Project where guardrail upgrade will be required. Existing sub-standard guardrail within the Project Limits must be upgraded by the Design-Builder to meet current standards per I&IM 220. This may require the upgrade of guardrail to the nearest logical termination point beyond the current Project limits.

Fourteen (14) days prior to installation of guardrail the Design-Builder shall request VDOT field verification of the proposed layout. Accompanied by the Design-Builder, VDOT representative will inspect the locations and advise on any necessary adjustments. Additionally, the Design-Builder shall provide a copy of the manufacturer's recommendations for installation

of all guardrail terminals to the VDOT Project Manager before the installation of any guardrail end treatment of terminating device.

2.8.3 Concrete Median Barriers

Median Barrier Reconstruction

This scope of work shall consist of reconstructing the existing median barrier to provide for the construction of new foundations for sign structures at the locations shown on the RFP Conceptual Plans. Reflective marking tape shall be placed on the barrier at the locations where the median widens to accommodate for structural foundations.

Median Barrier Modification

The existing median barrier shall be replaced or modified to meet current standards ~~for shape~~. At locations of new sign structure installation, the Design Builder shall install new Median Barrier with proper transitioning. In addition, the Median Barrier, in areas that require cross slope correction, shall be evaluated and upgraded to meet the current Median Barrier standards. If the Design Builder decides to modify the barrier, it ~~The median barrier~~ shall be modified based on the details provided in the RFP Conceptual Plans and as described for the following locations:

Double Faced Barriers shall be modified on both the northbound and southbound sides

Single Faced Barriers shall be modified on the northbound side

Bifurcated Barriers shall be modified on the northbound side

For barriers to be modified, the Design-Builder shall verify whether or not all junction boxes and appurtenances in the median barrier are live and operational. If found to be operational, the barrier modifications shall incorporate the junction boxes/appurtenances into the new shape. If found to be not in operation, the Design-Builder shall replace the junction boxes/appurtenances with a crash worthy barrier section.

Existing median barrier concrete surfaces shall be thoroughly cleaned by shot-blasting or power washing. All spalled or delaminated areas on the existing median barriers shall be repaired prior to the barrier modifications.

All hardware including expansion bolts, dowels, anchors, and welded wire fabric shall either be galvanized or stainless steel. Dowels or anchors shall be used to provide a positive connection between the existing median barrier and new concrete. Spacing and size of dowels/anchors shall be approved by the Engineer.

The median barrier modifications shall be designed, detailed, constructed, and cured in a manner that will minimize cracking. The Design-Builder shall be responsible for repairing all cracks with a size-range of 0.008 inches to 0.012 inches with injection of crack repair material. If the number of cracks ranging in size between 0.008 inches to 0.012 inches is greater than four cracks per ten-foot section, then the entire 10-foot section of barrier modification shall be

removed and replaced. Furthermore, sections of barrier modifications exhibiting cracks larger in size than 0.012 inches shall be removed and replaced (minimum length of barrier modification to be removed and replaced shall be 5 feet).

The Design-Builder shall remove existing glare screens and shall install new glare screens to meet current height and spacing requirements on the Northbound and Southbound median barriers within the project limits. ~~Existing glare screens that do not meet current requirements shall be removed and replaced.~~ Glare screens shall be in conformance with the Special Provision for Glare Screens. The Design Builder shall conduct and provide an analysis justifying the size of the glare screens and shall highlight any sight distance issues (if any) that glare screens may cause. The analysis shall be approved by the department before installation of glare screens.

Movable Median Barrier

The Design-Builder shall furnish and install a movable median barrier system in accordance with the Special Provision for Movable Barrier. The Design-Builder shall provide the VDOT Project Manager a copy of the manufacturer's recommendations for installation of the movable median barrier and the proposed location, which shall be reviewed and approved by VDOT, prior to its installation.

2.8.4 Pavement Markings/Markers

The Design-Builder shall include all required pavement markings, markers, and delineators. Pavement markings, markers, and delineators shall conform to the requirements of the MUTCD, the 2011 Virginia Supplement to the 2009 MUTCD, and applicable special provisions. All pavement marking plans shall be in accordance with VDOT Traffic Engineering Design Manual, dated 2011. All edge lines and skip lines along I-495 and ramps serving I-495 shall be 6" in width unless otherwise specified in the VA Supplement to the 2009 MUTCD. All edge lines, centerlines, and skip lines shall be Type B, Class VI on I-495 and ramps serving I-495. Pavement markers shall be installed on I-495 and interchange ramp(s) in accordance with VDOT's Road and Bridge Standards and the Traffic Engineering Manual. Proposed pavement markings, markers, and delineators shall be shown on the Signing and Pavement Marking Plans.

All new lane markings, edge lines, and center lines (with the exception of the of the limits of the Scotts Run Bridge) shall be supplemented with snow-plowable raised pavement markers. Slow-plowable markers shall not be installed on Scotts Run Bridge. All permanent snow-plowable raised pavement markers shall be installed in accordance with VDOT Standard PM-8 and/or PM-9. Damaged existing snow-plowable raised pavement markers within the Project limits shall be replaced in accordance with VDOT Standard PM-8 and/or PM-9.

2.8.5 Lighting

The Design-Builder shall be responsible for the design and construction of sign lighting for all signs mounted on overhead span, cantilever or butterfly sign structures. All static signs or signs which are primarily static that may have dynamic components shall be lighted.

Signs which are entirely dynamic shall not be lighted. Any necessary coordination with local utility companies shall be performed by the Design-Builder.

The lighting systems shall be designed in accordance with VDOT's Traffic Engineering Design Manual, AASHTO Roadway Lighting Design Guide dated October 2005, the American National Standard Practice for Roadway Lighting publication (RP-8-00) prepared by the American National Standards Institute (ANSI) and the Illuminating Engineering Society of North America (IESNA) and in accordance with state and local requirements.

The lighting design shall meet the Illuminance criteria in RP-8-00. The lighting systems shall be constructed in accordance with the current edition of VDOT's Road and Bridge Standards, Road and Bridge Specifications and the requirements of the National Electric Code.

Luminaire retrieval systems and high pressure sodium luminaires shall be provided for all sign lighting installations in accordance with VDOT standards.

The Design-Builder may utilize new or existing electrical service feeds for sign lighting. Electrical service feeds and electrical systems for sign lighting shall be independent of electrical service feeds and electrical systems for other components of the project, such as ITS. Existing electrical feeds and branch circuits may be used with VDOT approval and the Design Builder shall demonstrate that all existing electrical equipment has the capacity to handle the new electrical load. Voltage drop calculations not exceeding 3% shall be provided for branch and feeder circuits for new or existing lighting system(s). New electrical service feeds and lighting systems may use single or multiple electric service feeds. Base mounted or pole mounted control centers will be permitted depending on the total load being served, at the discretion of VDOT.

All electrical conductor cables for the lighting system(s) shall be installed in conduit and junction boxes; no direct burial cable allowed. Power cables and communication cables shall be in separate conduit systems. The lighting systems will require Equipment Grounding Conductors, sized to match the largest feeder conductor cable, in non-metallic conduits in accordance with Article 250 of the National Electric Code. The smallest wire size allowed in any feeder or branch circuit is # 8 AWG.

The Design-Builder shall submit to VDOT for review and approval point-to-point lighting analysis and photometric calculations of the illuminated signs, using AGI-32 software. VDOT sign lighting tables may be used instead of point-to-point lighting analysis and photometric calculations.

Signs requiring sign lighting which are mounted on structures located in the median of I-495 will require a conduit crossing from the outside right shoulder to the median. These conduit crossings shall follow the requirements of Part 2, Section 2.9.4 - Conduit Systems for Fiber Optic and ITS Infrastructure. ITS and lighting conduits and cables shall be kept separate.

2.9 Intelligent Transportation System Infrastructure Components

The Design-Builder shall be responsible for providing design, installation, relocation, maintenance until final acceptance, integration, testing, documentation, and final submission of As-Built plans for the ITS infrastructure components.

The Design-Builder shall design, install, coordinate with utility providers, pay for new service, test, energize, document, submit As-Built Plans, maintain and compensate the utility company for power consumption until final acceptance for electric system for this Project. The Design-Builder has the option of proposing centralized SE-9, individual SE-5 or a combination design using public utility providers. Use of a solar solution as a permanent power source will not be permitted for this Project.

The Design-Builder shall be responsible for all infrastructure components, including dedicated fiber, installed and/or modified by the Project until final acceptance by VDOT. Prompt response is required to any damage caused by the Design-Builder and in the event the repair isn't completed 2 hours prior to the next traffic peak, VDOT will use its maintenance Contractor to restore critical systems and charge the Design-Builder. The cost of repair work performed, plus twenty-five percent (25%) for supervisory and administrative personnel, will be deducted from monies due to the Design-Builder for the Project in accordance with Part 4, Section 2.11.

Where existing ITS infrastructure components could otherwise be reused, the Design-Builder shall investigate, verify, and accept the working condition of the devices prior to commencing work and accepting responsibility for the devices. The Design-Builder shall be responsible for bringing existing infrastructure that may be reused into full compliance with the Technical Information and Requirements, and Special Provisions listed in Part 2, Section 2.1 for this Project. For existing ITS devices that cannot be reused, the Design-Builder shall salvage the devices intact and deliver to VDOT Northern Region Operations (NRO) Maintenance at 8010 Mason King Court, Manassas, VA 20109 after making arrangements 48 hours in advance by calling Mr. Mark Hagan at (703) 334-0203.

The Design-Builder shall avoid and minimize disruption to existing ITS systems, devices and network. The additions to the fiber ITS communications network and interface shall seamlessly reside and be fully interoperable with the legacy network.

The communication plans/network diagrams are classified as Critical Infrastructure Information (CII) and Sensitive Security Information (SSI). Offerors desiring to obtain copies of the communication plans/network diagrams must complete a CII/SSI Non-Disclosure Agreement Form (Attachment 11.8.8) as prescribed in Part 1, Section 11.8.8 of the RFP. More information on CII and SSI process is available on VDOT website.

2.9.1 Fiber Optic Cable System

The work shall consist of furnishing and installing new fiber optic drop cables to support ITS components. All fiber optic drop cables will have a minimum of 12 fibers. The Design-Builder shall be responsible for the design, installation, testing, and maintenance of the new fiber extensions to be active for the duration of construction, with final acceptance by VDOT upon

Project completion. ~~Multiple Fiber Optic crossings of I-495 will not be permitted.~~ The Design-Builder shall link to VDOT legacy ITS communications network.

VDOT will set aside existing fiber optic dedicated exclusively for use by the Project, which shall be the responsibility of the Design-Builder to test, accept, and maintain for use for the duration of construction. The dedicated fiber consists of several segments between existing cabinets and splicing will be required if a continuous fiber line is desired.

All underground fiber optic cable shall be installed in new or existing conduit in accordance with the details provided in the RFP and VDOT standards; no aerial or direct buried fiber will be permitted. Use of the backbone fiber optic conduit will not be permitted; however, other conduits may be used if spare capacity exists based on NEC criteria with no warranty of any kind by VDOT. Fiber optic cable shall be installed separately and must never be intermingled with power conductors in pull boxes, manholes, junction boxes, vaults, or conduit. Fiber optic cable shall only be terminated at cabinet termination/patch panels and devices with no splicing permitted in either pull boxes or vaults.

The fiber optic cable shall be all-dielectric, dry-filled, loose-tube, dispersion-unshifted, single-mode fiber (SMF) with low water peak, gel free, and suitable for underground (i.e., in conduit) and aerial outside plant installation. All fiber optic cable shall be splice-compatible with VDOT's existing dispersion-unshifted SMF and require no electronic equipment for dispersion compensation between new and existing fiber. All components that comprise a single length of cable shall be continuous and shall be of the same material. Commercial off-the-shelf materials, equipment, and components shall only be furnished.

The Design-Builder shall install and splice the Fiber Optic system in accordance with the Special Provisions listed in Part 2, Section 2.1.

2.9.2 Cabinets

The work shall consist of furnishing and installing the power and field equipment cabinet components in accordance with the Technical Information and Requirements and Special Provisions listed in Part 2, Section 2.1. Power and field equipment cabinet consists of cabinet enclosure and associated ancillary items. All cabinet installations shall be ground-mounted on concrete foundations in accordance with VDOT Road and Bridge Standards CF-3.

Equipment cabinets are used for housing power distribution and disconnect, ITS equipment, and network devices including, but not limited to, Ethernet switches, device/terminal servers, digital video encoders, CCTV interface panels, DMS controllers, vehicle detector interface assemblies, transient voltage surge suppressors, uninterruptible power supplies, shoulder lane monitoring system components and fiber optic cable termination/patch panels.

Where existing cabinets have equipment that may be abandoned, the Design-Builder shall investigate, verify, and accept the working condition of the devices prior to commencing work and accepting responsibility for the cabinet. The Design-Builder shall be responsible to bring existing cabinets and infrastructure that may be reused to be fully compliant with the Technical

Information and Requirements and Special Provisions listed in Part 2, Section 2.1 for this Project. The Design-Builder shall be responsible for ensuring and demonstrating that any active components remaining in reused cabinets remain in operation without interruption or deviation.

The Design-Builder shall furnish and install primary transient voltage surge suppression (TVSS) in each equipment cabinet for all ITS devices connected directly or remotely to protect the equipment from lightning, transient voltage surges, and induced current. This also includes connecting the primary surge protection at the service entrance or main disconnect.

ITS equipment cabinets shall be installed with proper access for maintenance, and shall not be installed in the median. Equipment cabinets for dynamic message signs and lane control signals shall be ground mounted and placed approximately 100 feet in advance of the device so that the displayed messages can be clearly observed from the cabinet.

The Design-Builder shall establish and maintain a work history log for each cabinet for the duration of the Project. These logs will be used to document access, progress, and work history at each cabinet.

2.9.3 Uninterruptible Power System

This work shall consist of furnishing and installing Uninterruptible Power Systems (UPS) for ITS devices at locations in accordance with the Technical Information and Requirements, Special Provision listed in Part 2, Section 2.1, and the RFP Conceptual Plans.

UPS assembly shall provide complete non-interruptible power protection, voltage regulation, and surge and spike protection for all ITS devices and communications equipment powered by it. The UPS shall instantly transfer the cabinet to the battery back-up mode in the event the main AC power source goes offline. The UPS shall be a commercially available package containing all wiring connectors, software, mounting brackets, and cables. The UPS assembly shall consist of a UPS with sealed batteries, surge suppression, LED status indicators for “On-line,” “Battery On,” “Replace Battery,” and “Overload,” customizable output relays and input contacts, and network management cards (IP addressable).

The UPS shall include remote monitoring and control functions with a software/firmware package that is Microsoft web-based and, at a minimum, provides the ability to determine in real time the status of the commercial power (on-off), backup power (on-off), the duration of available UPS backup battery time at the rated UPS load (hours/minutes), and any errors.

The UPS shall be of sufficient design to fully operate all ITS devices and communications equipment it powers for a minimum of four (4) but no greater than eight (8) hours. Longer battery runtimes shall be utilized based on the life safety roles served by devices. The Design-Builder shall be responsible for determining the appropriate size/capacity of the UPS, but in no case shall the UPS be smaller than 2.3KVA. The Design-Builder shall be responsible for providing a portable generator hookup where power demand and cabinet constraints outweigh minimum battery runtime capacity.

The Design-Builder shall install and integrate UPS components in the respective designated ITS Controller Cabinets, in accordance with the electrical requirements for the respective Cabinet Specifications.

2.9.4 Conduit Systems for Fiber Optic and ITS Infrastructure

Conduit systems for fiber optic infrastructure shall follow the IIM-LD-230.1 Fiber Optic Instructional and Informational Memorandum. ITS devices that are mounted in the median, such as Lane Control Signals, will require a conduit pathway from the device cabinet on the outside right shoulder to the median where the device is located. Junction boxes, splice boxes or manholes shall not be located in the shoulder travel lane. Junction boxes, splice boxes or manholes may be located in any available shoulder adjacent to the shoulder travel lane. Any junction boxes, splice boxes or manholes located in available shoulder shall be entirely in the shoulder and shall be rated for deliberate traffic use. An alternative installation is for the conduit pathway to terminate in the concrete median barrier separating northbound and southbound I-495. The Design Builder shall reconstruct the median barrier as required to accommodate the conduit pathway, at the approval and direction of VDOT. Barrier mounted junction boxes shall be consistent with industry standards. ITS and lighting conduits and cables shall be kept separate.

2.9.5 ITS Communication and Power Upgrades

Existing ITS devices within the project limits which do not use fiber optic communications and/or hardwired electrical service shall be upgraded by the Design-Builder. The existing communications and electrical service may be phone, cellular or solar based, or other. The upgrades shall consist of installing all necessary infrastructure and network components for the complete communication, operation and integration of the existing device into VDOT's control system using fiber optic communications and hardwired electric service. All upgrades shall be design and constructed in accordance with the Technical Information and Requirements and Special Provisions listed in Part 2 for the Project. If any existing device, supporting equipment, infrastructure or network component is not compatible with the proposed upgrades, or is not in full compliance with the Technical Information and Requirements and Special Provisions listed in Part 2 for the Project, then the Design-Builder shall replace the component as required to meet compliance. Disruptions to existing ITS devices and systems shall be minimized to the fullest extent possible while completing upgrades.

2.10 Device Components of Intelligent Transportation System

The Design-Builder shall be responsible for providing design, installation, and maintenance until final acceptance, integration, testing, documentations, and final submission of As-Built plans for the device components.

The final placement of all ITS devices shall be located such as to be directly accessible from I-495 and such that maintenance activities can be performed on the device with limited temporary closure of travel lanes.

The Design-Builder shall provide VDOT with a sample unit or unit intended for spare parts of all ITS devices related to this Project (Video Encoder, Vehicle Detection, CCTV Camera, Lane Control Signal and Shoulder Lane Monitoring (SLMS Video Encoder and Fixed Mount Camera)) being installed for VDOT to use for software integration. The Design-Builder shall furnish such equipment to VDOT no later than twenty-one (21) days after award of Contract Execution.

All new ITS devices shall be recorded in the Asset Identification Table, included in the RFP Information Package. The information in the Asset Identification Table will be used to populate the NRO inventory database.

The Design-Builder shall be responsible for all ITS devices installed and/or modified by the Project until final acceptance by VDOT. Prompt response is required to any damage caused by the Design-Builder and in the event the repair isn't completed 2 hours prior to the next traffic peak, VDOT will use its maintenance Contractor to restore critical systems and charge the Design-Builder. The cost of repair work performed, plus twenty-five percent (25%) for supervisory and administrative personnel, will be deducted from monies due to the Design-Builder for the Project in accordance with Part 4, Section 2.11.

2.10.1 Closed-Circuit Television (CCTV) Cameras

The Design-Builder shall furnish and install closed circuit television (CCTV) color cameras in pressurized housings. The installed equipment shall provide unobstructed video images of the roadway, traffic, and other current conditions to the location of the adjacent CCTV camera at a minimum, respond to camera control commands from the operator, and transmit video images to remote locations.

The CCTV cameras shall produce clear, detailed, and usable video images of the areas, objects, and other subjects visible from a roadside CCTV field site. The CCTV cameras shall provide 100% visual coverage of the traffic conditions, LCS, and DMS within the project limits during all seasonal conditions. The video produced by the cameras shall be true, accurate, distortion free, and free from transfer smear, over-saturation, and any other image defect that negatively impacts image quality under all lighting and weather conditions in both color and monochrome modes. The camera enclosures shall minimize glare and provide overexposure protection for the cameras when pointed directly at the sun.

The cameras shall provide tilting and masking features including, but not limited to, programmable camera title, programmable preset titles for each preset position, and programmable privacy zones. The programmable titles shall be a minimum of 18 characters per line, and shall be capable of generating and superimposing lines of English language text on the video image/stream. The text messages shall be stored in non-volatile memory.

The CCTV cameras shall include an integrated pan/tilt mechanism capable of providing 360 degree continuous pan with a minimum 90 degree tilt range (i.e. 0 to -90 degrees); provide variable speed control; have a preset position return accuracy of ± 0.36 degree, or less than

0.10% or better; support a minimum of 64 presets; shall be capable of programmable tours; and include a minimum of eight programmable blackout privacy zones.

The CCTV cameras shall have a minimum 35X (Day/Night) motorized optical zoom lens with automatic iris and Electronic Image Stabilization (EIS). The lens shall be capable of automatic and manual focus and iris control. The lens depth-of-field shall provide a clear image of roadside areas under all lighting conditions and have a maximum aperture of f/1.6.

CCTV cameras used for Shoulder Monitoring shall be fixed and will not require a motorized pan/tilt or zoom mechanism; however, the lens shall be capable of automatic and manual focus and iris control and be fitted, as needed, with a filter to shield the camera from direct sun light. The Shoulder Monitoring fixed cameras shall be sufficient to allow for shoulder lane incident detection method selected by VDOT NRO.

2.10.2 Dynamic Message Sign (DMS)

DMS shall consist of either walk-in or front-access sign assemblies as defined below. Walk-in DMS units shall only be installed on span structures and front-access DMS units shall be installed on either span or butterfly structures. Two types of DMS units shall be utilized in this Project as defined below. Each sign shall be capable of displaying a message in color composed of any combination, upper/lower case letters A through Z, decimal digits 0 through 9, blank or space, punctuation marks, special characters, special graphics shapes editable by the user.

- Type 1 DMS shall be full color, full matrix with evenly spaced pixels, both vertically and horizontally nominally providing a maximum 35mm pixel pitch for an 18 inch high character on three lines of eighteen characters per line. Type 1 DMS shall be walk-in type.
- Type 2 DMS shall be full color, full matrix with evenly spaced pixels, both vertically and horizontally nominally providing a maximum 35mm pixel pitch for a 12 inch high character on three lines of thirteen characters per line. Type 2 DMS shall be front access type.

The DMS controller and circuit breaker shall be installed on the ground in the equipment cabinet, not overhead within the DMS assembly. The DMS controller software shall support NTCIP V2.35 and shall be backward compatible with VDOT's current version 1 of the NTCIP communication protocol and the functions and features contained within VDOT's existing TOC central control software.

2.10.3 Lane Control Signals

Lane Control Signals (LCS) shall be installed on new or existing overhead span or cantilever sign structures or signal pole and mast arm structures for shoulder lane control ~~at locations shown on the RFP Conceptual Traffic Plans.~~ The LCS shall be centered over the

shoulder lane and shall be installed so that two LCS are visible to a vehicle traveling in the shoulder lane at all times with a minimum of 500-foot spacing. LCS shall be subject to the DMS Special Provision in addition to the requirements provided herein and in the RFP Conceptual Plans. Each LCS shall be a minimum 4 feet square front-access assembly.

The LCS Displays shall be full color, full matrix with evenly spaced pixels, both vertically and horizontally nominally providing a maximum 35mm pixel pitch for width of five characters of 9 inches in height. Each LCS shall be capable of displaying a message composed of any combination, upper/lower case letters A through Z, decimal digits 0 through 9, blank or space, punctuation marks, special characters, special graphics shapes editable by the user as well as replicating MUTCD compliant Speed Limit signs, HOV symbols and lane control designations, including green down arrow, red “X”, and yellow arrow angled downward.

LCS shall be composed of a single panel for quick removal and replacement for repair. The cabling shall have a minimum six (6) feet of slack and mounting hardware shall be adjustable, such that moving the unit along the structure for future lane shifts is possible. Slack cable should be attached and stored on the structure next to the LCS. LCS shall be accessible and mounted in such a manner that a single unit can be removed and replaced in under 20 minutes by a qualified technician.

Each LCS shall have an individual controller and circuit breaker that shall be installed on the ground in the equipment cabinet and not overhead within the LCS assembly. The LCS controller software shall support NTCIP V2.35 and shall be backward compatible with VDOT’s current version 1 of the NTCIP communication protocol and the functions and features contained within VDOT’s existing TOC central control software.

Each LCS shall be equipped with a field control unit to continuously monitor communication to the central system. In the event of loss of communication, based on a user-defined time interval, the control unit shall blank out the LCS units to eliminate any conflicts in system display. Each LCS support shall have a unique number displayed on a static sign strapped to the upright post; the font height used for the gantry number shall be 10 inch minimum.

The LCS ITS equipment selection, shop drawings, and sample ITS equipment shall be provided to the Department for software integration no later than 21 days after Contract Execution.

2.10.4 One Line DMS

One line DMS units shall be mounted on existing static signs or new static signs being installed as part of this Project. One line DMS shall be subject to the DMS Special Provision in addition to the requirements provided herein and in the RFP Conceptual Plans. Each one line DMS shall be front-access surface mounted. A single type of one line DMS shall be utilized in this project as defined below.

- Type 3 One Line DMS units shall be amber in color, full matrix with evenly spaced pixels, both vertically and horizontally nominally providing a maximum 46mm pixel

pitch for a single line display width of 5 (5) characters 12 inches high. The unit shall have a maximum weight of 30 pounds and dimensions of approximately 2 inches thick, 4 feet wide by 1'-5" feet high. Multiple One Line DMS are permitted on a single sign panel.

One Line DMSs shall meet all of the specifications described in the Dynamic Message Sign Section of Part 2, Section 2.10.2, Special Provisions listed in Part 2, Section 2.1, and the RFP Conceptual Plans.

New One Line DMS units shall be uniform and visually consistent with existing One Line DMS units installed by VDOT Northern Region and be fully interoperable with the existing control software currently in use.

2.10.5 Vehicle Detection

The Design-Builder shall relocate existing vehicle detectors as shown on the RFP Conceptual Plans. Relocation shall include constructing new foundation(s) and relocating the existing device, cabinet, pole and other supporting equipment to the proposed location. New hardwired fiber optic communications and power shall be brought to the new location. Solar power and wireless communications will not be permitted. The Design Builder shall verify that all of the existing equipment is compatible with VDOT's central system software (ATMS) and meets all requirements of the RFP. If any or all equipment is not compatible with VDOT's central system software (ATMS), does not meet the requirements of the RFP or becomes damaged during the relocation, then the Design Builder shall furnish and install a new microwave vehicle detector meeting the requirements below and included special provisions.

The Design-Builder shall furnish and install microwave vehicle detection (MVD) system using nonintrusive high definition (HD) microwave radar vehicle detector capable of vehicle presence detection and traffic data collection in accordance with Part 2 and Special Provisions listed in Part 2, Section 2.1 and the RFP Conceptual Plans. The materials, equipment, and components shall be new, commercial off-the shelf products. Reconditioned equipment or system components shall not be used.

The MVD shall, at a minimum, produce vehicle presence, volume, speed, and occupancy data for each detected lane. Defining, configuring, adjusting, and programming detections parameters, zones, size, placement, and sensitivity shall be achievable by laptop computer both in the field and remotely. Once programmed the MVD shall not require periodic adjustments to the detection zones unless physical roadway conditions change, such as lane shifts or closures.

The Design-Builder shall furnish software that is compatible with NRO central system software (ATMS) and shared hardware platform. The software application shall provide PC desktop display of the detection zones and control of any vehicle detector connected to the network to conduct system setup, calibration, diagnosis, and data retrieval operations. All components of the vehicle detection system shall be fully compatible and operational with

NRO's central system software (ATMS) and offer an open API and software development kit available to VDOT at no cost for integration with third party software and systems.

2.10.6 Shoulder Lane Monitoring System

The Design-Builder shall furnish and install a Shoulder Lane Monitoring System (SLMS). The SLMS shall be capable of monitoring and alarming stationary objects or unusual conditions such as stopped vehicles, lost cargo, dead animals, wrong way driver, pedestrian in freeway, dense lane occupancy, low speed flow, high traffic volume, speed drop, and under speed. The SLMS shall be capable of detection along the length of the shoulder use lane, from the theoretical gore at the south end of the project to the end of the shoulder lane taper at the north end of the Project.

The SLMS system shall be based on advanced analytics that incorporate field of view pixel comparison technologies. Each field of view monitor by each unit shall be able to be divided into zones. Each alarm shall be capable of being uniquely identified and labeled based upon the alarm condition type, time and location.

The Design-Builder shall provide a Digital Video Encoder (DVE) that is imbedded with the analytics and processing required to detect the conditions listed above. The Design-Builder shall not provide a system that transmits video to a central location, as all processing and analytics shall be performed at the local level. The Design-Builder shall integrate the DVE with field-deployed fixed-position CCTV units.

The Design-Builder shall furnish and install a system to monitor the shoulder lane for anomalous conditions and to provide alarms that may be integrated into third party software including the NRO's central system software (ATMS).

The shoulder lane monitoring ITS equipment selection, shop drawings, and sample ITS equipment shall be provided to the Department for software integration no later than 21 days after contract award.

2.11 Network Components of Intelligent Transportation System

The Design-Builder shall be responsible for providing design, system engineering, installation, configuration and maintenance until final acceptance, integration, testing, documentations, and submission of As-Built plans for the devices in the project. Integration of the IP based fiber optic network with the NRO ITS network is the responsibility of the Design-Builder. Use of a wireless solution as a permanent network or devised link will not be permitted for this Project.

The Design-Builder shall avoid and minimize disruption to existing ITS systems, devices, and network. The addition to the fiber ITS communication network and interface shall seamlessly reside and be fully interoperable with legacy network.

2.11.1 Field Ethernet Switches

The Design-Builder shall furnish and install edge Ethernet communication switch manufactured by MOXA Model EDS 510A 3SFP-T or similar units from this model family that uses the MOXA Turbo Ring and Turbo Chain, self-healing Ethernet technology.

VDOT has applied for concurrence from FHWA though Public Interest Finding (PIF) to use the MOXA switch to match existing communication network equipment currently in use in NRO in order to minimize potential conflict. The PIF application is included in the RFP Information Package. The Design-Builder shall design in accordance with acceptance of this PIF. The approved PIF will be provided to the Design-Builder at Notice of Intent to Award.

Furnish and install an environmentally hardened, device-level managed field Ethernet switch (MFES). The MFES shall provide wire-speed fast Ethernet connectivity at transmission rates of 100 megabits per second or 1 gigabit per second from the remote ITS device installation location to the ITS network trunk interconnection point. The MFES shall support a minimum combination of 10 fiber optic and copper Ethernet ports as indicated in the Special Provision listed in Part 2, Section 2.1. At least three of the fiber optic ports shall be Gigabit-enabled allowing ring configuration as well as simultaneously connecting isolated/spur routes.

The ITS network administrator shall be able to manage each MFES individually or as a group/cluster for switch configuration, performance monitoring, and troubleshooting. These specifications require additional minimum management intelligence (i.e., Layer 2+) typical of most current industrial Ethernet deployments. The MFES shall include Layer 2+ capability providing architecture standardization, open connectivity (i.e., interoperability), bandwidth management, rate limiting, security filtering, and general integration management of an advanced Ethernet switching architecture.

The furnished MFES shall be fully compatible and interoperable with the ITS trunk Ethernet network interface, and the MFES shall support half and full duplex Ethernet communications. The MFES shall feature non-blocking on all ports, and the full-duplex operation shall have no collisions. The MFES shall have non-blocking, store, and forward switching. The MFES shall provide a selectable feature that redirects the fiber connectivity in cases where the fiber link from the head end is severed and the data to /from the MFES has an alternate fiber route path to maintain communications as a self-healing function.

2.11.2 Field Video Encoders

The Design-Builder shall furnish and install Digital Video Encoder (DVE) hardware to create a video-over-IP network system that will be integrated with central software decoding platforms. The Design-Builder shall provide digital video encoders that are fully compatible with NRO's central system software (ATMS) and existing software decoders. The Design-Builder shall furnish DVE units that utilize open source and commercially available software decoders including VLC and Apple QuickTime Media Player.

2.11.3 Network Configuration

The Design-Builder shall contact the VDOT Project Manager and coordinate network configuration control meetings with VDOT's networking staff prior to the installation of networking equipment and throughout the duration of installation and configuration efforts. The Design-Builder shall be responsible for configuring the equipment as approved by VDOT's Project Manager. This shall include any and all configuration settings required (including simple network management protocol (SNMP) management settings, port activation alarms, etc.). Monthly meetings shall begin at least one (1) month prior to the start of installation of this equipment and shall continue through at least one (1) month past the conclusion of testing and acceptance of installed equipment. Prior to commencing work, the Design-Builder shall develop a Requirements Definition Document (RDD) that will form the basis for the overall network architecture and design. It is expected that the Design-Builder will work closely with VDOT's networking staff to configure the network. The document will contain:

- Complete description of the proposed implementation of the access, distribution, and core layers for the Ethernet network as described in the RFP Conceptual Plans and Special Provisions listed in Part 2, Section 2.1;
- Development of an IP Design Scheme with ranges assigned to each node to be integrated by the Design-Builder;
- Proposed IP subnet definition and addressing including any and all masks;
- Proposed IP multicast configuration including multicast routing (i.e., protocol independent multicast (PIM) sparse or dense) and Rendezvous Point (RP) designation as necessary;
- Proposed Recommendations for failover and redundancy including network device power, supervisor cards, and network ports;
- Proposed configuration and guidelines for Virtual LAN assignments including management VLANs, device VLANs, and routing VLANs;
- Proposed configuration and guidelines for specific port assignments on each of the Layer 2 and 3 devices; and
- Proposed interface/integration points with the existing ITS network.

VDOT will provide the Design-Builder with an IP address range or ranges to use for developing the IP address scheme. The RDD shall be prepared by a qualified networking professional and approved by VDOT. The qualified networking professional shall be present during the installation and testing of the local area network as well as during system testing.

The Design-Builder shall install and secure the networking equipment in the field equipment cabinets and the MPSTOC as defined on the RFP Conceptual Plans, Part 2, and Special Provisions listed in Part 2, Section 2.1. Standards CAT 5E and optical fiber cables shall be used for each connection, as required in the Special Provisions listed in Part 2, Section 2.1.

Patch cables shall be defined as cables connecting a device to a patch panel, wall outlet, or another device. The patch panel provides a connection to permanently installed cabling generally.

The current VDOT Ethernet network consists of Field Hubs located throughout the region connected via a fiber optic trunk. Field devices are connected to the Hub site via distribution fiber in a ring topology. When the Design-Build Team installs a new Layer 2 hardened switch at a Hub facility, the new Layer 2 switch will act as the Ring Master for a new fiber ring that will provide a connection to Layer 2 hardened switches located at the field equipment cabinet for the new equipment to be installed under the Project.

VDOT will allocate four (4) fibers on the current distribution fiber for use to connect the new ring. The Design-Builder shall test, accept, and maintain the dedicated fiber for the duration of construction. Unused fiber shall be subject to testing and VDOT acceptance prior to the end of the Project.

At the MPSTOC, the Design-Builder shall furnish and install a minimum 24 port, Layer 2 switch that shall serve as a central terminus of the network of switches and devices installed under the Project. This switch shall meet or exceed the requirements of the Layer 2 network switch called for in Part 2 and Special Provisions listed in Part 2, Section 2.1. This switch shall serve as a demarcation point to permit the connection of servers and test work station to permit component and subsystem testing of field components via vendor supplied and open source central client-server software. This switch shall also be utilized to perform testing such as NTCIP and packet throughput test, and other testing as called for in Part 2, Section 2.12 and VDOT Special Provisions listed in Part 2, Section 2.1.1.

2.12 Inspection, Integration, and Testing of Intelligent Transportation System

Inspection, integration, and testing involve a three-tier sequential process that consists of Stand Alone functionality, System Operation, and Acceptance Testing as defined herein. Stand Alone Testing requires field acceptance at device, cabinet, communication hub and Traffic Management Center (TMC) levels in order to proceed to System Operational Testing. This Stand Alone Testing shall successfully demonstrate that users at the TMC can fully control all aspects of the ATM system before the Design-Builder can commence Acceptance Testing. The Design-Builder shall make arrangements for the witnessing of tests by VDOT staff or representatives by sending notification seven (7) days prior to scheduled test.

The Design-Builder shall furnish and install a test workstation running vendor-supplied software at MPSTOC. The Design-Builder shall be responsible for installing, configuring, testing and integrating all field equipment to the test workstation. The Design-Builder must demonstrate that all devices function as specified in the RFP Conceptual Plans and Special Provisions using the vendor software at the MPSTOC.

The Design-Builder shall be responsible for establishing and executing a plan for inspecting, integrating, and testing of all infrastructure and device components furnished and installed by the Project. The Quality Assurance Manager (QAM) shall be responsible for

ensuring that the inspection, integration, and testing plan established by the Design-Builder and approved by VDOT is properly executed, variances are reported and corrective actions are made.

The Design-Builder shall supply written test procedures for VDOT approval a minimum of thirty (30) days before testing can be started. The Design-Builder shall submit reports for all testing levels to verify procedures followed, results recorded, timetable, and action required. The testing report shall include relevant information such as calibration data of all test equipment, charts, graphs, evidence, photographs, failure analysis, corrective action, traceability and audit trail, with certification signature of both Design-Build Project Manager and QAM.

The Design-Builder shall perform preliminary Acceptance Testing over a fifteen (15) consecutive day period under real-world operation conditions prior to the Interim Milestone Completion date as set forth in Exhibit 1 to Part 3. This preliminary testing period shall ensure that the ATM system is capable of providing a beneficial use to the users of the roadway as determined by VDOT. The Design-Builder shall then perform the official Acceptance Testing after the Interim Milestone Completion date, over a sixty (60) consecutive day period. The system shall not lockup, fail, or crash due to use, operator entry of data, or equipment malfunction during the 60 days. Operators will record any deficiency as it occurs and VDOT may employ a third-party to inspect the system and record any deficiencies. Any system failure of Design-Builder supplied equipment or discovery of deficiency that causes a system failure shall be cause to halt and repeat Acceptance Testing in its entirety for another full 60-day period after correction of problem. The Design-Builder shall take this into consideration in the development of the Baseline Schedule, so as to ensure testing is complete and system accepted by Final Completion date set forth in Exhibit 1 to Part 3.

During Acceptance Testing, the Design-Builder shall respond to any issues within four (4) hours of notification from VDOT. All repairs shall be completed within 48 hours, with the exception of communication failures that shall be completed within 24 hours.

The Design-Builder shall provide manufacturer's warranties on all furnished equipment for material and workmanship that are customarily issued by the equipment manufacturer. The warranty period shall commence from successful completion of the official Acceptance Testing.

The Design-Builder shall provide communication protocols for all devices/equipment being constructed by this Project to the VDOT software provider. Additional software services and integration into the ATMS software will be done by the VDOT software provider. The Design-Builder shall cooperate with the VDOT central software provider, enabling them to test their software (ATMS) against the field equipment installed as part of this Project during the stand alone testing period. The Design-Builder will not be responsible for this testing and it will be done at times mutually agreed upon by all parties: Design-Builder, VDOT, and VDOT software provider. All Stand Alone, System Operation and Acceptance Testing will be conducted with Design-Builder supplied software.

2.13 System Support Equipment for Intelligent Transportation System

The Design-Builder shall “furnish only” and not install system support materials under this Project. All system support materials shall include all necessary hardware.

Furnish new and unused system support equipment that is identical to the materials installed and accepted under this Project. Furnish the following materials and quantities:

Item	Quantity
CCTV Camera Assembly	1
Fixed Mount Camera	2
Video Encoder	1
SLMS Video Encoder	2
MVD Assembly	1
Lane Control Signal	1

2.14 Training

The Design-Builder shall provide documentation and training for the installation, operation, and maintenance of the ITS equipment constructed by the Project in accordance with the Special Provision for ITS Training included in the RFP Information Package. Training shall include the following:

- Infrastructure Components:
 - Fiber-optic communications cable
 - Fiber-optic interconnect centers
 - Splice trays and other related fiber-optic equipment in accordance with the RFP Conceptual Plans and the Technical Information and Requirements
 - Uninterrupted Power Supply (UPS) equipment
- Device Components:
 - CCTV camera
 - Dynamic message sign (DMS)
 - Lane control signal (LCS)
 - Microwave vehicle detection (MVD)
 - Shoulder lane monitoring system (SLMS)
- Network Components:
 - Ethernet edge switch
 - Ethernet test switch
 - Video encoders
 - Network configuration
 - Servers

2.15 Transportation Management Plan

The Design-Builder shall prepare a Transportation Management Plan (TMP) in accordance with I&IM-241/TE-351 for Type C, Category V projects, for all proposed work associated with the Project. The TMP shall document how traffic shall be managed during the construction of the Project. The phases in the Design-Builder's sequence of construction shall be followed unless the Design-Builder submits and secures VDOT approval for a sequence that will both expedite construction while lessening the effect of such construction upon the traveling public. The TMP shall incorporate and address the elements provided in this Part 2, Section 2.15.

2.15.1 Maintenance of Traffic

The Design-Builder's TMP shall include a Maintenance of Traffic (MOT) Plan detailing all phases of work, proposed lane closures, maintenance of traffic through the work area, and all construction accesses for approval by VDOT's Project Manager. This plan shall also address safe and efficient operation of adjacent public transportation facilities and State Highways. The plan shall also include coordination with local agencies and other contractors performing work in the vicinity of I-495. This plan shall reflect the anticipated Scope of Work and all applicable VDOT Standards and Specifications regarding time of work. All users must be addressed and accommodated in the TMP, including transit vehicles and other motorists. The TMP shall also accommodate safe and efficient snow removal operations and ensure proper drainage during all phases of construction. The phases in the Design-Builder's suggested sequence of construction that accompany an approved work package shall be followed unless the Design-Builder submits and secures VDOT approval for a sequence which will both expedite construction while lessening the effect of such construction upon the traveling public.

If additional traffic counts are required, it will be the responsibility of the Design-Builder to collect such data.

The Design-Builder shall develop and deliver a Transportation Management Plan, detailing the temporary traffic control plan, the public communications plan, traffic operations analyses, and incident management strategies, for all phases of work, with proposed lane/road closures, rolling lane closures, and all construction accesses for approval by VDOT at least thirty (30) days prior to the start of construction. The Design-Builder's TMP shall demonstrate that queues will not exceed two (2) miles in length as measured from the start of restriction or that the travel time (from end of queue to just beyond point of restriction) will not exceed 20 minutes. The Design-Builder shall be responsible for monitoring the queue lengths and/or travel times during construction and notifying the VDOT Construction Manager when the queues or travel times is exceeded for a continuous duration of more than one (1) hour. The Design-Builder shall identify and take corrective action prior to re-setting the temporary Work Zone; or if a permanent MOT phase, within two (2) days of notification. If not resolved within two (2) days, the Design-Builder shall work directly with VDOT staff to develop the appropriate corrective action within two (2) working days. The corrective action proposed may require a reduction in allowable closure times specified in Part 2, Section 2.15.2. No time extension or additional compensation will be granted for corrective actions required to meet the condition specified above.

The minimum allowable travel lane widths are 11 feet on I-495, including ramps through the Project area.

At locations on I-495 and interchange ramps where Traffic Barrier Service, Concrete, or Group II Channelizing Devices are used, a minimum width of two (2) feet shall be maintained between the edge of the travel lane and these devices.

Construction signs and pavement markings (temporary) shall be installed, maintained, adjusted, and removed by the Design-Builder throughout the duration of the Project.

All entrances, intersections or pedestrian access points/routes that will be affected by the work zone or by the traffic control devices will be maintained or an acceptable alternate must be provided by the Design-Builder.

2.15.2 Lane and Road Closure Restrictions

Lane, shoulder, or road closures shall be detailed in the Design-Builder’s Transportation Management Plan and shall be in accordance with the lane closure restriction table below. Anticipated and proposed lane and/or shoulder closures shall be reviewed and approved by VDOT. The Design-Builder shall restore all lanes of traffic per the times specified below. Restoration of traffic shall mean the completion of all construction work, the removal of all traffic control devices, signs, workers, materials, and equipment from the roadway.

Roadway Lane and Shoulder Closure Restrictions			
Permitted Hours			
Roadway	Single-Lane Closures	Double-Lane Closures	Complete Road Closure*
I-495 including interchanges and associated ramps	M, Tu, W, Th 9:30 a.m. to 3:00 p.m. 9:30 p.m. to 5:00 a.m. Friday 9:30 a.m. to Noon 10:00 p.m. to 9:00 a.m. Saturday 9:30 p.m. to 9:00 a.m. Sunday 9:30 p.m. to 5:00 a.m.	M, Tu, W, Th 11:00 p.m. to 5:00 a.m. Friday 10:30 p.m. to 7:00 a.m. Saturday 10:00 p.m. to 9:00 a.m. Sunday 10:00 p.m. to 5:00 a.m.	M, Tu, W, Th 11:00 p.m. to 5:00 a.m. Friday 11:00 p.m. to 7:00 a.m. Saturday 11:00 p.m. to 9:00 a.m. Sunday 10:00 p.m. to 5:00 a.m.
Other Roadways	M, Tu, W, Th 9:00 a.m. to 3:00 p.m. 9:00 p.m. to 5:00 a.m. Friday 9:00 a.m. to Noon 9:30 p.m. to 9:00 a.m. Saturday 9:30 p.m. to 9:00 a.m. Sunday 9:30 p.m. to 5:00 a.m.		M, Tu, W, Th 11:00 p.m. to 5:00 a.m. Friday 11:00 p.m. to 7:00 a.m. Saturday 11:00 p.m. to 9:00 a.m. Sunday 10:00 p.m. to 5:00 a.m.

*Complete Road Closures: 20 minutes maximum or a time frame to be mutually determined by the VDOT and the Design-Builder to facilitate the erection or removal of overhead sign panels and structures.

Detour plans will be required for any proposed total road closures exceeding 20 minutes, and are subject to VDOT review and approval as part of the Design-Builder's TMP. In addition to addressing the traffic analysis requirements in I&IM 241, the Design-Builder shall demonstrate in its detour plan(s) efforts to minimize impacts to the community (including noise, access, additional travel time, etc.), and address geometry, safety (including accident analysis along the detour route), capacity, and existing roadway conditions.

Total closures of I-495 and associated Interchange Ramps, and multiple lane closures, will require coordination with VDOT and the appropriate stakeholders at least fourteen (14) days in advance of the actual closure, in order to allow VDOT to issue public notices at least seven (7) days prior to the actual closure.

The Design-Builder shall submit all lane and shoulder closure requests to the VDOT TOC and VDOT Project Manager for coordination purposes (for determination of conflicts with other projects, for instance) at least seven (7) days in advance of the proposed lane and/or shoulder closure and no later than close of business Wednesday the week prior to closure, stating the location, purpose, date, time, and duration of the closure. The Design-Builder shall confirm at least twenty-four (24) hours before any scheduled lane and/or shoulder closure and shall include a written reiteration of the proposed tasks and a listing of materials, labor, and equipment to be utilized, in order for TOC to post the information on the VDOT website and VA511 system.

The Design-Builder is responsible for providing advance notification via Portable Changeable Message Boards and required static signing for lane, shoulder and complete road closures in accordance with the 2011 *Virginia Work Area Protection Manual*. Once a closing is in place, work shall commence immediately and shall progress on a continuous basis to completion or to a designated time.

Lane closures or work that restricts traffic flow will not be permitted on Saturdays, Sundays, and holidays from noon the day before a holiday until noon the day after a holiday, unless otherwise approved by VDOT. When a holiday falls on a Friday, lane closures are not permitted from noon on Thursday to noon on Monday. When a holiday falls on a Monday, lane closures are not permitted from noon on Friday to noon on Tuesday. Further, as the Thanksgiving Day holiday occurs on a Thursday, work will not be permitted from noon on Wednesday until 9:30 a.m. on the following Monday.

For the purposes herein, the term "holiday" shall apply to New Year's Day, Martin Luther King Jr. Day, President's Day, Easter, Memorial Day, Independence Day, Labor Day, Columbus Day, Veteran's Day, Thanksgiving Day, and Christmas Day. The Department may adjust lane closure times to accommodate shopping seasons associated with the aforementioned holidays.

Extension of a lane closure time, except as approved by the Department, is not acceptable and bears user fee charges. Lane user fees for failure to restore all lanes to traffic by the

designated times are indicated in the table below, and will be assessed starting from the end of the approved time. In cases in which special dispensation has been given to restrict lanes beyond the specified times, the lane user fees will apply from the end of the Department approved time.

Fees will be assessed on the following basis:

--The specific 15-minute interval violation amount in which the lane closure is completely removed. The 15-minute interval fee will be assessed for any portion thereof (for example, one minute into the 15 minute increment will be assessed at the full 15 minute rate).

--~~Additionally, if~~ the lane closure(s) exceed any one full hour into the restricted time frames, additional hourly fees will be assessed based on the initial quarterly hourly rates on the succeeding 15 minute interval rate (for example, if a lane closure is not completely removed until 6:02, the rate shown for 5:01 to 5:15 plus the rate shown for 6:01 to 6:15 will be assessed as the hourly fee).

--Additional specific 15-minute interval violation fees and additional full hour fees will continue to be applied until the lane closure is completely removed.

Table of User Fees (For Lane Closures) I-495						
Monday through Friday			Saturday		Sunday	
Hours	Failure to Remove Single Lane Closure	Failure to Remove Double Lane Closure	Failure to Remove Single Lane Closure	Failure to Remove Double Lane Closure	Failure to Remove Single Lane Closure	Failure to Remove Double Lane Closure
5:01 a.m. to 5:15 a.m.	\$1,000	\$2,000	\$0	\$0	\$0	\$0
5:16 a.m. to 5:30 a.m.	\$2,000	\$15,000	\$0	\$0	\$0	\$0
5:31 a.m. to 5:45 a.m.	\$5,000	\$15,000	\$0	\$0	\$0	\$0
5:46 a.m. to 6:00 a.m.	\$7,500	\$15,000	\$0	\$0	\$0	\$0
6:01 a.m. to 6:15 a.m.	\$10,000	\$15,000	\$0	\$0	\$0	\$0
6:16 a.m. to 6:30 a.m.	\$10,000	\$15,000	\$0	\$0	\$0	\$0
6:31 a.m. to 6:45 a.m.	\$10,000	\$15,000	\$0	\$0	\$0	\$0
6:46 a.m. to 7:00 a.m.	\$10,000	\$15,000	\$0	\$0	\$0	\$0
7:01 a.m. to 7:15 a.m.	\$10,000	\$15,000	\$0	\$2,000	\$0	\$0
7:16 a.m. to 7:30 a.m.	\$10,000	\$15,000	\$0	\$4,000	\$0	\$0
7:31 a.m. to 7:45 a.m.	\$10,000	\$15,000	\$0	\$6,000	\$0	\$0
7:46 a.m. to 8:00 a.m.	\$10,000	\$15,000	\$0	\$8,000	\$0	\$0
8:01 a.m. to 8:15 a.m.	\$8,000	\$15,000	\$0	\$10,000	\$0	\$0
8:16 a.m. to 8:30 a.m.	\$7,500	\$15,000	\$0	\$14,000	\$0	\$0
8:31 a.m. to 8:45 a.m.	\$7,000	\$15,000	\$0	\$15,000	\$0	\$0
8:46 a.m. to 9:00 a.m.	\$6,500	\$15,000	\$0	\$15,000	\$0	\$0
9:01 a.m. to 9:15 a.m.	\$6,000	\$15,000	\$3,000	\$15,000	\$1,000	\$6,500
9:16 a.m. to 9:30 a.m.	\$6,000	\$15,000	\$3,000	\$15,000	\$1,000	\$10,000
9:31 a.m. to 9:45 a.m.	\$0	\$15,000	\$3,500	\$15,000	\$2,000	\$12,000

February 6, 2014 Addendum #1 – March 6, 2014

9:46 a.m. to 10:00 a.m.	\$0	\$15,000	\$3,500	\$15,000	\$2,000	\$15,000
10:01 a.m. to 10:15 a.m.	\$0	\$15,000	\$3,500	\$15,000	\$2,500	\$15,000
10:16 a.m. to 10:30 a.m.	\$0	\$15,000	\$3,500	\$15,000	\$3,000	\$15,000
10:31 a.m. to 10:45 a.m.	\$0	\$15,000	\$3,500	\$15,000	\$3,000	\$15,000
10:46 a.m. to 11:00 a.m.	\$0	\$15,000	\$3,500	\$15,000	\$3,500	\$15,000
11:01 a.m. to 11:15 a.m.	\$0	\$15,000	\$3,500	\$15,000	\$3,500	\$15,000
11:16 a.m. to 11:30 a.m.	\$0	\$15,000	\$4,000	\$15,000	\$4,000	\$15,000
11:31 a.m. to 11:45 a.m.	\$0	\$15,000	\$4,000	\$15,000	\$4,500	\$15,000
11:46 a.m. to 12:00 N	\$0	\$15,000	\$4,000	\$15,000	\$5,000	\$15,000
12:01 p.m. to 12:15 p.m.	\$2,000 (F)	\$15,000	\$4,000	\$15,000	\$5,500	\$15,000
12:16 p.m. to 12:30 p.m.	\$2,000 (F)	\$15,000	\$4,500	\$15,000	\$6,000	\$15,000
12:31 p.m. to 12:45 p.m.	\$2,000 (F)	\$15,000	\$4,500	\$15,000	\$6,000	\$15,000
12:46 p.m. to 1:00 p.m.	\$3,000 (F)	\$15,000	\$4,500	\$15,000	\$6,500	\$15,000
1:01 p.m. to 1:15 p.m.	\$3,000 (F)	\$15,000	\$4,500	\$15,000	\$6,500	\$15,000
1:16 p.m. to 1:30 p.m.	\$3,500 (F)	\$15,000	\$4,500	\$15,000	\$6,500	\$15,000
1:31 p.m. to 1:45 p.m.	\$4,500 (F)	\$15,000	\$4,500	\$15,000	\$6,500	\$15,000
1:46 p.m. to 2:00 p.m.	\$6,000 (F)	\$15,000	\$4,000	\$15,000	\$6,500	\$15,000
2:01 p.m. to 2:15 p.m.	\$7,000 (F)	\$15,000	\$4,000	\$15,000	\$6,500	\$15,000
2:16 p.m. to 2:30 p.m.	\$6,000 (F)	\$15,000	\$4,500	\$15,000	\$6,500	\$15,000
2:31 p.m. to 2:45 p.m.	\$5,500 (F)	\$15,000	\$5,000	\$15,000	\$6,500	\$15,000
2:46 p.m. to 3:00 p.m.	\$4,500 (F)	\$15,000	\$5,500	\$15,000	\$6,500	\$15,000
3:01 p.m. to 3:15 p.m.	\$3,500	\$15,000	\$6,000	\$15,000	\$7,000	\$15,000
3:16 p.m. to 3:30 p.m.	\$3,000	\$15,000	\$6,000	\$15,000	\$7,000	\$15,000
3:31 p.m. to 3:45 p.m.	\$2,500	\$15,000	\$6,000	\$15,000	\$7,000	\$15,000
3:46 p.m. to 4:00 p.m.	\$2,000	\$15,000	\$6,000	\$15,000	\$6,500	\$15,000
4:01 p.m. to 4:15 p.m.	\$1,000	\$9,000	\$6,000	\$15,000	\$6,500	\$15,000
4:16 p.m. to 4:30 p.m.	\$1,000	\$8,000	\$6,000	\$15,000	\$6,500	\$15,000
4:31 p.m. to 4:45 p.m.	\$1,000	\$7,000	\$5,500	\$15,000	\$6,500	\$15,000
4:46 p.m. to 5:00 p.m.	\$1,000	\$7,000	\$5,500	\$15,000	\$6,000	\$15,000
5:01 p.m. to 5:15 p.m.	\$1,000	\$6,000	\$5,000	\$15,000	\$6,000	\$15,000
5:16 p.m. to 5:30 p.m.	\$1,000	\$7,000	\$4,500	\$15,000	\$5,000	\$15,000
5:31 p.m. to 5:45 p.m.	\$1,000	\$9,000	\$4,000	\$15,000	\$4,000	\$15,000
5:46 p.m. to 6:00 p.m.	\$1,500	\$10,000	\$4,000	\$15,000	\$3,500	\$15,000
6:01 p.m. to 6:15 p.m.	\$1,500	\$10,000	\$3,500	\$15,000	\$3,000	\$15,000
6:16 p.m. to 6:30 p.m.	\$1,500	\$10,000	\$3,000	\$15,000	\$2,500	\$15,000
6:31 p.m. to 6:45 p.m.	\$2,000	\$10,000	\$2,500	\$15,000	\$2,000	\$15,000
6:46 p.m. to 7:00 p.m.	\$2,000	\$10,000	\$2,000	\$15,000	\$2,000	\$15,000
7:01 p.m. to 7:15 p.m.	\$2,500	\$10,000	\$1,500	\$14,000	\$1,500	\$14,000
And continues until all lanes are restored to traffic	@ the rate of \$2,500 per 15 minute period	@ the rate of \$10,000 per 15 minute period	@ the rate of \$1,000 per 15 minute period	@ the rate of \$4,500 per 15 minute period	@ the rate of \$1,000 per 15 minute period	@ the rate of \$4,500 per 15 minute period

VDOT may, in its sole discretion, waive User Fees for failure to open traffic lanes if such cause is not related to or caused by the Design-Builder's operations. The Design-Builder shall catalog user cost assessments on a daily basis and submit a tabulation along with certification from the QAM that such tabulation is correct to the VDOT Project Manager for concurrence.

The Department will make a deduction in the assessed amount from Progress Payment funds otherwise due the Design-Builder.

If the Design-Builder invokes the assessment of user fees for failure to restore traffic lanes, the Design-Builder will not be allowed further lane closures until the reasons for the failure are evaluated and the Design-Builder can provide assurance that the causes have been corrected. A formal submission as to the reasons for the failure to restore traffic lanes within the contract lane closure restrictions and the proposed corrective measures shall be provided to the Department within two (2) days of the occurrence. The Department will respond to the adequacy of the submission within two (2) days of receipt. No modifications to the Contract Price or Contract Time(s) will be granted or considered for these days.

VDOT reserves the right to monitor traffic conditions impacted by the work and to make additional restrictions as may be necessary or as emergency situations dictate. Additional restrictions for other holidays or special local events may be necessary, however, in these situations VDOT will endeavor to inform the Design-Builder at the earliest and in no case less than 48 hours prior to the event.

2.15.3 Use of Virginia State Police

The Design-Builder shall be responsible for coordinating through VDOT for Virginia State Police (VSP) service during Temporary Traffic Control operations involving lane closures and/or rolling lane closures, and any other operation as covered in Appendix C of the Virginia Work Area Protection Manual. VDOT will be responsible for all costs incurred by VSP specific to the Project.

All lane and rolling lane closures shall be identified in the TMP and in accordance with Traffic Engineering Memorandum TE-352.

2.15.4 Portable Changeable Message Signs

Portable Changeable Message Signs (PCMS's) shall be used in advance of the work zone when closing or shifting lanes within the Project limits. The Design-Builder shall provide at least 4 PCMS's along northbound Interstate 495, which are to be placed in advance of the Project. PCMS's shall have the capability to be remotely controlled from the Transportation Operations Center (TOC) to facilitate emergency access during an incident only. PCMS's shall also be used to provide en-route travel information about planned construction, delays or other sudden changes in travel conditions throughout the Project's duration. The PCMS shall be placed in a semi-permanent location, protected from traffic but highly visible to the public. The Design-Builder shall coordinate the implementation of PCMS's with VDOT. The use of PCMS's shall not replace any traffic control device otherwise required per the MUTCD or the Virginia Work Area Protection Manual.

2.15.5 Night Work

In areas where work is to be performed during the hours of dusk or darkness, the Design-Builder shall furnish, place, and maintain lighting facilities capable of providing light of sufficient intensity (five foot-candles minimum) to facilitate good workmanship and proper inspection at all times. The lights shall be arranged so as not to interfere with or impede traffic approaching the work site(s) from either direction or produce undue glare to property owners.

Lighting of the work site(s) may be accomplished by the use of any combination of portable floodlights, standard equipment lights, existing street lights, and/or temporary street lights in order to provide the proper illumination.

The Design-Builder shall provide sufficient fuel, spare lamps, generator, and other supplies in order to maintain the proper lighting at the work site(s). The Design-Builder shall utilize padding, shielding, or locate mechanical and electrical equipment in order to minimize noise generated by lighting operations. Noise generated by portable generators shall comply with all applicable Federal, State, and local environmental regulations.

2.16 Public Involvement / Public Relations

The Design-Builder shall be responsible for providing a point of contact and phone number for the public to use in calling to request information or express concerns during the Project development and delivery. All information to be released to the public shall be approved by VDOT.

During the design and construction phases, the Design-Builder shall:

- Hold informal meetings with affected stakeholders as necessary and as directed by VDOT. A list of affected stakeholders (including, but not limited to, community associations, churches, business owners, police, fire & rescue, school bus transportation, transit operators) shall be developed by the Design-Builder and submitted to VDOT for acceptance prior to holding any meetings. All stakeholders shall be informed of meetings.

Concurrent with the first plan submittal and at intervals deemed necessary by the VDOT, provide to VDOT's Project Manager written information about the Project suitable for posting by VDOT on its Website, including any significant changes that affect the public. Such information will include a Project overview, plan of work, overall Project schedule and progress, potential impacts to traffic on all roadways within the project limits (i.e., temporary lane closures, shoulder closures, ramp reconstruction, milling operations, etc.), up-to-date Project photos, and contact information.

During the Construction Phase, the Design-Builder shall:

- Operate as a liaison between VDOT, Fairfax County, and the Design-Builder's Construction Manager to ensure compliance with applicable local ordinances and provide appropriate notification to affected property owners.

- Provide to the VDOT Project Manager information for Traffic Alerts whenever there are new impacts to motorists. All information for Traffic Alerts must be submitted at least one week in advance of the traffic impact. If the impact is major (changes or additional lane closures that are anticipated to cause traffic delays that exceed existing conditions), VDOT must be notified one month in advance.
- Provide to VDOT's Project Manager an emergency contact list of Project personnel and response plan to respond to any onsite emergency, including any work zone incidents in accordance with I&IM-241.
- Maintain a log or database of questions, complaints, and/or comments received from stakeholders and the public either via public outreach efforts or direct contact, along with dates received, responses generated, and how the issues or concerns are addressed. If appropriate, this list of questions and responses will be posted on VDOT's website.

A Citizen's Information Meeting was held for this Project on November 19, 2013. Any meetings held will be conducted in accordance with the VDOT Policy Manual for Public Participation in Transportation Projects, revised August 2011.

2.17 Right of Way

The Offeror's conceptual design included in its Proposal shall be wholly contained within the right of way limits shown on the RFP Conceptual Plans. Stormwater management facilities shall be wholly contained within the right of way limits shown on the RFP Conceptual Plans. Deviations from the proposed right of way limits shown on the RFP Conceptual Plans will be subject to VDOT approval in accordance with Part 1, Section 2.8 and 2.9.

The Design-Builder's final design shall also be contained with the right of way limits shown on the RFP Conceptual Plans. If the Design-Builder proposes changes to the right of way limits shown on the RFP Conceptual Plans, then this shall be consider a deviation of the Contract Documents and shall be addressed as described in Part 2, Section 2.0. As discussed herein, the Design-Builder shall be responsible for any time and/or cost impacts and any NEPA document re-evaluation associated with Design-Builder's design changes that extends beyond the right of way limits reflected in the RFP Conceptual Plans and approved by VDOT.

Should additional right of way (whether fee or easements) be required to accommodate Design-Builder's unique solution and/or Contractor's means, methods and resources used during construction above and beyond the right of way limits depicted on the RFP Conceptual Plans included in the RFP Information Package, then all right of way acquisition costs for such additional fee or easements shall be paid by the Design-Builder. These costs would include (but not be limited to) the costs of any public hearings that may be required, actual payments to property owners and all expenses related to the additional acquisitions and associated legal costs

as well as any additional monies paid the landowners to reach a settlement or to pay for a court award. In the event additional right of way is needed as a result of an approved scope change request by the Design-Builder, the Design-Builder shall follow the procedures indicated in the “Right of Way Acquisition Guidelines” (Chapter 5 of VDOT’s Right of Way Manual of Instructions; <http://www.virginiadot.org/business/row-default.asp>). Additionally, the Design-Builder is solely responsible for any schedule delays due to additional right of way acquisition associated with the Design-Builder’s design changes and no time extensions shall be granted.

The following responsibilities shall be carried out by either the Design-Builder or VDOT as specified in each bulleted item below:

- The Design-Builder shall acquire property in accordance with all Federal and State laws and regulations, including but not limited to the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended (the “Uniform Act”) and Titles 25.1 and 33.1 of the 1950 Code of Virginia, as amended. The acquisition of property shall follow the guidelines as established by VDOT and other State and Federal guidelines that are required and the VDOT Right of Way Manual of Instructions and the VDOT Utility Manual of Instructions, as well as IIM-LD-243 and Chapter 12 of the VDOT Survey Manual. All conveyance documents for the acquisition of any property interest shall be accompanied by properly marked plan sheets and profile sheets.
- The Design-Builder may not employ the use of Rights of Entries until the property owner has been made a bona fide offer to acquire the property.
- If the Design-Builder and/or the Right of Way sub-consultant does not follow 49 CFR Part 24 Uniform Relocation and Real Property Acquisition Act of 1970 (The Uniform Act) in the performance of the acquisition and/or relocation processes, or fails to obtain or create any mandatory written documentation in their right of way parcel file, the Design-Builder shall be responsible for any and all expenses determined to be ineligible for reimbursement of federal funding.
- VDOT shall designate a hearing officer to hear any Relocation Assistance appeals. VDOT agrees to assist with any out of state relocation by persons displaced within the rights of way by arranging with such other state(s) for verification of the relocation assistance claim.
- VDOT will entertain the use of relocation incentive plans on projects with significant numbers or critical relocations. Such incentive plans shall be presented to VDOT for approval. If VDOT approves the incentive plan, it will seek Federal Highway Administration approval. Any relocation incentive plan shall be uniformly administered so that all landowners and displaces of a similar occupancy receive fair and equitable treatment. Under no circumstances is a relocation incentive to be used without VDOT’s prior approvals.

- VDOT will entertain the use of protective leasing to ensure the availability of housing or apartments for relocation purposes. Such protective leasing plans must be presented to VDOT for approval prior to their implementation.
- Section 33.1-134 of the Code of Virginia, 1950, as amended, provides that the Commissioner of Highways may acquire lands on which graves are located through either voluntary conveyance or condemnation. In the course of relocating such graves, the Commissioner of Highways, through the Office of the Attorney General, will appoint an attorney to prepare the Order and Petition for the exhumation and re-interment of the graves. The Design-Builder shall be responsible for verifying the number of graves, locating next of kin if possible, acquiring new grave sites and managing the grave relocations as outlined in Chapter 3.4.7 of the Right of Way Manual of Instructions dated January 1, 2011.
- The Design-Builder shall submit a Project specific Acquisition and Relocation Plan to VDOT for VDOT Right of Way approval prior to commencing right of way activities. No offers to acquire property shall be made prior to the Acquisition and Relocation Plan approval and a Notice to Commence Acquisition. This represents a hold point in the Offeror's CPM Schedule. The Acquisition and Relocation Plan shall describe the Offeror's methods, including the appropriate steps and workflow required for title examinations, appraisals, review of appraisals, negotiations, acquisition, and relocation, and shall contain the proposed schedule of right of way activities including the specific parcels to be acquired and all relocations. The schedule shall include activities and time associated with VDOT's review and approval of just compensation, relocation benefits and administrative settlements. The plan shall allow for the orderly relocation of displaced persons based on time frames not less than those provided by the "Uniform Act." This plan shall be updated as necessary during the life of the Project and all updates must be submitted to VDOT for approval. The plan approval is based on the Plan providing a reasonable and orderly workflow and the plan being provided to the VDOT Representative as completed.
- A VDOT Representative will be available to make timely decisions concerning the review and approval of just compensation, approval of relocation benefits, approval of administrative settlements and approval of closing or condemnation packages on behalf of VDOT. The VDOT Representative is committed to issuing decisions on approval requests within twenty-one (21) days. This commitment is based on the plan providing a reasonable and orderly workflow and the work being provided to the VDOT representative as complete. Submission of documents requiring VDOT approval shall contain the necessary language and certifications as shown on the examples provided in the Appendix to Chapter 10, "Special Projects", of the Right of Way Manual.
- The Design-Builder shall obtain access to and use VDOT's Right of Way and Utilities Management System ("RUMS") to manage and track the acquisition process. RUMS will be used for Project status reporting; therefore, entries in RUMS shall be made at least weekly to accurately reflect current Project status. VDOT standard forms and

documents, as found in RUMS, will be used to the extent possible. Training in the use of RUMS and technical assistance will be provided by VDOT.

- The Design-Builder shall provide a current title examination (no older than sixty (60) days) for each parcel at the time of the initial offer to the landowner. Each title examination report shall be prepared by a VDOT approved attorney or Title Company. If any title examination report has an effective date that is older than sixty (60) days, an update is required prior to making an initial offer to the landowner. A Title Insurance Policy in favor of the Commonwealth of Virginia in form and substance satisfactory to the VDOT shall be provided by the Design-Builder, for every parcel acquired by voluntary conveyance.
- The Design-Builder shall submit a scope of work detailing the type of appraisal to be prepared for each parcel and the name of the proposed appraiser for VDOT review and approval in writing prior to commencing the individual parcel appraisal. The proposed appraiser shall be of an appropriate qualification level to match the complexity of the appraisal scope. The Design-Builder shall prepare appraisals in accordance with VDOT's Appraisal Guidelines. The review appraiser shall be on VDOT's approved fee review appraiser list. Alternatively, the Design-Builder may submit an exception request to use a review appraiser who is not on VDOT's approved review appraisal list for VDOT's approval. VDOT shall issue a final approval of all appraisals.
- Payment documentation is to be prepared and submitted to VDOT with the Acquisition Report (RW-24). VDOT will process vouchers and issue State Warrants\checks for all payments and send to the Design-Builder, who will be responsible for disbursement and providing indefeasible title to VDOT. The Design-Builder shall make payments of benefits to property owners for negotiated settlements, relocation benefits, and payments to be deposited with the court.
- The Design-Builder shall prepare, obtain execution of, and record documents conveying title to such properties to the Commonwealth of Virginia and deliver all executed and recorded general warranty deeds to VDOT. Prior to the recordation of any instrument, VDOT shall review and approve the document. For all property purchased in conjunction with the Project, title will be acquired in fee simple (except that VDOT may, in its sole discretion, direct the acquisition of a right of way easement with respect to any portion of the right of way) and shall be conveyed to the "Commonwealth of Virginia, Grantee" by a VDOT-approved general warranty deed, free and clear of all liens and encumbrances, except encumbrances expressly permitted by VDOT in writing in advance of deed recordation. All easements, except for private utility company easements shall be acquired in the name of "Commonwealth of Virginia, Grantee". Private utility company easements will be acquired in the name of each utility company when the private utility company has prior recorded easements.
- Because these acquisitions are being made on behalf of the Commonwealth, VDOT shall make the ultimate determination in each case as to whether settlement is appropriate or

whether the filing of an eminent domain action is necessary, taking into consideration the recommendations of the Design-Builder. When VDOT authorizes the filing of a certificate, the Design-Builder shall prepare a Notice of Filing of Certificate and the certificate assembly. All required documents necessary to file a certificate shall be forwarded along with a prepared certificate to the VDOT Project Manager. Once reviewed, the certificate will be forwarded to Central Office for review and approval. VDOT will execute the certificate, provide the money as appropriate and will return the assembly to the Design-Builder. The Design-Builder shall update the title examination and shall file the certificate.

- When VDOT determines that it is appropriate, the Design-Builder shall be responsible for continuing further negotiations for a maximum of sixty (60) days, in order to reach settlement after the filing of certificate. After that time the case will be assigned to an outside attorney appointed by VDOT and the Office of the Attorney General. When requested, the Design-Builder shall provide the necessary staff and resources to work with VDOT and its attorney throughout the entire condemnation process until the property is acquired by entry of a final non-appealable order, by deed, or by an Agreement After Certificate executed and approved by VDOT and the appropriate court. The Design-Builder will provide updated appraisals (*i.e.*, appraisal reports effective as of the date of taking) and expert testimony supporting condemnation proceedings upon request by VDOT. Services performed by the Design-Builder or its consultants after an eminent domain action is assigned to an outside attorney will be paid, if and when necessary, under a Work Order in accordance with Article 9 of Part 4 (General Conditions of Contract).
- The Design-Builder will be responsible for all contacts with landowners for rights of way or construction items.
- The Design-Builder shall maintain access at all times to properties during construction.
- The Design-Builder shall use reasonable care in determining whether there is reason to believe that property to be acquired for rights of way may contain concealed or hidden wastes or other materials or hazards requiring remedial action or treatment. When there is reason to believe that such materials may be present, the Design-Builder shall notify VDOT within three (3) calendar days. The Design-Builder shall not proceed with acquiring such property until they receive written notification from VDOT.
- During the acquisition process and for a period of three years from either (1) the date each owner of a property and each person displaced from the property receives the final payment or (2) from the date the State receives Federal reimbursement of the final payment made to each owner of a property and to each person displaced from a property, whichever is later, and until the Commonwealth of Virginia has indefeasible title to the property, all Project documents and records not previously delivered to VDOT, including but not limited to design and engineering costs, construction costs, costs of acquisition of rights of way, and all documents and records necessary to determine

compliance with the laws relating to the acquisition of rights of way and the costs of relocation of utilities, shall be maintained and made available to VDOT for inspection and/or audit. This also would apply to the Federal Highway Administration on projects with federal funding. Throughout the design, acquisition and construction phases of the Project, copies of all documents/correspondence shall be submitted to both the Central Office and respective Regional Right of Way Office.

- Prior to Project completion, the Design-Builder shall provide and set VDOT RW-2 right of way monuments within the Project limits.
- Any existing VDOT fencing impacted by the Design-Builder's design and construction activities shall be restored or replaced in the same configuration relative to the improvements as the existing fencing. Any new VDOT fencing shall be Std. FE-CL.
- The Design-Builder shall notify VDOT of any and all encroachments (temporary or permanent) within the right-of-way prior to final acceptance.

2.18 Utilities

The Design-Builder shall be responsible for coordination of the Project construction with all utilities that may be affected. The Design-Builder shall be responsible for coordinating the work of the Design-Builder, its subcontractors and the various utilities. The resolution of any conflicts between utilities and the construction of the Project shall be the responsibility of the Design-Builder. No additional compensation or time will be granted for any delays, inconveniences, or damage sustained by the Design-Builder or its subcontractors due to interference from utility owners or the operation of relocating utilities or betterments. All cost for utility relocations shall be included in the Offeror's Price Proposal. Any utility betterments shall not be included in the Offeror's Price Proposal but shall be reimbursed to the Design-Builder through agreement with the requesting utility owner. The Offeror shall contact each utility owner prior to submitting bids to determine the scope of each utility owner's relocation. Utility betterments must also meet Buy America requirements as described in Part 5, Exhibit 102.05(g.1) Use of Domestic Material.

The Design-Builder shall be responsible for all utility designations, utility locates (test holes), conflict evaluations, cost responsibility determinations, utility relocation designs, utility relocations and adjustments, utility reimbursement, replacement land rights acquisition, utility coordination, and coordination of utility betterments required for the Project. The Design-Builder is responsible for all necessary utility relocations, adjustments, and betterments to occur in accordance with the accepted Baseline Schedule. All efforts and cost necessary for all utility designations, utility locates (test holes), conflict evaluations, cost responsibility determination, utility relocation designs, utility relocations and adjustments, utility reimbursements, replacement land rights acquisition and utility coordination shall be included in the Offeror's Price Proposal; provided, however, that the compensation paid to landowners for replacement land rights will be

paid by VDOT as a part of the right of way acquisition costs and shall **NOT** be included in the Offeror's Price Proposal.

The Design-Builder shall make all reasonable efforts to design the Project to avoid conflicts with utilities, and minimize impacts where conflicts cannot be avoided.

The Design-Builder shall initiate early coordination with all utilities located within the Project limits. The Design-Builder shall identify and acquire any replacement utility easements or required right-of-way needs of all utilities necessary for relocation due to conflicts with the Project.

It is the Design-Builder's responsibility to verify whether other utility owners exist within the Project limits and coordinate with them. Known utility owners and their respective contact numbers are identified below for reference only and may not be limited to the following:

- Water
Fairfax water
Jeannie Swim – (703) -289-6361

- Sewer
Fairfax County Public Works
Natasha Schmidt – (703) - 324-5080

- Telephone
Verizon
Todd Lawson – (703) - 480-7812

- Electricity
Dominion Virginia Power
Cameron Mason – (703) - 375-5958

- Cable
Cox
Jeff Acierto – (703) - 480-7812

- Transurban Fiber
Transurban

Christine Aczel – (571) - 239 0713
Tim Ratcliffe – (571) - 419-6109

The Design-Builder shall provide all utility companies with roadway design plans as soon as the plans have reached a level of completeness adequate to allow them to fully understand the Project impacts. The utility companies will use the Design-Builder's design plan for preparing

relocation plans and estimates. If a party other than the utility prepares relocation plans, there shall be a concurrence box on the plans where the utility signs and accepts the relocation plans as shown.

The Design-Builder shall coordinate and conduct a preliminary utility review meeting with all affected utility companies to assess and explain the impact of the Project. VDOT's Project Manager and Regional Utilities Manager (or designee) shall be included in this meeting.

The Design-Builder shall verify the prior rights of each utility's facilities if claimed by a Utility owner. If there is a dispute over prior rights with a utility, the Design-Builder shall be responsible for resolving the dispute. The Design-Builder shall prepare and submit to VDOT a Preliminary Utility Status Report within 30 days of the Date of Commencement that includes a listing of all utilities located within the Project limits and a conflict evaluation and cost responsibility determination for each Utility. This report shall include copies of existing easements, as-built plans or other supporting documentation that substantiates any compensable rights of the utilities.

The Design-Builder shall obtain the following from each utility that is located within the Project limits: relocation plans including letter of "no cost" where the utility does not have a compensable right; utility agreements including cost estimate and relocation plans where the utility has a compensable right; or letters of "no conflict" where the utility's facilities will not be impacted by the Project.

The Design-Builder shall review all relocation plans to ensure that relocations comply with the VDOT Utilities Manual of Instruction, Utility Relocation Policies and Procedures and VDOT's Land Use Permit Manual. The Design-Builder shall also ensure that there are no conflicts with the proposed roadway improvements, and ensure that there are no conflicts between each of the utility's relocation plans. The Design-Builder shall prepare and submit to VDOT all relocation plans. The Design-Builder is expected to assemble the information included in the relocation plans in a final and complete form and in such a manner that VDOT may approve the submittals with minimal review. The Design-Builder is expected to meet with VDOT's Regional Utilities Office within 15 days of the Date of Commencement to gain a full understanding of what is required with each submittal. The Design-Builder shall receive written approvals from VDOT prior to authorizing utilities to commence relocation construction. The utilities shall not begin their relocation work until authorized by the Design-Builder. Each relocation plan submitted must be accompanied by a certification from the Design-Builder stating that the proposed relocation will not conflict with the proposed roadway improvement and will not conflict with another utility's relocation plan.

At the time that the Design-Builder notifies VDOT that the Design-Builder deems the Project to have reached Final Completion, the Design-Builder shall certify to VDOT that all utilities have been identified and conflicts have been resolved and that those utilities with compensable rights or other claims related to relocation or coordination with the Project have been relocated and their claims and compensable rights satisfied or will be satisfied by the Design-Builder.

The Design-Builder shall accurately show the final location of all utilities on the as-built drawings for the Project. The Design-Builder will ensure the utility companies submit as-built drawings upon completion of their relocation and/or adjustments. VDOT shall issue an as-built permit to the utility companies after receipt of permit application and as-built drawings.

2.18.1 Utility Coordination with ITS and Traffic Control Device Plan

.1 Design

The Design-Builder shall develop Intelligent Transportation System (ITS) and Traffic Control Device (TCD) designs that are not in conflict with existing and proposed utilities (both overhead and underground). Poles, mast arms, cantilevers, overheads, butterflies, and gantries shall be a minimum of ten (10) feet both horizontal and vertical from all overhead electrical lines. If any areas are located near electrical high voltage power, water, gas and petroleum transmission lines, the Design-Builder shall coordinate with appropriate utility company for specific clearances that must be maintained during and post construction.

.2 Designation

The Design-Builder shall be responsible for locating and marking all underground utilities prior to any ITS and TCD installation work. At least seventy-two (72) hours prior to beginning ITS and TCD installation work, the Design-Builder shall contact:

1. Miss Utility of Virginia at 1-800-552-7001 or 811 in order to determine the extent and location of underground utilities within the Project limits, and
2. NRO Maintenance (Mark Hagan at 703-334-0203) to determine the extent and location of all VDOT-owned underground communication and electric equipment.

.3 Electrical Service Requirements

The Design-Builder shall be responsible for all work, materials, and costs associated with obtaining power and maintaining power throughout construction for all ITS and TCDs (including lighting for overhead signing). It is the Design-Builder's responsibility to coordinate with the appropriate maintaining agency to schedule all utility connections so as not to adversely impact the Project schedule.

.4 Testing of Electrical Service Grounding System

The Design-Builder shall test the electrical service grounding system for each electrical service in accordance with Section 700.04 of the VDOT 2007 Road and Bridge Specifications

2.19 Quality Assurance / Quality Control (QA/QC)

The Design-Builder shall submit its Quality Assurance/Quality Control (QA/QC) for both design and construction to VDOT at the meeting held after the Date of Commencement as set

forth in Part 4 General Conditions under Section 2.1.2. Along with the QA/QC Plan submittal, the Design Manager and Quality Assurance Manager (QAM) shall provide a presentation of the QA/QC Plan for both design and construction utilizing Project related scenarios. Project scenarios shall include, but not be limited to:

1. Preparatory Inspection Meeting requirements, including incorporation of at least one each, Witness and Hold Point, as set forth in Sections 5.3 and 5.14 of the Department's guidance document for Minimum Requirements for Quality Assurance and Quality Control on Design Build and Public-Private Transportation Act Projects, January 2012 (January 2012 QA/QC Guide);
2. At least one (1) material which VDOT retains responsibility for testing as identified in Table 5-2, January 2012 QA/QC Guide;
3. Situation arising requiring the issuance of a Non-Conformance Report and subsequent review of the report, including completion of corrective measures and the issuance of a Notice of Correction of non-conformance work with proper log entries and proper interface with auditing and recovery requirements as set forth in Sections 5.10 and 5.11 of the January 2012 QA/QC Guide for non-conforming work resulting from:
 - a. defective equipment
 - b. construction activities/materials which fail to conform as specified;
4. Inspection documentation capturing requirements as set forth in Section 5.20 and 5.21 of the January 2012 QA/QC Guide; as well as inspection of foundation and pavement subgrades that are to be performed and certified by the Design-Builder's licensed geotechnical engineer in accordance with the Contract requirements;
5. Application for payment for Work Package which includes work element, including review and approval by Quality Assurance Manager; and
6. Measures that will be implemented to ensure compliance with Buy America requirements on the Project.
7. Detail two (2) sample entries in Materials Notebook showing completion of Form C-25, including subsequent submission and review by Department Project Manager as set forth in Section 5.21. Refer to Section 803.73 of VDOT's Manual of Instruction for Materials Division, Form TL-142S, for an example of a completed Materials Notebook and VDOT Materials Division Memorandum Number MD299-07 for Materials Acceptance – October 4, 2007.

2.19.1 Design Management

The Design-Builder is responsible for design quality in accordance with VDOT's Minimum Requirements for Quality Assurance and Quality Control on Design Build and Public-Private Transportation Act Projects, January 2012 (January 2012 QA/QC Guide). The Design-Builder's Design Manager shall be responsible for establishing and overseeing a QA/QC program for all pertinent disciplines involved in the design of the Project, including review of design, working plans, shop drawings, specifications, and constructability of the Project. This individual shall report directly to the Design-Builder's Project Manager, and is responsible for all of the design, inclusive of QA and QC activities. Members of the Design QA and QC team are responsible for review of all design elements to ensure the development of the plans and specifications are in accordance with the requirements of the Contract Documents. Design QA

should be performed by one or more member(s) of the lead design team that are independent of the Design QC. The Project design control plan will provide VDOT assurance that the design plans and submittals will meet all contract requirements.

Appendix 2 of the January 2012 QA/QC Guide provides minimum requirements that shall be met for development of the Design QA/QC Plan.

2.19.2 Construction Management

The Design-Builder shall develop, operate, and maintain a Construction QA/QC Plan in accordance with VDOT's January 2012 QA/QC Guide. The Design-Builder shall have the overall responsibility for both the QA and QC activities and shall be responsible for all QA activities and QA sampling and testing for all materials used and work performed on the Project. These QA functions shall be performed by an independent firm that has no involvement in the construction QC program/activities. There shall be a clear separation between QA and construction, including separation between QA inspection and testing operations and construction QC inspection and testing operations, including testing laboratories. Two independent, AMRL certified testing laboratories will be required, one for QA testing and one for QC testing.

The Quality Assurance Manager (QAM) shall have the authority to enforce the Contract requirements when deficient materials or unsatisfactory finished products fail to conform to Contract requirements. The QAM, in accordance with his/her assignment, shall be responsible to observe the construction in progress and to ensure the QA and QC testing and inspection is being performed in accordance with the Contract requirements. The Design-Builder shall establish and maintain a Quality Assurance Auditing and Nonconformance Recovery Plan (AR Plan) for uniform reporting, controlling, correction and disposition and resolution of nonconformance (including disputed nonconforming items) issues that may arise on the Project. The Design-Builder's AR Plan shall establish a process for review and disposition of nonconforming workmanship, material, equipment or other construction and design elements of the Work including the submittal of the design review process for field changes. All deficiencies (hereinafter referred to as a Non-Conformance), including those pertaining to rules, regulations, and permit requirements, shall be documented by the QAM. A Non-Conformance Report (NCR) referenced by a unique number, shall be forwarded to the Contractor and VDOT within 24 hours of discovery of the Non-Conformance. Non-conformance procedures are provided in Section 5.10.5 of the January 2012 QA/QC Guide.

The Design-Builder also shall be responsible for providing QA and QC testing for all materials manufactured off-site, excluding the items listed below:

- Prestressed Concrete Structural Elements (beams, girders (VDOT adopted Bulb-T sections), and piles)
- Structural Steel Elements (beams, girders, and sign structures)
- Pipe (concrete, steel, aluminum, and high density polyethylene) for culverts, storm drains, and underdrains
- Precast Concrete Structures

- Asphalt Concrete Mixtures
- Aggregate (dense and open graded mixes)
- Metal Traffic Signal and Light Poles and Arms

VDOT will provide plant QA and plant QC inspection and/or testing of these items. In the event that VDOT determines that materials fail to meet the tolerances in the Road and Bridge specifications, a NCR will be issued by the VDOT Project Manager and addressed to the Design-Builder's QAM for resolution. The Design-Builder is required to submit documentation of the source of materials, including the source of each material to be incorporated into the Project and the acceptance method that will be used for the material. A VDOT Form C-25 may be used to meet this requirement; however, the Design-Builder is required to submit a VDOT Form C-25, for all materials that VDOT retains responsibility for testing. The source of materials, C-25 is for informational purposes only and will not be approved or rejected by VDOT since it is the Design-Builder's responsibility to obtain materials that meet the contractual requirements. The Design-Builder will be responsible for providing QA and QC testing of all off-site materials that are not identified above, including materials obtained from off-site soil borrow pits.

The Design-Builder's QAM shall report directly to the Design-Builder's Project Manager and be independent of the Design-Builder's physical construction operations. The QAM shall establish quantities prior to commencing construction, and provide VDOT a total number of QC, QA (Independent Assurance (IA) and Independent Verification Sampling and Testing (IVST)), Owner's (the Department) Independent Assurance (OIA), and Owner's Independent Verification Sampling and Testing (OVST) required as a result of the quantities and the sampling and testing requirements as set forth in Table A-3 and A-4 of the January 2012 QA/QC Guide. VDOT will provide all OIA and OVST tests and, therefore, final determination of the actual number of OIA and OVST tests to be performed will be made by VDOT based on these quantities.

The QAM shall be responsible for the QA inspection and testing of all materials used and work performed on the Project to include observing the Contractor's QC activities, maintaining the Materials Notebook (including adherence to the Special Provision for Design-Build Tracking (DBT) numbers included in the RFP Information Package), documentation of all materials, sources of materials and method of verification used to demonstrate compliance with the Contract requirements. This includes all materials where QA testing is to be performed by VDOT. The QAM shall be vested with the authority and responsibility to stop any work not being performed according to the Contract requirements. The construction QA and QC inspection personnel shall perform all of the construction inspection and sampling and testing work in accordance with the Contract requirements. This includes the documentation of construction activities and acceptance of manufactured materials. The QAM shall assign a Lead QA Inspector to the Project prior to the start of construction. This individual, who must be on the site full-time for the duration of construction of the Project, shall be responsible to observe construction as it is being performed, to include all QC activities to ensure inspection and testing, and correction of any non-conformities of the Work are being performed in accordance with the Contract requirements. If needed, the Lead QA Inspector shall be supported by other QA inspectors under his/her direction to ensure all construction work and QC activities are being observed. The Lead QA Inspector shall report directly to the QAM.

All sampling and testing shall be performed by a laboratory that is accredited in the applicable AASHTO procedures by the AASHTO Accreditation Program (AAP). For test methods not accredited by AAP, the laboratory must comply with AASHTO R18 (most current Edition) and must be approved by the Department at its sole discretion. Two independent testing laboratories will be required, one for QA testing and one for QC testing. The entity(ies) performing QA operations, inspections, sampling, and laboratory testing and the entity(ies) performing QC operations, inspections, sampling, and laboratory testing shall be unique and independent from one another.

All construction QA and QC personnel shall hold current VDOT materials certifications for the types of materials testing that they are assigned to perform in accordance with Section 3.6 of the January 2012 QA/QC Guide, and for the safety and use of nuclear testing equipment as required by the Road and Bridge Specifications. The QA programs shall be performed under the direction of the QAM. The QC programs shall be performed under the direction of the Construction Manager. Substitution of Construction Manager and the QAM shall require VDOT approval. In addition, VDOT shall have the right to order the removal of any construction QA and QC personnel, including the QAM and the Construction Manager for poor performance at the sole discretion of the VDOT Project Manager. The QA/QC plan shall include rapid reporting of non-compliance to the VDOT Project Manager, and shall include the remedial actions to be taken as discussed in Sections 5.10 and 5.11 of the January 2012 QA/QC Guide.

The Design-Builder shall provide, prior to Final Application for Payment, a complete set of Project records that include, but are not limited to the following:

- Project correspondence
- Project diaries
- Test reports
- Invoices
- Materials books
- Certified survey records
- DBE/EEO records
- Warranties
- As-Built drawings
- Special tools

2.20 Field Office

A Field Office will not be required for this Project.

2.21 Plan Preparation

2.21.1 GEOPAK and MicroStation

When the Design-Builder is given the Date of Commencement, they will be furnished with the following software and files which run in WindowsXP or Windows7 only: GEOPAK

(current version used by VDOT), MicroStation (current version used by VDOT) and VDOT Standard Resources Files, and all the design files used to develop the RFP Conceptual Roadway and Bridge Plans including aerial images, if available, and survey files.

2.21.2 Software License Requirements

VDOT shall furnish a License Access Key for all the software products VDOT makes available to the Design-Builder. The License Access Key will be supplied upon request by the Design-Builder, based on the data provided on a completed Software License Form, LD-893, and subsequently reviewed and approved by the VDOT Project Manager.

The License Access Key are provided for use on the Project detailed on the request only for the duration specified for that Project. Any adjustment made to the Project schedule will be taken into consideration in adjusting the time the License Access Key is available. Justification for the number of license(s) requested **MUST** include the estimated number of total computer hours for the task of design, detailing, relating Project management and other computer based engineering functions requiring the software requested.

The appropriate use of the License Access Key provided to the Design-Builder will become the responsibility of the Design-Builder regardless of who on the team uses the License Access Key. The Design-Builder will be responsible for keeping track of the License Access Key provided to them or a team member and, upon completion of the Project, the prompt notification to the VDOT CADD Support Section of Project Completion and removal of the software from any system used solely for the Project for which it was obtained.

2.21.3 Drafting Standards

All plans shall be prepared in U.S. customary units and in accordance with the most recent version of the VDOT's Road Design Manual, Vol. I, VDOT's CADD Manual and VDOT's I&IMs and VDOT's Manual of Structure and Bridge Division, Vol. V, Part 2, Design Aids and Typical Details.

2.21.4 Electronic Files

The Design-Builder shall submit all plans in accordance with the Department's policies and procedures (Right of Way and/or Construction submittals, Released for Construction, and As-Builts) in electronic format using the provided CADD software. Files shall be submitted in both Microstation DGN and Adobe PDF formats, by way of VDOT's Falcon Consultant environment or FTP Server. The Design-Builder will complete form LD-443, the Falcon System Access and Security Agreement and form LD-894, the Falcon Access Request Form, for access to the Falcon Consultant environment. VDOT will furnish electronic files of all applicable standard detail sheets upon request by Design-Builder. The files will use standard VDOT cell libraries, level structures, line types, text fonts, and naming conventions as described in the most recent version of the VDOT CADD Manual and VDOT's Manual of the Structure and Bridge Division, Vol. V - Part 2, Design Aids and Typical Details. Files furnished to Design-Builder in

electronic format shall be returned to VDOT and removed from Design-Builder and its designer's computer equipment upon completion of this Project.

2.21.5 Plan Submittals

In addition to electronic files as described in Part 2, Section 2.21.4 above, the Design-Builder shall prepare and distribute hard copy paper plans in the quantities as specified below, for each of the following deliverables (at a minimum, as other submittals and/or work packages may be necessary or desired):

- Released for Construction Plans
- Right of Way and/or Construction Revisions
- Record Plans (As-Built)
- Approved Shop Drawings
- Design Calculations

The Design-Builder will, at a minimum, make two bridge plan submissions for review and approval; 1) Preliminary Plan (Stage I) Submission and 2) Final Plan (Stage II) Submission.

1. Preliminary Plan (Stage I) Submission

a. The Design-Builder will submit a preliminary plan for each permanent structure (new bridge, bridge replacement, bridge widening and / or modification to the roadway geometry below an existing bridge) documenting how the structure geometrics were determined. Where no modifications are being made to an existing bridge and modifications are limited only to under-bridge roadway geometry, bridge plans may be limited to providing a plan and elevation view of the existing bridge showing existing and proposed under-bridge roadway geometry and clearances (both vertical and horizontal).

b. The preliminary plan submittal will include:

- i. a plan view, developed section along bridge centerline/construction baseline and a transverse section. Refer to the Department's office practices for more complete information;
- ii. completed Stage I Bridge Report Summary Form; The preliminary geotechnical recommendation report is required with the Stage I submission; and
- iii. copies of design exceptions and waivers that influence the design of the structure or roadway approaches both over and under and will include a write up on how the design exceptions and design waivers affect the bridge.

c. Preliminary plans must be submitted to and approved by the Department prior to any final bridge design submittal. The Department will not review any final design submittals until the preliminary plan has been submitted to the Department. The

commencement of the final design prior to the review of the preliminary plan submittal by the Department will be done solely at the risk of the Design-Builder.

d. The Stage I bridge submittal will be subject to modifications based upon requirements identified in the detailed hydrologic and hydraulic study and scour analysis of the waterway crossing.

2. Final Plan (Stage II) Submission

a. The Design-Builder will submit final plans for each permanent structure. The final plans will be assembled according to the procedures and guidelines presented in the Department's office practices.

b. Final bridge plans may be submitted as completed bridge plan set(s) or in plan submission packages (i.e., foundation plan package, substructure plan package, superstructure plan package, etc.). The Geotechnical Recommendation Report is required with the Stage II submission. The final plans are to be submitted for review and approval by the Chief Engineer prior to construction of that element and should be submitted according to the submission schedule provided by the Concessionaire.

c. For each bridge, the Design-Builder shall submit estimated quantities as outlined in the Manual of Structure and Bridge Division Vol. V Part 2 Chapter 3.

The bridge plans must use the standard sheets in Volume V (all parts) of the VDOT Manual of Structure and Bridge Division. Structural elements that have a corresponding standard sheet in Volume V must be detailed using the appropriate standard sheet. The sequence of concrete deck placement operations for beams or girder construction shall be given for continuous structures, and all erection stresses shall be computed where necessary for design. A summary table of moments, shears, reactions and stresses for primary load carrying members shall be included in the plans.

The Right of Way and/or Construction plans may be submitted for approval in logical subsections (such as from bridge to bridge) or consisting of work packages such as: 1) clearing and grubbing along with erosion and siltation control, 2) grading and drainage, 3) final roadway, and 4) traffic control. A submittal schedule and planned breakdown of work packages shall be submitted to VDOT for review and approval as part of the planned Project Baseline schedule.

Right of Way and/or Construction Plans shall be accompanied by 1) a VDOT LD-436 checklist filled out as appropriate for the specific submittal, and 2) a written notice signed by the Design-Build Design Manager that includes the following:

- The logical subsections or work packages for which review and approval is being requested
- Confirmation that the submittal has been checked and reviewed in accordance with the Design-Builder's approved QA/QC plan.

- Confirmation that the submittal either meets all requirements of the Contract Documents and Reference Documents or that any deviations from the Contract Documents and Reference Documents have been identified and previously approved by VDOT.

The Design-Builder shall submit all Right of Way and/or Construction plans to VDOT and FHWA simultaneously, for review and approval. VDOT shall receive two (2) full-size sets and ten (10) half-size sets of each submission, with the exception of the Released for Construction Plans (see Part 2, Section 2.15.9 below). FHWA shall receive two (2) half-size sets of final design plans only. The plan submissions shall be delivered to the following addresses:

Virginia Department of Transportation
Attention – Paul Nishimoto
4975 Alliance Drive
Fairfax, VA 22030

Federal Highway Administration
Attention – Elliot Moore, P.E.
400 N. 8th Street, Suite 750
Richmond, VA 23219-4825

VDOT and FHWA shall have the right to review all Right of Way and/or Construction Plans and provide comments regarding compliance with the requirements of the Contract Documents and Reference Documents. The Design-Builder shall be responsible for addressing all such comments to the satisfaction of the reviewer. Formal responses to VDOT and FHWA comments shall be provided in subsequent submittals.

VDOT and FHWA have the right to disapprove any design approach that is not in compliance with the requirements of the Contract Documents and Referenced Documents.

VDOT's written approval of any deviations from requirements of the Contract Documents and Reference Documents shall be attached to the plans submitted for review.

2.21.6 Construction Plans

Construction Plans, and any associated Design Calculations, shall be submitted to VDOT and FHWA simultaneously for review. The time frame for plan review and approval shall be in accordance the requirements of the Contract Documents. All VDOT and FHWA comments must be addressed to the satisfaction of the reviewer before Construction Plans are recommended for approval to the Chief Engineer. This plan milestone includes plans that may be submitted as soon as sufficient information is available to develop Construction Plans for certain portions or elements of the Project (or work packages). The Design-Builder shall meet commitments for review and approval by other entities/agencies as specified in other portions of the RFP and its attachments. The Design-Builder shall be responsible for the design details and ensuring that the design and construction work are properly coordinated.

2.21.7 Released for Construction Plans

Released for Construction Plans are those that are issued for construction after approval by VDOT's Chief Engineer. Notice to Commence Construction will only be issued by the VDOT Project Manager upon approval of the Construction Plans (or Work Packages) by the Chief Engineer.

The Released for Construction Plans shall be distributed simultaneously to VDOT and FHWA. VDOT shall receive one (1) full-size set and five (5) half-size sets of Released for Construction Plans, along with all electronic files. FHWA shall receive two (2) half-size hard copy sets, along with all electronic files, of the Released for Construction Plans. The plans shall be delivered to the following addresses:

Virginia Department of Transportation
Attention – Paul Nishimoto
4975 Alliance Drive
Fairfax, VA 22030

Federal Highway Administration
Attention – Timothy Lewis, P.E.
400 N. 8th Street, Suite 750
Richmond, VA 23219-4825

2.21.8 Record (As-Built) Plans

The final plan milestone is Record (As-Built) Plans. As-Built Plans shall be prepared, signed and sealed by a Professional Engineer licensed in Virginia, and submitted to VDOT with the final application for payment. These plans will show all adjustments and revisions to the Construction Plans made during construction and serve as a permanent record of the actual location of all constructed elements.

2.22 Virginia Occupational Safety and Health Standards

The Project shall comply with Virginia Occupational Safety and Health Standards in accordance with Section 107.17 of the Division I Amendments to the Standard Specifications.

At a minimum, all Contractor personnel shall comply with the following, unless otherwise determined unsafe or inappropriate in accordance with OSHA regulations:

- Hard hats shall be worn while participating in or observing all types of field work when outside of a building or outside of the cab of a vehicle, and exposed to, participating in or supervising construction.

- Respiratory protective equipment shall be worn whenever an individual is exposed to any item listed in the OSHA Standards as needing such protection unless it is shown the employee is protected by engineering controls.
- Adequate eye protection shall be worn in the proximity of grinding, breaking of rock and/or concrete, while using brush chippers, striking metal against metal or when working in situations where the eyesight may be in jeopardy.
- Approved high visibility Safety apparel shall be worn by all exposed to vehicular traffic and construction equipment.
- Standards and guidelines of the current Virginia Work Area Protection Manual shall be used when setting, reviewing, maintaining, and removing traffic controls.
- Flaggers shall be certified in accordance with the Virginia Flagger Certification Program.
- No person shall be permitted to position themselves under any raised load or between hinge points of equipment without first taking steps to support the load by the placing of a safety bar or blocking.
- Explosives shall be purchased, transported, stored, used and disposed of by a Virginia State Certified Blaster in possession of a current criminal history record check and a commercial driver's license with hazardous materials endorsement and a valid medical examiner's certificate. All Federal, State and local regulations pertaining to explosives shall be strictly followed.
- All electrical tools shall be adequately grounded or double insulated. Ground Fault Circuit Interrupter (GFCI) protection must be installed in accordance with the National Electrical Code (NEC) and current Virginia Occupational Safety and Health agency (VOSH). If extension cords are used, they shall be free of defects and designed for their environment and intended use.
- No person shall enter a confined space without training, permits and authorization.
- Fall protection is required whenever an employee is exposed to a fall six feet or greater.

3.0 ATTACHMENTS

The following attachments are specifically made a part of, and incorporated by reference into, these Technical Information & Requirements:

ATTACHMENT 2.1A -- DESIGN EXCEPTION AND MITIGATION TABLE

~~February 6, 2014~~ Addendum #1 – March 6, 2014

ATTACHMENT 2.1B -- DESIGN EXCEPTION AND DESIGN WAIVER
MITIGATION MEASURES
ATTACHMENT 2.2 -- ROADWAY INVENTORY AND MAJOR DESIGN
CRITERIA

All additional information is included in the RFP Information Package – referred to in Part 1, Section 2.8.4 of this RFP.

END OF PART 2 - TECHNICAL INFORMATION & REQUIREMENTS

I-495 Shoulder Use Project

Design Exceptions and Design Waivers Mitigation Measures

Design Exception / Design Waiver Mitigation (See Note 1 & 2 below)	Reduced NB Lane and Shoulder Widths	Inside Shoulder Width SB at Sign Structures	Horizontal Sight Distance NB Inside Shoulder Use, Outside and Auxiliary Lanes	Vertical Clearance at Georgetown Pike Bridge	Vertical Clearance at Old Dominion Bridge	Vertical Clearance at Live Oak Bridge
	DE 1	DE 2	DE 3	DW 1	DW 2	DW 3
Dynamic Message Signs (DMS)	x		x			
ITS - Cameras (Rapid Incident Detection)	x	x	x			
Lane Control System for emergency shoulder use lane closures	x					
High Friction Asphalt on Shoulder Use Lane	x		x			
Remove trees that block sight distance			x			
High retro-reflectivity tape and high contrast delineators on concrete barrier (at bumpout locations only)	x	x				
Standard BPPS-1 Bridge Pier Protection TL-5	x					
12 foot outside shoulder provided where possible	x					
24 foot outside shoulder from Sta 159+50 to Sta 162+00	x					
None				x	x	x
NOTES						
1) Included mitigations are suggested in "FHWA's Mitigation Strategies For Design Exceptions (July 2007)"						
2) See each individual DE/DW for the details of the mitigation provided.						

Recommended for Approval By: _____

Regional Traffic Engineer

Date:

Exhibit 1 to Part 3 Project-Specific Terms

(Date of Standard Exhibit 1 to Part 3: July 2013)

This Exhibit 1 to Part 3 (2013 Lump Sum Design-Build Agreement Between Department and Design-Builder) contains project-specific terms that are hereby incorporated, as identified below, into Part 3, Part 4 (2013 General Conditions of Contract Between Department and Design-Builder), and Part 5 (2013 Division I Amendments to the Standard Specifications General Provisions for Design-Build Contracts Between Department and Design-Builder).

Department and Design-Builder hereby agree any provisions in this Exhibit 1 that modify a specific clause of Parts 3, 4, or 5 shall supersede the clause contained in Parts 3, 4, or 5.

The Agreement Date is [_____].

The Parties to the Agreement are:

**VIRGINIA DEPARTMENT OF TRANSPORTATION (“Department”),
An agency of the Commonwealth of Virginia:**

Virginia Department of Transportation
Attention: Chief Engineer
1401 East Broad Street
Richmond, VA 23219

DESIGN-BUILDER:

[INSERT DESIGN-BUILDER INFORMATION]

Project No.: (FO) 0495-029-123, P101, C501
Project: I-495 Northern Section Shoulder Use
Fairfax County, Virginia

PART 3
2013 LUMP SUM DESIGN-BUILD AGREEMENT BETWEEN
DEPARTMENT AND DESIGN-BUILDER

2.1.4 The Department's Request for Proposals (RFP) is dated January 29, 2014.

2.1.7 The list of all final modifications to the Proposal is as follows:

[LIST PROPOSAL MODIFICATIONS BY NUMBER AND DATE]

5.2.1 The **Final Completion Date** is ~~March 31~~, June 30, 2015.

5.2.2 The **Interim Milestone Date** is December 31, 2014.

The Interim Milestone is defined as all paving, striping, dynamic message signs, overhead lane control system, ITS devices and systems, ATM field device and software integration and preliminary Acceptance Testing, signs associated with the shoulder operation, drainage, concrete barrier and pier protection, and other required items completed, accepted, and fully operational; and the shoulder use lane opened to traffic.

5.2.3 Early Completion Bonus 1. If all Work related to the Interim Milestone is attained on or before the Interim Milestone Date (such earlier date being referred to as "Bonus Date 1"), the Department shall pay the Design-Builder at the time of Final Payment under Section 7.3 hereof an early completion bonus of Two Thousand Five Hundred Dollars (\$2,500.00) for each day that Interim Milestone is attained earlier than the Interim Milestone Date (the "Early Completion Bonus 1"). The Early Completion Bonus shall not exceed One Hundred Fifty Two Thousand Five Hundred Dollars (\$152,500.00). Further, the parties acknowledge, recognize, and agree, that in order to qualify for the Early Completion Bonus 1, the Design-Builder must notify the Department Ten (10) days after the date on which the Interim Milestone is attained and provide a general release executed by the Design-Builder waiving all claims, except those claims previously made in writing to Department and remaining unsettled at the time of Final Payment, which claims shall be specifically listed in an attachment to the general release. Final Acceptance of the Work included in attaining the Interim Milestone shall follow the procedures outlined in Part 4, Section 6.6.

5.2.4 Early Completion Bonus 2. If all Work related to the Final Completion is attained on or before the Final Completion Date (such earlier date being referred to as "Bonus Date 2"), the Department shall pay the Design-Builder at the time of Final Payment under Section 7.3 hereof an early completion bonus of Two Thousand Five Hundred Dollars (\$2,500.00) for each day that Final Completion is attained earlier than the Final Completion Date (the "Early Completion Bonus 2"), except that Early Completion Bonus shall not exceed One Hundred Fifty Two Thousand Five Hundred Dollars (\$152,500.00). Further, the parties acknowledge,

~~February 6, 2014 Addendum #1 – March 6, 2014~~

recognize, and agree, that in order to qualify for the Early Completion Bonus 2, the Design-Builder must notify the Department Ten (10) days after the date on which the Final Completion is attained or the Final Completion Date, whichever comes first and provide a general release executed by the Design-Builder waiving all claims, except those claims previously made in writing to Department and remaining unsettled at the time of Final Payment, which claims shall be specifically listed in an attachment to the general release. Final Acceptance of the Work will follow the procedures outlined in Part 4, Section 6.6.

5.5.1 Liquidated damages for failing to attain Final Acceptance by the Final Completion Date are ~~Three-Twenty~~ Thousand ~~One Hundred~~ Dollars (~~\$3,100.00~~\$20,000) per day.

~~**5.5.2** Liquidated damages for failing to attain the Interim Milestone Date are Twenty thousand and 00/100 Dollars (~~\$20,000.00~~) per calendar day. (NOT USED)~~

6.1 The **Contract Price** is [*written dollar value*] Dollars ($[\textit{numerical}]$).

6.3 The identification of eligible **Asphalt and/or Fuel and/or Steel** price adjustments for this contract is as follows:

Department and Design-Builder agree to adjust prices for asphalt, fuel and steel in accordance with the Department's pertinent special provisions.

9.1.1 The Department's Senior Representative is:

[*Name*]
[*Title*]
[*Address*]
[*Telephone Number*]

9.1.2 The Department's Representative is:

[*Name*]
[*Title*]
[*Address*]
[*Telephone Number*]

9.2.1 The Design-Builder's Senior Representative is:

[*Name*]
[*Title*]
[*Address*]
[*Telephone Number*]

9.2.2 The Design-Builder's Representative is:

[*Name*]

[*Title*]

[*Address*]

[*Telephone Number*]

11.1.2 The **Baseline Schedule** shall be submitted within sixty (60) days of Design-Builder's receipt of the Department's Notice to Proceed.

PART 4
2013 GENERAL CONDITIONS OF CONTRACT BETWEEN
DEPARTMENT AND DESIGN-BUILDER

2.2.1 The duration of the **Scope Validation Period** is sixty (60) days.

[INSERT ANY ADDITIONAL SPECIFIC SECTION CHANGES TO PART 4]

PART 5
2013 DIVISION I AMENDMENTS TO THE STANDARD SPECIFICATIONS
GENERAL PROVISIONS FOR DESIGN-BUILD CONTRACTS BETWEEN
DEPARTMENT AND DESIGN-BUILDER

The following shall supersede Part 5, Section 103.06 of the 2013 Division I Amendments to the Standard Specifications General Provision for Design-Build Contracts between Department and Design-Builder

103.06—Documents Required as a Condition to Award

The portion of the executed Contract submitted by the Successful Offeror shall include the following documents, unless the filing of any of them at a later date is specifically permitted by the RFP or Contract Documents, provided, however notwithstanding anything to the contrary in the Contract Documents, that the submission of an executed Agreement and Contract Bonds shall always be a precondition to Award

- (a) **Contract:** The Agreement executed by the Successful Offeror.
- (b) **Contract Bonds:** Contract Bonds shall conform to the requirements of Section 103.05.
- (c) **Affidavits and Documents:** Affidavits and documents set forth in the RFP and executed by the Successful Offeror.
- (d) **Progress Schedule:** (Not Used)
- (e) **Insurance Coverages and Certificates of Insurance:** The Design-Builder

shall procure and maintain the insurance coverages required below, in accordance with Paragraph (f) below. Design-Builder shall file certificates of insurance with the Department evidencing the coverages and limits within 15 days after notification of Award of the Contract.

.1. Workers' Compensation and Employer's Liability Insurance, with statutory workers' compensation (Coverage A) limits and employer's liability (Coverage B) limits of \$1 million bodily injury by accident or disease, each employee. If necessary, coverage shall be extended to cover any claims under the United States Longshoreman's Act and Harbor Workers Act and Jones' Act as may be appropriate for the Work.

.2 Commercial General Liability Insurance, including coverage for premises and operations, independent contractors, personal injury, product and completed operations, explosion, collapse and underground, and broad form contractual liability with limits of at least \$1 million per occurrence and \$2 million aggregate, applicable on a per project basis.

.3 Automobile Liability Insurance, with a limit of at least \$1 million combined single limit for bodily injury and property damage covering all owned (if any), non-owned, hired or borrowed vehicles on-site or off.

.4 Umbrella/Excess Liability Insurance in excess of the underlying limits noted above for employer's liability, commercial general liability, and automobile liability in the amount of: (a) \$5 million per occurrence and in the annual aggregate for Projects with a Contract Price less than \$15 million; and (b) \$20 million per occurrence and in the annual aggregate for Projects with a Contract Price greater than \$15 million.

.5 Architects/Engineers Professional Liability Insurance, covering Design-Builder's lead design engineer for acts, errors or omissions arising in connection with the Work for not less than: (a) \$2 million any one claim and in the aggregate for Projects with a Contract Price less than \$50 million; and (b) \$5 million any one claim and in the aggregate for Projects with a Contract Price greater than \$50 million. Such insurance shall be maintained throughout the duration of any warranty period and for at least three years after the expiration of any warranty period.

.6 Contractor's Pollution Liability Insurance, to indemnify for bodily injury or property damage or amounts which Design-Builder or its agents, Subcontractors, or employees are legally obligated to pay for clean-up/remediation arising out of the work undertaken pursuant to the Contract Documents. Such insurance shall have minimum limits of \$5 million any one claim and in the aggregate and shall remain in full force and effect for five years following Final Completion.

.7 Builder's Risk Insurance, to provide coverage for physical loss, destruction or physical damage to the work. Such insurance shall cover Design-Builder, the Department, and all Subcontractors and shall be maintained at a limit of at least 100% of the Contract Price. Such insurance shall include replacement cost coverage for materials, supplies, equipment, machinery, and fixtures that are or will be part of the Project. Coverages shall include but are not limited to the following: right to partial occupancy, earthquake, earth movement, flood, transit, temporary and permanent works, expediting expenses, debris removal, offsite storage, soft costs and commissioning and start-up.

(f) **Insurance Requirements.** Design-Builder shall ensure that all insurances required in Paragraph (e) above contain the following provisions:

.1 With the exception of workers' compensation and architect/engineers' professional liability insurance, the Department shall be named as an additional insured on all policies. Each such policy shall also include the appropriate severability of interest and cross-liability clauses to allow one insured to bring claim against another insured party.

.2 All insurance coverages shall be considered primary and non-contributory with regard to other insurances that might be available to Design-Builder or the Department.

.3 All insurers shall waive rights of subrogation against the Department for any claims covered by insurance required herein.

.4 Any inadvertent errors or omissions by Design-Builder in procuring the insurance required herein shall in no way prejudice the rights of the Department to collect under such policies.

.5 Any deductibles shall be the sole responsibility of Design-Builder.

.6 The insurance shall remain in full force and in effect and will remain in effect for the duration required by the Contract Documents.

.7 No insurance coverage will be canceled, renewal refused, or materially changed unless at least thirty (30) days prior written notice is given to Department.

.8 With the exception of workers' compensation and automobile liability insurance, the insurance policies shall specifically delete any design-build or similar exclusions that could compromise coverages because of the design-build delivery of the Project.

(g) **Additional Insurance Requirements**

.1 Design-Builder shall require all Subcontractors to carry the same insurance, and in the same amounts, required by Paragraphs (e)(1), (e)(2) and (e)(3) above.

.2 Design-Builder shall file certificates of insurance with the Department evidencing the coverages and limits described above within the times required by Paragraph (e) above. The certificates shall be executed by approved insurance companies authorized to do business in Virginia with a minimum “Best Rating” of “B +” or greater, and shall cover the Contract.

.3 The insurance coverage limits shall not be construed to relieve Design-Builder or Subcontractor(s) of liability in excess of such coverage, nor shall it preclude the Department from taking such actions as are available to it under any other provision of the Contract Documents or otherwise in law.

DEPARTMENT:

DESIGN-BUILDER:

Virginia Department of Transportation
(Name of Department)

(Name of Design-Builder)

(Signature)

(Signature)

(Printed Name)

(Printed Name)

Chief Engineer
(Title)

(Title)

Date: _____

Date: _____

END OF EXHIBIT 1 to PART 3
PROJECT-SPECIFIC TERMS