



REQUEST FOR PROPOSALS (RFP)

RFP Number: 1-005-24-0001

ISSUE DATE: February 05, 2024

ISSUING AND USING AUTHORITY: Virginia Passenger Rail Authority (VPRA)

SERVICES PROCURED: Professional Services (A/E)

DESCRIPTION: 60% Engineering Design and related deliverables/New River Valley Passenger Rail Project

TERM/PERFORMANCE PERIOD: All Work must be complete within **228 calendar days** from issuance of the Notice to Proceed.

DUE DATE: Proposals will be received until **2:00 PM, March 22, 2024**

ACCESS TO SOLICITATION: This solicitation and any addenda are publicly posted and may be accessed at any time at: [Current Contracting Opportunities - VPRA \(vapassengerrailauthority.org\)](https://www.vapassengerrailauthority.org/CurrentContractingOpportunities)

SUBMIT PROPOSALS TO: proposals@vpra.virginia.gov

*******NOTICE*******

VPRA is requesting proposals from consulting firms to provide professional services in support of the New River Valley Passenger Rail Project. All requests for information and questions regarding this procurement should be directed to: Slade Greenway, procurement@vpra.virginia.gov. Questions/requests for clarification concerning this RFP must be received via email no later than: **February 23, 2024 @ 5:00PM**. All email communications shall contain "RFP 1-005-24-0001" in the subject line followed by the Offeror's name.

Proposals must be received electronically by VPRA's office of procurement on or before the date and time designated on this solicitation. Hard-copy and facsimile submissions will not be accepted in lieu of electronic submissions. Offerors are responsible for the timely delivery of their proposal. Proposals received after the official date and time will be rejected. The official date and time used in receipt of responses is the timestamp associated when emails are received at proposals@vpra.virginia.gov.

INSTRUCTIONS TO OFFERORS

TABLE OF CONTENTS

1.0	DEFINITIONS	3
2.0	INTRODUCTION	3
3.0	RFP DOCUMENTS	3
4.0	LEGAL AUTHORITY	4
5.0	RAILROAD INDEMNIFICATIONS	4
6.0	STATEMENT OF NEEDS	4
7.0	PRE-PROPOSAL CONFERENCE	4
8.0	PROCUREMENT SCHEDULE	4
9.0	SINGLE POINT OF CONTACT	5
10.0	OFFEROR'S DESIGNATED CONTACT	5
11.0	RULES OF CONTACT	5
12.0	INELIGIBLE FIRMS	6
13.0	VPRA FURNISHED INFORMATION	6
14.0	QUESTIONS/REQUESTS FOR CLARIFICATION FROM OFFERORS	6
15.0	REQUESTS FOR CLARIFICATION FROM VPRA	7
16.0	ADDENDA	7
17.0	QUALIFICATIONS; LICENSURE	7
18.0	SMALL, DIVERSE, AND DISADVANTAGED BUSINESS PARTICIPATION	7
19.0	PRE-SUBMITTAL OBLIGATIONS	8
20.0	DESIGNATION OF CONFIDENTIAL INFORMATION	8
21.0	PROPOSAL PREPARATION AND SUBMISSION REQUIREMENTS	9
22.0	EVALUATION AND SCORING	14
23.0	DISCUSSIONS; INFORMAL INTERVIEWS	15
24.0	NOTIFICATION TO OFFERORS	16
25.0	ADDITIONAL SUBMITTALS	16
26.0	NEGOTIATION AND AWARD OF THE CONTRACT	16
27.0	SENSITIVE SECURITY INFORMATION; CRITICAL INFRASTRUCTURE	17
28.0	CONTRACT EXECUTION; AT RISK WORK	17
29.0	DEBRIEFINGS	17
30.0	APPLICABLE COST PRINCIPLES; ACCOUNTING REQUIREMENTS	18
31.0	ORGANIZATIONAL CONFLICTS OF INTEREST	18
32.0	DURATION OF PROPOSAL	19
33.0	PROCUREMENT DECISION APPEALS	19
34.0	OFFERORS RESPONSIBLE FOR ALL COSTS	19
35.0	NO ASSUMPTION OF LIABILITY	19
36.0	RESERVATION OF RIGHTS	19
37.0	COMPLIANCE WITH LAW IN THE COMMONWEALTH	20
38.0	ETHICS IN PUBLIC CONTRACTING	20
39.0	REPRESENTATIONS	20

APPENDICES

APPENDIX 1 DEFINITIONS

FORMS

A	OFFEROR INFORMATION AND ACKNOWLEDGEMENT (FORM PD 02)
B	OFFEROR QUESTIONS/REQUESTS FOR CLARIFICATION FORM (FORM PD 22)
C	SMALL AND DIVERSE BUSINESS SUBCONTRACTING PLAN (FORM PD 60)
D	DBE UTILIZATION PLAN (FORM PD 50B)
E	MONTHLY SMALL AND DIVERSE BUSINESS SUBCONTRACTING UTILIZATION REPORT (FORM PD 61)
F	MONTHLY DBE PARTICIPATION REPORT (FORM PD 51)
G	PROOF OF AUTHORITY TO TRANSACT BUSINESS IN VIRGINIA (FORM PD 44)
H	PROPRIETARY/CONFIDENTIAL INFORMATION IDENTIFICATION (FORM PD 25)
I	KEY PERSONNEL DESIGNATIONS
J	EXCEPTIONS TO RFP DOCUMENTS (FORM PD 20)
K	FEE SCHEDULE

EXHIBITS

- EXHIBIT 1 SCOPE OF WORK
- EXHIBIT 2 GENERAL TERMS AND CONDITIONS (FORM PD 100)
- EXHIBIT 3 SPECIAL PROVISION INVOLVING PROPERTY AND FACILITIES OWNED, CONTROLLED OR UTILIZED BY CSX TRANSPORTATION, INC., NORFOLK SOUTHERN RAILWAY COMPANY, AND THE NATIONAL RAILROAD PASSENGER CORPORATION (SP 01 CRA)
- EXHIBIT 4 INSURANCE REQUIREMENTS
- EXHIBIT 5 CONTRACT FOR CONSULTANT SERVICES (FORM PD 04)

1.0 DEFINITIONS

- 1.1 Unless otherwise defined herein, capitalized terms shall have the meanings set forth in Appendix 1.

2.0 INTRODUCTION

- 2.1 The Virginia Passenger Rail Authority (“VPRA”) is issuing this Request for Proposals (“RFP”) to solicit proposals from qualified single entities to establish a contract through competitive negotiation for the procurement of professional services in support of the New River Valley Passenger Rail Project (the “NRV Project” or the “Project”).
- 2.2 A key component of VPRA’s Transforming Rail in Virginia program, the NRV Project will extend Amtrak passenger rail service from Roanoke to the New River Valley, using the VPRA-owned Virginia Line. Additional information about the Project is available at [New River Valley Project - VPRA %New River Valley % \(vpassengerrailauthority.org\)](https://www.vpassengerrailauthority.org/new-river-valley-project).
- 2.3 VPRA has advanced the Project through preliminary engineering (30% design) phase and now seeks to retain a qualified firm to prepare 60% engineering design and other related deliverables associated with discrete Project elements (collectively, the “Work”), which services and deliverables are more particularly described in [Exhibit 1](#) (Scope of Work). By way of general overview, the engineering and design services on the Contract will include advancing the construction documents for tunnel modifications, passenger platforms, passenger station infrastructure, and layover facilities within the Project limits and the development of a construction cost estimate and critical path method schedule for the Project.
- 2.4 This is a single step, qualifications-based procurement. One award will be made by VPRA in connection with this solicitation.
- 2.5 Offerors are advised that VPRA may, in its sole discretion, elect to stop Work on the Project and/or terminate the Contract, in whole or in part, based on the outcome of an alternatives analysis. Preparation of the alternatives analysis is not included within the Work.
- 2.6 This solicitation includes an option for VPRA to authorize Consultant to advance some or all of the Project elements to final design, subject to Consultant’s successful completion of the Work.

3.0 RFP DOCUMENTS

- 3.1 The documents included within this RFP shall consist of the RFP cover page, these Instructions to Offerors, as well as any appendices, form, exhibits, and addenda (collectively, the “RFP Documents”).
- 3.2 Hard copies of the RFP Documents will be available upon request. If there is any conflict between the electronic format and hard copy of any RFP Documents, the hard copy on file shall control.
- 3.3 Offerors shall not take advantage of any actual or potential error in the RFP Documents. Offerors shall identify any potential errors in writing to VPRA’s point of contact specified in [Section 9](#). If VPRA determines that the RFP Documents contain an ambiguity, conflict, error, omission, or mistake, VPRA reserves the right to modify the RFP Documents to correct the ambiguity, conflict, error, omission, or mistake.

4.0 LEGAL AUTHORITY

- 4.1 VPRA was created by the Virginia General Assembly on July 1, 2020, pursuant to Va. Code § 33.2-287, *et seq.*, and established as “a body corporate and political subdivision of the Commonwealth...” Pursuant to its enabling legislation, VPRA administers all capital expansion projects, infrastructure, and land acquisitions related to the Transforming Rail in Virginia Program, which initiative will double Amtrak state-supported service and substantially increase Virginia Railway Express (“VRE”) service in Virginia over the next decade.
- 4.2 VPRA undertakes its procurements in accordance with the *Virginia Passenger Rail Authority Procurement Rules* dated May 23, 2022 (“Procurement Rules”). Offerors shall read and familiarize themselves with the Procurement Rules and the submittal of a Proposal shall constitute acceptance of the Procurement Rules for purposes of this procurement. Offerors may access a copy of the Procurement Rules on VPRA’s website at <https://vapassengerrailauthority.org/procurement/>.
- 4.3 VPRA is exempt from the requirements of the Virginia Public Procurement Act (“VPPA”) (Va. Code § 2.2-4300 *et seq.*) and this procurement is not subject to or otherwise governed by the VPPA. Notwithstanding the foregoing, in accordance with Va. Code § 33.2-299.1, VPRA procures professional services consistent with the terms of Va. Code §§ 2.2-4302.2, -4303.1, and -4303.2.

5.0 RAILROAD INDEMNIFICATIONS

- 5.1 As part of VPRA’s delivery of the Project, VPRA is obligated to provide certain indemnifications to Norfolk Southern Railway Company (“NS”) and the National Railroad Passenger Corporation (“Amtrak”) that will be passed through to the Consultant. These indemnification obligations are attached as Exhibit 3 and are non-negotiable.

6.0 STATEMENT OF NEEDS

- 6.1 A detailed description of the statement of needs for this RFP is set forth in Exhibit 1 (Scope of Work). Offerors are expected to thoroughly review this material before submitting a Proposal.

7.0 PRE-PROPOSAL CONFERENCE

- 7.1 VPRA will be hosting a person pre-proposal conference at **9:00 AM EST on February 15, 2024**.
- 7.2 Attendance at the pre-proposal conference is optional; however, Offerors who intend to submit a Proposal are highly encouraged to be present. Attendance at the pre-proposal can be either virtual or in person. Registration to attend the pre-proposal conference is required by February 14, 2024 at 11:59 PM. Offerors can register for the webinar at [Pre-Proposal Registration](#). Once registered, you will receive a link for the webinar. Please note that every person who plans to attend must register.
- 7.3 Any questions and answers that are presented during the pre-proposal conference or any changes to the solicitation resulting from this conference will be issued in a written addendum in accordance with Section 16.

8.0 PROCUREMENT SCHEDULE

- 8.1 Below is VPRA’s planned schedule for this procurement. VPRA reserves the right to amend these dates in its sole discretion.

Event/Milestone	Date/Date Range
Release of RFP	2/5/2024
Pre-Proposal Conference	2/15/2024
Questions/Requests for Clarifications Due	2/23/2024
Proposal Due Date	3/22/2024
Interviews	April 2024
Notice of Intent to Award Issued	April 2024
Negotiations	April 2024
Contract Award	May 2024

9.0 SINGLE POINT OF CONTACT

9.1 VPRA’s sole point of contact (“POC”) for matters related to this procurement is:

Slade Greenway, Buyer
919 E. Main Street, Suite 2400
Richmond, VA 23219
procurement@vpra.virginia.gov

9.2 All communications regarding the procurement shall be directed to the POC by email transmittal to the address specified in Section 9.1. Written communications to VPRA’s POC from Offerors shall contain “RFP 01-005-24-0001” in the subject line followed by the Offeror’s name.

9.3 VPRA disclaims the accuracy of information derived from any source other than VPRA’s POC, and the use of any such information is at the sole risk of the Offeror. Only written communications received from the POC or its designee may be relied on throughout this procurement. VPRA is not responsible for oral communications or other communications that occur outside the communications protocol established by this RFP.

9.4 VPRA may, in its sole discretion, waive or modify the provisions of this Section 9.0 wherever deemed prudent to the efficient administration of the procurement.

10.0 OFFEROR’S DESIGNATED CONTACT

10.1 Offeror’s Designated Contact, who shall be the single point of contact for each Offeror, shall be the individual designated in Form A. Offerors may change the Designated Contact by written communication to VPRA’s POC.

11.0 RULES OF CONTACT

11.1 As of the date of issuance of this RFP, no Offeror shall contact any employee or representative of VPRA concerning this RFP or the Project, including members of VPRA’s

- Board of Directors, except for the POC as specifically permitted in this RFP. This prohibition does not apply to discussions with VPRA not related to this RFP or the Project.
- 11.2 The following entities are considered “representatives” of VPRA during this procurement and may not be contacted by any means whatsoever concerning this RFP or the Project:
- (a) Kimley-Horn and Associates, Inc.;
 - (b) The Mott-MacDonald Group.;
 - (c) McDonough Bolyard Peck, Inc.; and
 - (d) ButlerMatrix, LLC.
- 11.3 In addition, Offerors are prohibited from contact with the following stakeholders concerning this RFP or the Project:
- (a) Norfolk Southern (“NS”);
 - (b) Amtrak;
 - (c) Virginia Department of Transportation (“VDOT”);
 - (d) New River Valley Passenger Rail Station Authority;
 - (e) Other governmental agencies with jurisdiction;
 - (f) Adjacent landowners; and
 - (g) Business owners in the vicinity of the Project.

12.0 INELIGIBLE FIRMS

- 12.1 The below listed firms are not eligible to participate in this procurement as an Offeror or sub-offeror.
- (a) Kimley-Horn and Associates, Inc.; and
 - (b) The Mott-MacDonald Group.
- 12.2 VPRA made this determination in accordance with its Organizational Conflict of Interest Policy. If any firm listed above desires to appeal this determination of its ineligibility, such appeal must be made accordance with the procedures set forth in Section 2.6 of the Organizational Conflict of Interest Policy. In VPRA’s discretion, exceptions may be granted on the grounds provided in the Organizational Conflict of Interest Policy. VPRA’s reconsideration determination will be in writing.

13.0 VPRA FURNISHED INFORMATION

- 13.1 VPRA anticipates releasing certain reference documents for information purposes only. VPRA makes no representations or warranties with respect to the reference information, and, unless otherwise provided, Offeror may not rely on them. Given the confidential nature of the reference documents, Offerors will be required to execute a confidentiality/non-disclosure agreement (“NDA”) prior to the release of the records. Offerors should contact the VPRA designated POC to request a copy of the NDA.

14.0 QUESTIONS/REQUESTS FOR CLARIFICATION FROM OFFERORS

- 14.1 All questions and requests for clarification regarding this RFP shall be submitted to VPRA’s POC via electronic mail using Form B, which Offerors shall submit in Microsoft 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.
- 14.2 Offerors shall not provide information that discloses the Offeror’s identity in the body of the question or request for clarification. All questions or requests for clarification must be

submitted by **5:00 PM, February 23, 2024**. Questions or clarifications requested after such time will not be answered, unless VPRA elects, in its sole discretion, to do so.

- 14.3 VPRA will post responses to the questions/requests for clarification received and answered on VPRA's website at [Current RFPs - Virginia Passenger Rail Authority \(vapassengerrailauthority.org\)](https://www.vapassengerrailauthority.org). Upon submission of a Proposal, Offerors will be required to affirm receipt of all questions/clarification requests and responses using Form A.

15.0 REQUESTS FOR CLARIFICATION FROM VPRA

- 15.1 VPRA may at any time issue one or more requests for clarification to the individual Offerors, request additional information from an Offeror, or may request an Offeror verify or certify any aspect of its Proposal. Any requests for clarification from VPRA shall be in writing to Offeror's Designated Contact. Offerors shall respond to any such requests within the time stated in the request from VPRA. Upon receipt of requested clarifications and additional information as described above, if any, VPRA may re-evaluate the Proposals to factor in the clarifications and additional information.

16.0 ADDENDA

- 16.1 VPRA may amend the RFP from time to time in its sole discretion. Any such amendments shall be incorporated into the RFP through an addendum. Addenda to the RFP, if any, will be posted on VPRA's website at [Current RFPs - Virginia Passenger Rail Authority \(vapassengerrailauthority.org\)](https://www.vapassengerrailauthority.org).
- 16.2 Offerors shall base their Proposals on the terms and conditions of the RFP Documents included in the latest issued addendum. VPRA will not be bound by any oral communications, or written interpretations or clarifications that are not set forth in an addendum.
- 16.3 Upon submission of a Proposal, Offerors will be required to affirm receipt of all issued addenda on Form A.

17.0 QUALIFICATIONS; LICENSURE

- 17.1 Each business entity (prime and sub-consultants) on the proposed team who is practicing or offering to practice professional services in the Commonwealth, including but not limited to, those practicing or offering to practice engineering, surveying, hydrologic and hydraulic analysis, geotechnical analysis and landscape architecture, shall be required to possess the appropriate commercial professional registration and license details for all main and branch offices proposed for this Project, as well as appropriate individual registration and license details for those professional occupations.

18.0 SMALL, DIVERSE, AND DISADVANTAGED BUSINESS PARTICIPATION

- 18.1 It is the policy of VPRA that firms certified as a small and diverse businesses by the Department of Small Business and Supplier Diversity ("DSBSD") (i.e., SWaM Businesses) and those certified as a Disadvantaged Business Enterprise ("DBE") by either DSBSD or the Metropolitan Washington Airports Authority ("MWAA") have an equal opportunity to participate in VPRA procurements.
- 18.2 No SWaM or DBE contract goals are included within this solicitation. However, Offerors must ensure that DSBSD-certified SWaMs and DSBSD/MWAA-certified DBEs have a meaningful chance to compete for and perform Work on the Project. Offerors should take all necessary and reasonable steps for this assurance.

- 18.3 Wherever feasible, the successful Offeror(s) should seek to maximize the use of SWaMs and DBEs for as much of the Work as possible throughout the lifetime of the Contract. A directory of DSBSD-certified small businesses and DSBSD/MWAA-certified DBEs is available online at: <https://directory.sbsd.virginia.gov/#/executiveExport>. Offerors are encouraged to consider assisting small, diverse, and/or disadvantaged businesses in obtaining certification wherever eligible.
- 18.4 Additional details regarding SWaM and DBE submittal requirements are set forth in Section 21.3. Any agreement between an Offeror and a SWaM or DBE whereby the SWaM or DBE agrees not to provide quotations for performance of work to other Offerors is prohibited.

19.0 PRE-SUBMITTAL OBLIGATIONS

- 19.1 Each Offeror shall be solely responsible for examining the RFP Documents, including any addenda issued to such documents, and all conditions that may in any way affect its Proposal or the performance of the work on the Contract, including but not limited to:
- (a) examining and carefully studying the RFP Documents, including any addenda and other information or data identified in the RFP Documents;
 - (b) evaluating their organizational capacity to fulfill the requirements of the RFP in a timely and professional manner;
 - (c) addressing all potential issues and/or impacts involving third parties and ensuring all such issues and/or impacts have been included in the Offeror's Proposal;
 - (d) 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 Contract;
 - (e) 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 Contract; and
 - (f) notifying VPRA in writing, in accordance with the processes set forth in Section 9.0, of all conflicts, errors, ambiguities, or discrepancies that Offeror discovers in the RFP Documents which require correction and/or clarification.
- 19.2 Any failure to fulfill these responsibilities is at the Offeror's sole risk and no relief will be provided by VPRA.

20.0 DESIGNATION OF CONFIDENTIAL INFORMATION

- 20.1 All Proposals submitted to VPRA become the property of VPRA and are subject to the disclosure requirements of the Virginia Freedom of Information Act ("VFOIA") (Va. Code § 2.2-3700 *et seq.*). Offerors are advised to familiarize themselves with the provisions of VFOIA to ensure that documents identified as confidential will not be subject to disclosure under VFOIA. In no event shall the Commonwealth or VPRA be liable to an Offeror for the disclosure of all or a portion of a Proposal submitted pursuant to this request.
- 20.2 If an Offeror has special concerns about information that it desires to make available to VPRA but that it believes constitutes a trade secret, proprietary information, or other confidential information exempted from disclosure, such Offeror should specifically and conspicuously designate that information as such in its Proposal and state in writing why protection of that information is needed in accordance with Form H.

- 20.3 Blanket designations that do not identify the specific information shall not be acceptable and may be cause for VPRA to treat the entire Proposal as public information. Nothing contained in this provision shall modify or amend requirements and obligations imposed on VPRA 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).
- 20.4 In the event VPRA receives a request for public disclosure of all or any portion of a Proposal identified as confidential, VPRA will attempt to notify the Offeror of the request, providing an opportunity for such Offeror to assert, in writing, claimed exemptions under the VFOIA or other Commonwealth law. VPRA will come to its own determination whether or not the requested materials are exempt from disclosure. In the event VPRA elects to disclose the requested materials, it will provide the Offeror advance notice of its intent to disclose.

21.0 PROPOSAL PREPARATION AND SUBMISSION REQUIREMENTS

21.1 General Requirements

- (a) Proposals shall be signed by an authorized representative of the Offeror. All information requested should be submitted. Failure to submit all information requested may result in VPRA requiring prompt submission of missing information and/or giving a lowered evaluation of the Proposal. Proposals that are substantially incomplete or lack key information may be rejected by VPRA at its discretion. Offerors must use VPRA -issued forms when submitting their Proposal. Alteration or omission of any form may result in a Proposal being deemed non-responsive.
- (b) Proposals should be as thorough and detailed as possible so that VPRA may properly evaluate the Offeror's capabilities to provide the required services.
- (c) Proposals should be organized in the order in which the requirements are presented in the RFP. All pages of the Proposal should be numbered. The Proposal should contain a table of contents which cross-references the RFP requirements. Information the Offeror desires to present that does not fall within any of the requirements of the RFP should be inserted at an appropriate place or be attached at the end of the Proposal and designated as additional material. Proposals that are not organized in this manner risk elimination from consideration if the Evaluation Team is unable to find where the RFP requirements are specifically addressed.
- (d) Proposals should be prepared simply and economically, providing straightforward concise description of capabilities to satisfy the requirements of the RFP. Emphasis should be on completeness and clarity of content. Elaborate brochures and other representations beyond that sufficient to present a complete and effective proposal are not required and will not be utilized in the evaluation of the Proposal. VPRA wants to remind Offerors to be mindful about size limits when sending electronic Proposals to proposals@vpra.virginia.gov. VPRA can accept files up to 150 MB in size. If the response exceeds 150 MB, it is recommended that the file(s) be compressed and sent as an attachment, zip file, if possible. VPRA will only accept a downloadable link if the response cannot be compressed.
- (e) As used in this RFP, the terms "must," "shall," "should," and "may" identify the degree to which requirements are critical. "Must" and "shall" identify requirements whose absence will have a major negative impact on the suitability of the proposed solution. Items labelled as "should" or "may" are highly desirable, although their absence will not have a large impact and would be useful but are not necessary. Depending on the overall response to the RFP, some individual "must" and "shall"

items may not be fully satisfied, but it is the intent to satisfy most, if not all, "must" and "shall" requirements. The inability of an Offeror to satisfy a "must" or "shall" requirement does not automatically remove that Offeror from consideration; however, it may seriously affect the overall rating of the Offeror's Proposal. Once the Offeror and VPRA have entered into the Contract, the terms "must," "shall," "should," and "may" where used in those portions of the RFP incorporated into the Contract shall have their ordinary meaning.

21.2 *Specific Requirements*

- (a) To be considered for selection, Offerors must submit a complete written response to this RFP to: proposals@vpva.virginia.gov.
- (b) Proposals must be received by **2:00 PM, March 22nd, 2024**.
- (c) Text shall be in English in a standard font, a minimum of 12 points, single-spaced. Proposals are limited to a maximum of 25 single-sided, numbered pages, excluding a cover letter, required forms, registrations and licenses, covers, sub-tabs, dividers, table of contents, and Key Personnel resumes. Resumes should be limited to two (2) pages in length.
- (d) Proposals shall be presented on 8 ½" x 11" paper; however, pages with organizational charts, matrices, or diagrams may be presented on 11" x 17" paper. Type size shall be no smaller than 12-point for narrative sections, but may be reduced for captions, footnotes, etc., while maintaining legibility.

21.3 *Required Submittals*

Offerors are required to submit the below listed items for their Proposal to be considered complete.

TAB 1: General (non-scoring)

The Offeror shall include the following documents as part of its submittal requirements under this tab:

- 1. Form A (Offeror Information and Acknowledgement);
- 2. Form G (Proof of Authority to Transact Business in Virginia) (include additional forms for any sub-Offerors); and
- 3. Form H (Disclosure of Proprietary/Confidential Information), if applicable.

TAB 2: Qualifications and Experience of Firm

[10 page maximum]

The Offeror must describe the skills and qualifications it has available to perform the work described in Exhibit 1 (Scope of Work). The Offeror shall provide the following information concerning its company and sub-offerors:

- 1. Expertise and experience of the firm relative to the tasks described in Exhibit 1 (Scope of Work) such as: passenger rail design, roadway design, bridge design, culvert design, tunnel design, ventilation design, structural design, civil engineering, survey, utility coordination, geotechnical, cost estimating, value engineering, risk management, and stakeholder and railroad coordination.

2. A detailed statement indicating the organizational structure under which the firm proposes to conduct business. If more than one firm is involved in the Project, state the type of arrangement between the firms, the percentage of work to be performed by each, a list of previous projects in which the firms have previously collaborated. Include a comprehensive organizational chart.
3. At least three and no more than five (5) projects-on which the Offeror or sub-Offeror have worked on that are similar in scope and character to the Project. Projects shall have been completed in the last 10 years or be substantially complete. Projects shall include client contact name, address, telephone number; project description, scope of services provided, level of completion of the project; small, diverse, or disadvantaged business percentage (original commitment and final achieved); and project dollar value.
4. Disclosure of any professional disciplinary judgments or actions taken against the Offeror or the Offeror's principles by any professional regulatory bodies (include for sub-Offerors if part of Key Personnel).

Additionally, the Offeror shall identify Key Personnel with the qualifications and experience necessary to ensure efficient administration and successful completion of the Project. Offerors shall submit Form I containing the identity of the individuals proposed to fill the Key Personnel positions identified in the table below. Offerors shall also submit a resume for each Key Personnel. Resumes shall include three (3) references for each Key Personnel.

Key Personnel	Requirements and Preferred Qualifications
Project Manager	The Project Manager must be a registered Professional Engineer in the Commonwealth. VPRA prefers the Project Manager have a minimum of 15 years of experience on projects of similar scope and size, including coordination with multiple agencies and stakeholders and experience with FRA regulations.
Rail Design Manager	The Rail Design Manager must have proven experience and qualifications working with a Class I railroad and/or Amtrak, as well as experience with American Railway Engineering and Maintenance-of-Way Association ("AREMA"), NS, and Amtrak standards. The Rail Manager must be a registered Professional Engineer in the Commonwealth and VPRA prefers a minimum of 10 years of experience.
Structural Design Manager	The Structures Design Manager ("SDM") will be in charge of all structural design work on the Project and ensuring that the structural design is prepared in conformance with the Contract Documents. The SDM will be responsible for design of all structures on the Project. The SDM must be a registered Professional Engineer in the Commonwealth and VPRA prefers a minimum of 10 years of experience.

Tunnel Design Manager	<p>The Tunnel Design Manager (“TDM”) will be in charge of all design relating to tunnel modifications and improvements to the tunnel to support passenger rail service. The TDM will ensure that the tunnel design work is in conformance with the Contract Documents. The TDM will be responsible for all of the tunnel design work.</p> <p>The TDM must be a registered Professional Engineer in the Commonwealth and VPRA prefers a minimum of 10 years of experience.</p>
Roadway Design Manager	<p>The Roadway Design Manager (“RDM”) will be in charge of all roadway design for the Project and ensuring that the roadway design is prepared in conformance with the Contract Documents. The RDM will be responsible for the design of all roadway elements on the Project. RDM shall highlight VDOT experience.</p> <p>The RDM must be a registered Professional Engineer in the Commonwealth and VPRA prefers a minimum of 10 years of experience.</p>
Geotechnical Design Manager	<p>The Geotechnical Design Manager (“GDM”) will be in charge of all geotechnical design work on the Project and ensuring that the geotechnical design is prepared in conformance with the Contract Documents. The GDM will be responsible for geotechnical design of the retaining walls, foundations, cut and fill slopes, embankment materials and construction, geotechnical instrumentation, and pavement subgrade and structure.</p> <p>The GDM must be a registered Professional Engineer in the Commonwealth and VPRA prefers a minimum of 10 years of experience.</p>
Additional Value Add Positions	<p>An Offeror may name up to four (4) other individuals that the Offeror considers as key to the success of the Project. Their resumes shall describe their anticipated role, relevant experience, registration(s), education, and other elements of qualification applicable to the Project.</p>

TAB 3: Methodology / Approach for Providing Services [10 page maximum]

The Offeror must provide a detailed description of its understanding of the Project requirements, with descriptions of the approach and procedures Offeror has successfully employed on similar projects elsewhere.

Additional required elements shall include:

1. A description of the project management procedures the Offeror will follow, including processes and procedures for meeting schedules and budgets, and recovery strategies proposed for the Project.
2. A description of the firm’s risk management and mitigation strategies relevant to the tasks described in Exhibit 1 (Scope of Work).

3. A description of Offeror's quality control procedures and how they will be deployed toward the successful completion of the tasks described in Exhibit 1 (Scope of Work).
4. A description of other services or specialties that may distinguish the ability of the Offeror to successfully deliver the Project.

Where applicable, the Offeror may identify and describe any relevant support services that will be available to VPRA relevant to the various types of tasks described in Exhibit 1 (Scope of Work).

TAB 4: Organizational Capacity

[5 page maximum]

The Offeror shall describe its human and financial resources and discuss any issues which might positively or negatively impact its ability to fulfill the Project requirements. Additional required elements shall include the following:

1. Disclosure of the location of Offeror's headquarters and primary office from where the Project work will be performed.
2. Disclosure of Offeror's and sub-offerors' current major projects and the anticipated completion date of the projects.
3. Discuss the availability of the Key Personnel by providing a list of current projects, anticipated completion dates, and percent availability for the Project. Offerors shall guarantee that Key Personnel identified will be available for the duration of the Project.
4. A description of organizational capacity to fulfill the Project requirements.

TAB 5: Small, Diverse, and Disadvantaged Business Participation

The Offeror shall submit the following:

1. A completed Form C (Small and Diverse Business Subcontracting Plan; VPRA Form PD 60) detailing Offeror's Small and Diverse Business Subcontracting Plan for the Work; and
2. A completed Form D (DBE Utilization Plan; VPRA Form PD 50B) detailing Offeror's plan to use DSBSD/MWAA-certified DBEs for the Work.

As further addressed in Section 23, Offerors will be scored exclusively on Section B of their Small and Diverse Business Subcontracting Plan (Form C), which details their small/small diverse business commitments for the Project. DBEs will not count toward an Offeror's score unless the DBE is also certified as a small business by DSBSD and listed within Section B of Form C. Firms not certified as a small business by DSBSD but holding other SWaM certifications or other status with DSBSD (e.g., women-owned business, minority-owned business) will also not count towards an Offeror's score but should be listed in Section C of Form C.

Each Offeror is responsible for independently verifying the certification status of firms that it includes within its Small and Diverse Business Subcontracting Plan (Form C) and DBE Utilization Plan (Form D). Deductions in scoring may be made by the Evaluation Team where an Offeror has included a firm within Section B of Form C that is not properly certified by DSBSD at time of Proposal submittal.

Alternatively, the Evaluation Team, in its sole election, may elect to award zero points in those circumstances.

If awarded the Contract, an Offeror's approved Small and Diverse Business Subcontracting Plan and approved DBE Utilization Plan become part of the Contract Documents and are to be construed as material to the Contract. Consultant will be required to report small, diverse, and/or disadvantaged business utilization to VPRA on a monthly basis using Forms E and F, as applicable.

During the performance of the Contract, VPRA may allow amendments to the Small and Diverse Business Subcontracting Plan and/or DBE Utilization Plan where the modification to the plan will have the effect of increasing overall participation by SWaMs and/or DBEs on the Project or where the Consultant is able to evidence that a SWaM and/or DBE subcontractor has been terminated for cause or has been decertified.

22.0 EVALUATION AND SCORING

22.1 Immediately following the due date for Proposals, the Director of Procurement (or his designee) shall distribute the Proposals to the Evaluation Team. Proposals determined to be responsive to the RFP will be evaluated and scored in accordance with this Section 22.

22.2 The Offeror's Proposal will be assigned points as follows:

Category	Total Points Available
<i>Qualifications and Experience of Offeror (Tab 2)</i>	40 points
<i>Methodology/Approach for Providing Services (Tab 3)</i>	30 points
<i>Organizational Capacity (Tab 4)</i>	20 points
<i>Small/Small and Diverse Business Participation (Tab 5)</i>	10 points
Total	100 points

22.3 In ascribing points, the Evaluation Team will utilize the following Evaluation Criteria:

Category	Evaluation Criteria
<i>Qualifications and Experience of Offeror (Tab 2)</i>	The extent to which Offeror shows that it has successfully performed similar prior work that demonstrates its qualifications and ability to successfully fulfill the Project requirements; the extent to which Offeror's Key Personnel have the background and experience to be successful at delivering a quality Project.
<i>Methodology/Approach for Providing Services (Tab 3)</i>	The extent to which Offeror demonstrates a comprehensive understanding of the Project, key risks,

	and mitigation strategies; overall soundness of Offeror’s plan; soundness of Offeror’s quality control procedures; other distinguishing elements Offeror can bring to the Project.
<i>Organizational Capacity (Tab 4)</i>	The Offeror’s ability to timely perform the work given its current resources and other project demands.
<i>Small/Small and Diverse Business Participation (Tab 5)</i>	<p>VPRA will award points for small/small and diverse business participation based on a formula that awards the maximum number of points available to the Offeror that commits to use the highest percentage of small or small and diverse businesses on the Project (Section B of Form C). The number of points awarded to each Offeror is as follows:</p> <p style="text-align: center;">$10 \times (\text{Offeror's \% Commitment} / \text{Highest \% Committed})$.</p> <p>Note: Where an Offeror is a DSBSD-certified small business, they will be awarded all 10 points provided they are self-performing 100% of the Work.</p>

- 22.4 Except for Small/Small Diverse Business Participation, VPRA will use a consensus approach to evaluate the Proposals. Members of the Evaluation Team will not score proposals individually but instead will arrive at a consensus as to the assignment of points. In developing a consensus score, the Evaluation Team is at liberty to consider all information contained within an Offeror’s Proposal, as well as Offeror’s presentation and responses to questions in any informal interviews, if held.
- 22.5 The consensus scores will be added to the Small/Small Diverse Business Participation score to yield an Offeror’s overall score. The Offeror with the highest overall score will be deemed to be the top ranked Offeror, subject to any adjustments in scoring as may be made by the Evaluation Team following the informal interviews described in Section 23.

23.0 DISCUSSIONS; INFORMAL INTERVIEWS

- 23.1 Upon completion of the initial scoring, VPRA will engage in individual discussions with two or more Offerors deemed fully qualified, responsible, and suitable on the basis of their Proposal and with emphasis on professional competence to provide the required services. These informal interviews, which may be repetitive in nature, may include each such Offeror giving an oral presentation of its Proposal.
- 23.2 Informal interviews shall not be used to fill in missing or incomplete information that was required in the Proposal and instead are designed to provide an opportunity for selected Offerors to clarify or elaborate on the corresponding Proposal and to expound upon their qualifications or staff expertise pertinent to the Project. The informal interviews are a fact finding/explanation session only and do not include negotiation. Offerors are advised that Project stakeholders and funding partners may be in attendance and have the ability to separately ask questions.

- 23.3 VPRA will not explicitly evaluate the interviews as a standalone element of the Proposal; however, the interviews may be considered by the Evaluation Team when evaluating and scoring the Proposals.
- 23.4 If selected for an informal interview, VPRA will provide the Offeror with the date and time to appear. Whenever feasible, VPRA will, in its sole discretion, accommodate any request by an Offeror to modify the date and/or time established for their informal interview.
- 23.5 At the conclusion of discussions outlined in this Section 23, VPRA shall select in the order of preference, two or more Offerors whose professional qualifications and proposed services are deemed most meritorious as determined by the Evaluation Team's final ranking.

24.0 NOTIFICATION TO OFFERORS

- 24.1 At the conclusion of the evaluation process described in this RFP, VPRA will advise Offerors as to the status of their Proposal and provide a Notice of Intent to Award to the top ranked Offeror for the Project.

25.0 ADDITIONAL SUBMITTALS

- 25.1 Within ten (10) Business Days of receipt of the Notice of Intent to Award, the top ranked Offeror shall provide the information and materials stated in this section to VPRA. Provision of these materials and approval thereof by VPRA is a condition precedent to execution of the Contract. Failure to provide these materials and receive approval from VPRA shall constitute a failure on the part of the Offeror to execute the Contract.
- 25.2 The top ranked Offeror shall provide the following:
 - (a) Form J (Exceptions to RFP Documents);
 - (b) Form K (Fee Schedule);
 - (c) copies of all registrations and licenses for main and branch offices, and copies for individual licenses for Key Personnel as issued by the Department of Professional and Occupational Regulation and such other applicable bodies. This includes registrations and licenses for any sub-Offerors that Offeror has named as Key Personnel;
 - (d) Evidence of insurance required by the Contract as specified in Exhibit 4. This document may take the form of a letter from an insurance carrier(s) that it will issue the insurance policies required by the Contract upon execution of the Contract; and
 - (e) Such additional information as may be designated by VPRA within the Notice of Intent to Award.

26.0 NEGOTIATION AND AWARD OF THE CONTRACT

- 26.1 After receipt and evaluation of all Proposals, VPRA will conduct limited negotiations with the Offeror deemed to be fully qualified and best suited among those submitting Proposals (i.e., the top ranked Offeror), including the negotiation of any terms and conditions proposed by VPRA to which the selected Offeror objected to within Form J.
- 26.2 Offerors acknowledge that certain terms and conditions are not subject to negotiation or waiver by VPRA, including terms and conditions required by (a) VPRA's third party agreements, (b) federal or state law, regulation, order, or ordinance, and (c) funding partner agreements or guidance.

- 26.3 If a contract satisfactory and advantageous to VPRA can be negotiated at a price considered fair and reasonable and pursuant to contractual terms and conditions acceptable to VPRA, the award shall be made to that Offeror. Otherwise, negotiations with the Offeror ranked first shall be formally terminated and negotiations conducted with the Offeror ranked second, and so on until such a contract can be negotiated at a fair and reasonable price.
- 26.4 The award document will be a contract incorporating by reference all requirements, terms and conditions of the solicitation, and the successful Offeror's Proposal as negotiated. A Contract template is included in this RFP at Exhibit 5.
- 26.5 Notice of the award will be published on VPRA's website and shall remain available for public viewing for at least ten (10) days.

27.0 SENSITIVE SECURITY INFORMATION; CRITICAL INFRASTRUCTURE

- 27.1 If any information in this Project is determined to contain Sensitive Security Information ("SSI"), the top ranked Offeror(s) shall be required to execute a Sensitive Security Information Non-Disclosure Agreement.
- 27.2 Once negotiations have been completed and prior to execution of the Contract, personnel handling SSI material or who require access to Critical Infrastructure may be required to 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 the top ranked Offeror will be allowed to replace those individuals. However, if Key Personnel fail the fingerprint-based CHBC, the selection may be canceled and negotiations begun with the next ranked Offeror.

28.0 CONTRACT EXECUTION; AT RISK WORK

- 28.1 Upon award of the Contract, VPRA will deliver an executed copy of the Contract to the successful Offeror, who shall execute and deliver such copy to VPRA within five (5) Business Days of receipt.
- 28.2 No Work shall be performed by the successful Offeror under the Contract until the Contract is fully executed and the successful Offeror has been issued a written Notice to Proceed by VPRA.
- 28.3 Notwithstanding the provisions set forth in Section 28.2, VPRA may, in its sole discretion, permit an Offeror to commence Work on the Project prior to execution of the Contract and/or issuance of Notice to Proceed, subject to such terms and conditions as are established by VPRA and which will be memorialized in a letter agreement to be executed by the parties. In such event, all Work performed by Offeror prior to issuance of Notice to Proceed will be deemed to be "at risk" (Offeror assuming all risk of non-payment) and Offeror must, among other things, agree to waive any and all rights of recovery, claim, action or cause of action against VPRA and its officers, directors, employees and agents for labor and materials furnished in the event the Contract is not executed, the Notice to Proceed is not issued, or the procurement is otherwise canceled.

29.0 DEBRIEFINGS

- 29.1 Offerors not selected for an award may request a debriefing. If requested, debriefings shall be provided at the earliest feasible time after execution of the contract. The debriefing shall be conducted by VPRA's POC or designee, who may be accompanied by other VPRA officials familiar with the rationale for the selection decision.

29.2 Debriefings shall:

- (a) Be limited to discussion of the unsuccessful Offeror's Proposal and will not include specific discussion of a competing Proposal;
- (b) Be factual and consistent with the evaluation of the unsuccessful Offeror's Proposal; and
- (c) Provide information on areas in which the unsuccessful Offeror's Proposal had weaknesses or deficiencies.

Debriefing will not include discussion or dissemination of the identities, thoughts, or notes of individual members of the Evaluation Team, but may include a summary of the rationale for the selection decision. In its sole discretion, VPRA may delay and/or limit the scope of a debriefing in the event it is determined that the information to be furnished to an Offeror may provide the firm with an unfair competitive advantage on another pending procurement.

30.0 APPLICABLE COST PRINCIPLES; ACCOUNTING REQUIREMENTS

- 30.1 The Contract will be performed and audited in accordance with 48 C.F.R Part 31, "Contract Cost Principles and Procedures," ("FAR Part 31"), which provisions are incorporated herein by reference. To be eligible for reimbursement, Consultant's and any sub-consultant's costs must (1) be incurred in accordance with the terms of the Contract; (2) be in accordance with the final approved Fee Schedule; and (3) comply with cost principles set forth in FAR Part 31. All Offerors submitting Proposals (prime consultants, joint ventures and sub-consultants) must have internal control systems in place that meet federal requirements for accounting. These systems must comply with requirements of FAR Part 31 and be sufficient to exclude unallowable cost items from Project invoicing to VPRA.

31.0 ORGANIZATIONAL CONFLICTS OF INTEREST

- 31.1 Matters involving real or perceived organizational conflicts of interest ("OCI") will be administered in accordance with VPRA's Organizational Conflict of Interest Policy (the "OCI Policy") which is available at <https://vapassengerrailauthority.org/procurement/>.
- 31.2 Offerors are notified that prior or existing contractual obligations between a company and a federal or state agency relative to the RFP or VPRA's programs could give rise to potential OCI. Each Offeror shall independently assess potential OCI and require its proposed team members to identify real and apparent OCI, with particular emphasis on that which provides a real or perceived unfair competitive advantage relative to this procurement. In accordance with the OCI Policy, Offerors shall promptly disclose to VPRA all real or apparent OCI. In instances where an Offeror is unclear as to whether a particular circumstance could be considered real or apparent OCI, they must, in accordance with the OCI Policy, seek a determination from VPRA.
- 31.3 VPRA shall have sole discretion as relates to determinations involving OCI on this RFP. Any firm determined to have an OCI that cannot be neutralized, mitigated or otherwise waived (when determined to be in the public interest), shall not be allowed to participate in the procurement. Failure to abide by VPRA's determination in this matter may result in a Proposal being declared non-responsive.

32.0 DURATION OF PROPOSAL

32.1 The Proposal shall be binding upon the Offeror for ninety (90) days following the due date for proposal submittal. If not withdrawn at that time, the Proposal shall remain effective until an award is made or the solicitation is cancelled.

33.0 PROCUREMENT DECISION APPEALS

33.1 Any Offeror who desires to file a procurement decision appeal (other than matters involving organizational conflicts of interest) must do so in accordance with sections 7.3, 7.4, and 7.5 of the Procurement Rules. Procurement decision appeals will be administered in accordance with the Procurement Rules.

34.0 OFFERORS RESPONSIBLE FOR ALL COSTS

34.1 Issuance of this RFP by VPRA in no way constitutes a commitment by VPRA to award a contract or to pay any costs incurred by an Offeror in the preparation of a response to this RFP. Offerors shall be responsible for all costs associated with participation in this procurement process, including but not limited to the preparation of Proposals, submission of questions, participation in informal interviews, attendance at public forums or other meetings established pursuant to the procurement process, and any other efforts or costs arising from or related to this procurement.

35.0 NO ASSUMPTION OF LIABILITY

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

36.0 RESERVATION OF RIGHTS

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

- (a) The right to cancel, withdraw, postpone, or extend this RFP in whole or in part at any time prior to the execution by VPRA of the Contract, without incurring any obligations or liabilities.
- (b) The right to issue a new RFP.
- (c) The right to reject any and all submittals, responses and Proposals received at any time.
- (d) The right to modify all dates set or projected in this RFP.
- (e) The right to suspend and terminate the procurement process for the Project, at any time.
- (f) The right to waive or permit corrections to data submitted with any response to this RFP until such time as VPRA declares in writing that a particular stage or phase of its review of the responses to this RFP has been completed and closed.
- (g) The right to issue addenda, supplements, and modifications to this RFP.

- (h) The right to permit submittal of addenda and supplements to data previously provided with any response to this RFP until such time as VPRA declares in writing that a particular stage or phase of its review of the responses to this RFP has been completed and closed.
- (i) 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.
- (j) 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.
- (k) The right to permit Offerors to add or delete firms and/or Key Personnel until such time as VPRA declares in writing that a particular stage or phase of its review has been completed and closed.
- (l) The right to add or delete Offeror responsibilities from the information contained in this RFP.
- (m) 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.
- (n) The right to disqualify any Offeror that changes its submittal without VPRA approval.
- (o) The right to change the method of award at any time prior to submission of the proposals.
- (p) The right to respond to all, some, or none of the inquiries, questions and/or request for clarifications received relative to the RFP.

37.0 COMPLIANCE WITH LAW IN THE COMMONWEALTH

- 37.1 Failure to comply with the law with regard to those legal requirements in the Commonwealth (whether federal or state) regarding the Offeror's ability to lawfully offer and perform any services proposed or related to the Project may be cause for rejection of an Offeror's Proposal, in the sole and reasonable discretion of VPRA, and in that event an Offeror's Proposal submittal may be returned without any consideration for selection of contract award.

38.0 ETHICS IN PUBLIC CONTRACTING

- 38.1 By submitting their proposals, Offerors certify that their proposals are made without collusion or fraud and that they have not offered or received any kickbacks or inducements from any other Offeror, supplier, manufacturer or subcontractor in connection with their Proposal, and that they have not conferred on any public employee having official responsibility for this procurement transaction any payment, loan, subscription, advance, deposit of money, services or anything of more than nominal value, present or promised, unless consideration of substantially equal or greater value was exchanged.

39.0 REPRESENTATIONS

- 39.1 By submitting a Proposal, Offeror hereby represents and warrants that (1) as of the date hereof, and on and as of the date of the provision of goods or services contemplated herein,

the Offeror is duly organized, validly existing and in good standing under the laws of its jurisdiction of organization; and (2) the Offeror has the full right, power and authority and has taken all necessary action under the laws of its jurisdiction of organization to authorize it to execute and deliver a Contract, to consummate the transactions contemplated hereby and in the Contract and to perform its obligations thereunder. The Offeror hereby agrees to furnish to VPRA any and all certificates of governmental authorities and/or officers or directors of the Offeror that VPRA may reasonably require in order to confirm the due authorization and execution of the Proposal and the Contract and the Offeror's right, title and authority to perform its obligations under the Contract.

APPENDIX 1 – DEFINITIONS

Amtrak	The National Railroad Passenger Corporation.
Business Days	A Monday, Tuesday, Wednesday, Thursday, or Friday that is not a holiday.
Commonwealth	The Commonwealth of Virginia.
Consultant	The firm selected pursuant to the RFP, which enters into the Contract with VPRA to perform the requisite professional services for Project.
Contract	The written agreement executed between VPRA and the Consultant pursuant to this RFP and which contains the terms and conditions governing the Work.
Contact Documents	Shall have the meaning ascribed in the Contract.
Criminal History Background Check	A criminal history check of an individual based on fingerprints and other identifying information obtained by a law enforcement officer conducted through the Federal Bureau of Investigation-Identification Division (FBI-ID).
Critical Infrastructure	A system or asset so vital that its incapacity or destruction would (i) have a debilitating impact on public health, safety or security; or (ii) cause significant economic harm or instability.
Designated Contact	The individual designated by an Offeror as the point of contact for communications with VPRA during the procurement (i.e., the person listed in Section B of Form A).
Disadvantaged Business Enterprise (DBE)	A firm certified as a DBE by either DSBSD or MWAA.
Evaluation Team	The individuals who will perform the evaluation and scoring of Proposals.
Evaluation Criteria	The criteria used to score and rank Proposals as set forth in <u>Section 22.4</u> of this RFP.
Fee Schedule	The hourly wage rates and Federal Acquisition Regulation (“FAR”) audited overhead rates submitted by an Offeror and any their sub-offerors as detailed on <u>Form K</u> .
Instructions to Offerors	The part of the RFP stating the submission requirements and evaluation criteria for the selection of the Consultant.
Key Personnel	The individuals specified in <u>Section 21.3 (Tab 2)</u> of this RFP.
Offeror	A professional services entity that submits a Proposal in response to the RFP. Where context dictates, Offeror shall also mean a potential Offeror.
Notice of Intent to Award	The written notification provided by VPRA informing an Offeror that it is the party to whom VPRA intends to award the Contract.
Notice to Proceed (NTP)	The written notice issued by VPRA authorizing Consultant to proceed with the Work.
Organizational Conflict of Interest Policy	VPRA’s policy governing conflicts of interest, as described further in <u>Section 31</u> of this RFP.
Procurement Schedule	The schedule for this procurement detailed in <u>Section 8.1</u> of this RFP.
Proposal	The response to the RFP submitted by an Offeror.
Sensitive Security Information or SSI	The information covered by Title 49 of the Code of Federal Regulations.
SWaM Business or SWaM	A firm certified by DSBSD as a small, women-owned, or minority-owned business or related to a small, women-owned, or minority-owned business.
Utility Owner	The owner or operator of any utility.

FORM A
OFFEROR INFORMATION AND ACKNOWLEDGEMENT

[attached]



OFFEROR INFORMATION AND ACKNOWLEDGEMENT

RFP No. _____

A. General Information

Company Name: _____

Address: _____

Phone: () _____

Fax Number: () _____

DUNS NO.: _____

FEI/FIN NO.: _____

Website: _____

B. Offeror's Designated Representative

Name: _____

Title: _____

Phone (W): _____

Phone (E): _____

Email: _____

C. DBE / SWaM Information

(Please check all that apply)

Federal Classifications:

DBE: () YES () NO CERTIFICATION#: _____

ISSUING BODY: _____

Out of State firm that is certified as a DBE by their home state's Unified Certification Program: () YES () NO

Commonwealth of Virginia Certifications/Classifications (SWaMs and other):

Small/Micro Business: () YES () NO

Women-Owned Business: () YES () NO

Minority-Owned Business: () YES () NO

Service-Disabled Veteran
Owned Business: () YES () NO

DSBSD CERTIFIED: () YES () NO CERTIFICATION#: _____

Other Classifications:

Certified small, disadvantaged or veteran-owned business recognized by any other local, state, or federal government entity not listed above: () YES () NO

CERTIFICATION#: _____

ISSUING BODY: _____

D. Exceptions

Does your proposal contain exceptions to the RFP Documents? () YES () NO

If so, complete and attach FORM PD 20 with your proposal unless otherwise instructed in the RFP. Note: If this is an A/E procurement, exceptions are not due until the ranking for negotiations is complete.

E. Proprietary or Confidential Information

Does your proposal contain proprietary or confidential information? () YES () NO

If so, complete and attach FORM PD 25 with your proposal.

F. Acknowledgements

In signing below, Offeror hereby acknowledges receipt of the above-referenced RFP and the below listed amendments and responses to questions/requests for clarification issued by VPRA. (Attach additional pages if necessary).

1. RFP Addendum

Addendum # _____
Addendum Date ____/____/____

Addendum # _____
Addendum Date ____/____/____

Addendum # _____
Addendum Date ____/____/____

Addendum # _____
Addendum Date ____/____/____

Addendum # _____
Addendum Date ____/____/____

Addendum # _____
Addendum Date ____/____/____

Addendum # _____
Addendum Date ____/____/____

Addendum # _____
Addendum Date ____/____/____

2. Response to Questions/Requests for Clarification

Resp. to Question # _____
Issue Date ____/____/____

Resp. to Question # _____
Issue Date ____/____/____

Resp. to Question # _____
Issue Date ____/____/____

Resp. to Question # _____
Issue Date ____/____/____

[SIGNATURE PAGE FOLLOWS]

FOR THE OFFEROR:

Company Name: _____

By, _____
(signature)

(printed name)

Its, _____
(title)

Dated: _____

FORM B

OFFEROR QUESTIONS/REQUESTS FOR CLARIFICATION

[attached]

FORM C

SMALL AND DIVERSE BUSINESS SUBCONTRACTING PLAN

[attached]



SMALL AND DIVERSE BUSINESS SUBCONTRACTING PLAN

For Internal Use:

Approved by, _____

Dated: _____

Definitions:

"Small business" shall have the meaning set forth in Va. Code § 2.2-1604 and includes only those firms which hold a certification as such by the Virginia Department of Small Business and Supplier Diversity (DSBSD) on the due date for bids/proposals. This shall also include DSBSD-certified micro, women-owned, minority-owned, and service-disabled veteran-owned businesses when they also hold a DSBSD certification as a small business on the proposal due date.

"SWaM" shall have the meaning set forth in Va. Code § 2.2-1604.

Certification:

The Certification Division of DSBSD is responsible for the administration of Virginia's business certification programs. Certification applications are available through DSBSD online at: <https://www.sbsd.virginia.gov/certification-division/>.

Point Allocation:

Where applicable, point allocation relative to an Offeror's/Proposer's proposed utilization of a DSBSD certified small/small diverse business shall be made in accordance with the RFP Documents. Offerors which are not certified as a small/small diverse businesses with DSBSD or otherwise utilizing DSBSD certified small/small diverse businesses will not be eligible for points, but, to the extent applicable, are encouraged to report other certifications which demonstrate performance by small or underprivileged businesses.

Modification:

No modification of the Small and Diverse Business Subcontracting Plan will be allowed during the performance of the Contract absent the express written consent of VPRA's Director of Procurement. The Consultant/Contractor shall keep the Director of Procurement apprised of any material issues that arise relative to its performance under the Small and Diverse Business Subcontracting Plan.

Instructions:

- A. If you are certified by the DSBSD as a small business, complete only Section A of this form. This includes but is not limited to DSBSD-certified micro, women-owned, minority-owned, and service-disabled veteran-owned businesses when they have also received DSBSD small business certification.
- B. If you are not a DSBSD-certified small business, complete Sections B and C of this form. For the offeror to receive credit for the small business subcontracting plan evaluation criteria, the offeror shall fully complete all required informational items within Section B.

Small and Diverse Business Subcontracting Plan (cont.)

Section A

If your firm is certified by the DSBSD as a small business/small diverse business, provide your certification number and the date of certification):

Certification number: _____ Certification Date: _____

Small Business Subsets (check all that apply):

- Micro
- Women-Owned
- Minority-Owned
- Service Disabled Veteran-Owned

Section B

Populate the table below to show your firm's plans for utilization of **DSBSD-certified Small/Small Diverse Businesses** in the performance of this Contract for the initial contract period. Include plans to utilize Small/Small Diverse Businesses as part of joint ventures, partnerships, subcontractors, suppliers, etc.

It is important to note that the proposed participation will be incorporated into the subsequent contract and will be a requirement of the Contract. Failure to obtain the proposed participation percentages may result in a determination that Contractor/Consultant is in breach of the Contract.

(a) SUBCONTRACTOR NAME/ADDRESS	(b) DSBSD CERTIFICATION NO. <i>(for small business certification)</i>	(c) ADDITIONAL DSBSD CERTIFICATIONS or STATUS <i>(e.g., micro (MIC), women-owned (W), minority-owned (M), service disabled veteran-owned (SDV))</i>	(d) OTHER CERTIFICATIONS <i>(can be local, state or federal)</i> [OPTIONAL] ¹	(e) DESCRIPTION OF WORK	(f) PLANNED CONTRACT INVOLVEMENT <i>(%)</i>	(g) ESTIMATED SPEND <i>(\$)</i> <i>Applicable to fixed price contracts only</i>

¹ This information is collected for informational purposes only. Offerors are encouraged to report the participation of subcontractors which, while not qualifying as a DSBSD certified small business, hold other, related certifications which demonstrate participation by either a small, disadvantaged or veteran-owned businesses.

Section C

Populate the table below to show your firm's plans for utilization of **DSBSD-certified Women-Owned Businesses and DSBD-certified Minority-Owned Businesses (i.e., any SWaM business not certified as Small and already listed in Section B)** in the performance of this Contract for the initial contract period. Firms which hold DSBSD status as a **Service-Disabled Veteran-Owned Business** should also be listed in this Section C. Include plans to utilize Women-Owned Businesses, Minority-Owned Businesses, and Service-Disabled Veteran-Owned Businesses as part of joint ventures, partnerships, subcontractors, suppliers, etc.

It is important to note that the proposed participation will be incorporated into the subsequent contract and will be a requirement of the Contract. Failure to obtain the proposed participation percentages may result in a determination that Contractor/Consultant is in breach of the Contract.

(a) SUBCONTRACTOR NAME/ADDRESS	(b) DSBSD CERTIFICATION NO. (for all other SWaM certifications other than small)	(c) DSBSD CERTIFICATION/STATUS DESCRIPTION (e.g., women-owned (W), minority-owned (M), service disabled veteran- owned (SDV))	(d) OTHER CERTIFICATIONS (can be local, state or federal) [OPTIONAL] ²	(e) DESCRIPTION OF WORK	(f) PLANNED CONTRACT INVOLVEMENT (%)	(g) ESTIMATED SPEND (\$) <i>Applicable to fixed price contracts only</i>

Offeror Name: _____
Preparer Name: _____ **Date:** _____

*** Attach additional sheets as necessary

² This information is collected for informational purposes only. Offerors are encouraged to report the participation of subcontractors which, while not qualifying as a DSBSD certified business, hold other, related certifications which demonstrate participation by either a small, disadvantaged or veteran-owned businesses.

FORM D
DBE UTILIZATION PLAN

[attached]



DBE UTILIZATION PLAN

For Internal Use:

Approved by, _____
 Dated: _____

Part I

DBE FULFILLMENT BY PRIME CONTRACTOR/CONSULTANT

To be completed ONLY by Bidders/Offerors that are certified as a DBE by DSBSD/MWAA at time of bid/proposal submittal and which intend to fulfill the contract goal through work to be performed with its own forces:

DSBSD/MWAA Certification number: _____ Certification Date: _____

Part II

DBE SUBCONTRACTOR/SUPPLIER UTILIZATION

NAME OF DBE FIRM	DSBSD/MWAA CERT. NO.	OTHER DSBSD CERTIFICATIONS/ DESIGNATIONS <small>(e.g., micro, small, women-owned, minority-owned, service disabled veteran-owned)</small>	FUNCTION <small>(e.g., subcontractor, supplier, manufacturer, service provider, broker)</small>	DESCRIPTION OF WORK	PLANNED CONTRACT INVOLVEMENT (%)	ESTIMATED SPEND (\$) <small>Applicable to fixed price contracts only</small>

NOTE: ATTACH ADDITIONAL PAGES, IF NECESSARY.

FORM E
MONTHLY SMALL AND DIVERSE BUSINESS SUBCONTRACTING
UTILIZATION REPORT

[attached]



MONTHLY SMALL AND DIVERSE BUSINESS UTILIZATION REPORT

Project **Reporting Period (M/Y)**

Prime Contractor Name
Contact Name
Phone Number
Email

Date Submitted

Subcontractor Name	Tax ID No.	Description of Work Provided	Payments to Qualifying Small Businesses (1)	Payments to other DSBSD/MWAA Certified Firms (2)	Payments to other small or diverse businesses not certified by DSBSD or MWAA (3) [OPTIONAL]	TOTALS

Attach additional pages if necessary

I certify that contracts have been executed with the above firms, amounts listed are accurate and payments were made in accordance with contractual obligations. Cancelled checks and/or supporting information will be on file for inspection or audit.

Signature	Title
-----------	-------

Notes:

- (1) Denotes firms which are certified as a "small businesses," by the Department of Small Business and Supplier Diversity (DSBSD) and which are identified in Section B of the approved Small Business and Diverse Subcontracting Plan (Form PD 60)
- (2) Denotes firms which are not certified as a "small business," by DSBSD but which hold other certifications or status from either DSBSD or the Metropolitan Washington Airports Authority (MWAA) (i.e., women-owned (W), minority-owned (M), service disabled veteran-owned (SDV), or disadvantaged business enterprise (DBE)). Please include classification code along with payment information.
- (3) Denotes firms which are not certified by DSBSD or MWAA, but which are otherwise certified as a small or diverse business by another certifying body. Please include a description of the certification along with payment information.

FORM F
MONTHLY DBE PARTICIPATION REPORT

[attached]



MONTHLY DBE PARTICIPATION REPORT

For Internal Use:

Reviewed by, _____

Dated: _____

Contract Id. No.: _____

Check Here if Final Report []

Contractor/Consultant:		Reporting Period (Month/Year):	Report No.:
Contact:	Email:	Phone:	

All Contractors making payments to DBE subcontractors/subconsultants/suppliers, regardless of their tier, are required to complete and submit this form each time payments are made to a DBE subcontractors/subconsultant/supplier during the previous thirty-day payment period of the Contract.

NAME OF CERTIFIED DBE FIRM (Subcontractor/Subconsultant/Supplier)	DBE FIRM'S FEDERAL TAX ID NUMBER	DATE OF PAYMENT (To DBE)	AMOUNT PAID THIS MONTH (To DBE)	AMOUNT PAID TO DATE (To DBE)	ACTUAL DBE UTILIZATION TO DATE (%)	DBE UTILIZATION AS LISTED ON FORM PD 50B (%)

I certify that contracts have been executed with the above firms, amounts listed are accurate and payments were made in accordance with contractual obligations. Cancelled checks and/or supporting information will be on file for inspection or audit.

Signature	Title
Date	

FORM G

PROOF OF AUTHORITY TO TRANSACT BUSINESS IN VIRGINIA

[attached]

PROOF OF AUTHORITY TO TRANSACT BUSINESS IN VIRGINIA

THIS FORM MUST BE SUBMITTED WITH YOUR BID/PROPOSAL. FAILURE TO INCLUDE THIS FORM MAY RESULT IN REJECTION OF YOUR BID/PROPOSAL

Please check the appropriate line below and provide the requested information:

A. Bidder/Offeror is a Virginia business entity organized and authorized to transact business in Virginia by the State Corporation Commission ("SCC") and such vendor's Identification Number issued to it by the SCC is: _____.

B. Bidder/Offeror is an out-of-state (foreign) business entity that is authorized to transact business in Virginia by the SCC and such vendor's Identification Number issued to it by the SCC is: _____.

C. Bidder/Offeror does not have an Identification Number issued to it by the SCC and such vendor is not required to be authorized to transact business in Virginia by the SCC for the following reason(s):

Please attach additional sheets if necessary. If Bidder/Offeror is a joint venture, attach a completed Form PD 44 for each of the partner firms comprising the joint venture.

D. Bidder/Offeror has a pending application before the SCC for authority to transact business in the Commonwealth of Virginia and wishes to be considered for a waiver to allow Bidder/Offeror to submit the SCC Identification Number after the due date for bids/proposals. (VPRA reserves the right to determine, in its sole discretion, whether to allow such waiver).

Legal Name of Bidder/Offeror (as listed on W-9)

Authorized Signature

Print or Type Name and Title

Date

*****RETURN THIS FORM AND ANY SUPPORTING DOCUMENTATION WITH YOUR PROPOSAL*****

FORM H

PROPRIETARY/CONFIDENTIAL INFORMATION IDENTIFICATION

[attached]

PROPRIETARY/CONFIDENTIAL INFORMATION IDENTIFICATION

NAME OF FIRM/OFFEROR: _____

Pursuant to Va. Code § 33.2-299.7, offerors may request VPRA to keep confidential trade secrets or confidential proprietary information, not publicly available, provided by a private person or entity pursuant to a promise of confidentiality where if such information were made public, the financial interest of the private person or entity could be adversely affected.

For such information to be excluded from disclosure requirements under the Virginia Freedom of Information Act, offerors shall make a written request to VPRA:

- (1) invoking such exclusion upon submission of the data or other materials for which protection from disclosure is sought;
- (2) identifying the data or other materials for which protection is sought; and
- (3) stating the reasons why protection is necessary.

The written notice must specifically identify the data or materials to be protected including the section of the proposal in which it is contained and the page numbers, and state the reasons why protection is necessary. The proprietary or trade secret material submitted must be identified by some distinct method such as highlighting or underlining and must indicate only the specific words, figures, or paragraphs that constitute trade secret or proprietary information. In addition, a summary of proprietary information submitted shall be submitted on this form. The classification of an entire proposal document, line-item prices, and/or total proposal prices as proprietary or trade secrets is not acceptable. VPRA will make the final determination of the appropriate scope and nature of the protection afforded to the requested records.

PROPOSAL SECTION/TITLE	PAGE NUMBER(S)	REASON(S) FOR WITHHOLDING FROM DISCLOSURE

FORM I

KEY PERSONNEL DESIGNATIONS

Key Personnel Position	Name of Individual	Years of Experience	Education and Registrations	Employer Name	Reference Name, Title, Phone Number, and E-mail Address
Project Manager					1. 2. 3.
Rail Design Manager					1. 2. 3.
Structural Design Manager					1. 2. 3.
Tunnel Design Manager					1. 2. 3.
Roadway Design Manager					1. 2. 3.
Geotechnical Design Manager					1. 2. 3.
Additional Value Add Positions					1. 2. 3.

FORM J
EXCEPTIONS TO RFP DOCUMENTS

[attached]

EXCEPTIONS TO RFP DOCUMENTS

Instructions:

Each Proposal submitted in response to an RFP shall list any deviation(s), exception(s), or variation(s) to or from the RFP Documents. The failure of an Offeror/Proposer to note a deviation, make an exception, or list a variation to the terms and conditions of these RFP Documents shall be deemed an express waiver by that Offeror/Proposer of such deviation, exception, or variation.

Notwithstanding the foregoing, for solicitations involving the procurement of architectural or engineering services, a list of any deviation(s), exception(s), or variation(s) to or from the RFP Documents shall not be due until qualified Offerors/Proposers are ranked for negotiations (refer to the RFP for specific terms as to submittal due dates of this form).

As used herein, "RFP Documents" shall include the Instructions to Offerors/Proposers and all exhibits, forms, appendices, and addenda set forth within or issued in connection with the RFP.

Offeror/Proposer notes the following deviations, exceptions, or variations (each an "Objection"):

RFP Document	Section, paragraph or other identifier	Description of Objection

IF THERE ARE NO OBJECTIONS, PLEASE WRITE "N/A" IN THE CHART ABOVE.

RFP No. _____

Offeror/Proposer Name: _____

Preparer Name: _____ Date: _____

FORM K
FEE SCHEDULE

[attached]



Scope of Work

NEW RIVER VALLEY PASSENGER RAIL PROJECT

60% ENGINEERING DESIGN CONSULTANT
SUPPORT WITH OPTION FOR FINAL DESIGN

Table of Contents

SECTION I. OVERVIEW.....	3
Project Name	3
Project Location	3
Project Description	4
SECTION 2. DESCRIPTION OF WORK.....	4
Task 1: Project Management and Coordination	4
Task 2: Slate Hill Tunnel Modifications	7
Task 3: Merrimac Tunnel Modifications	16
Task 4: Cinnabar Road Layover Facility	26
Task 5: Cinnabar Station Platform and Station Infrastructure	31
Task 6: New River Valley Station and Connector Track	36
Task 7: Cost Estimate, Schedule, & Technical Specifications	41
Task 8: Public Outreach	46
APPENDIX A – SLATE HILL TUNNEL 30% PE DESIGN PLANS.....	48
APPENDIX B – MERRIMAC TUNNEL 30% PE DESIGN PLANS	49
APPENDIX C – CINNABAR ROAD LAYOVER STATION 30% PE DESIGN PLANS.....	50
APPENDIX D – CINNABAR ROAD STATION AND STATION INFRASTRUCTURE 30% PE DESIGN PLANS	51
APPENDIX E – NEW RIVER VALLEY STATION 30% PE DESIGN PLANS.....	52
APPENDIX F – RECOMMENDATIONS FOR SUPPLEMENTAL WORK FOR FINAL DESIGN ..	53
APPENDIX G – SLATE HILL GEOTECH REPORT	54
APPENDIX H – MERRIMAC GEOTECH REPORT	55
APPENDIX I – BASIS OF DESIGN	56
APPENDIX J – CONSTRUCTION COST ESTIMATE	57
APPENDIX K – CONSTRUCTION SCHEDULE.....	58
APPENDIX L – DRAINAGE AND SWM REPORT	59
APPENDIX M – PROJECT WORK PLAN (PWP).....	60
APPENDIX N – RISK REGISTER MATRIX.....	61
APPENDIX O – RIGHT-OF-WAY (ROW) MATRIX	62
APPENDIX P – SLATE HILL TUNNEL SAFETY IMPROVEMENTS (TSI) REPORT	63
APPENDIX Q – MERRIMAC TUNNEL SAFETY IMPROVEMENTS (TSI) REPORT	64
APPENDIX R – AMTRAK LAYOVER FACILITY - REVIEW DRAWING.....	65

Section I. Overview

Project Name

The project title determined by Virginia Passenger Rail Authority (VPRRA) is “New River Valley Passenger Rail Project” whereby the contract, including its scope, will be referred to as the “Contract” and the full project, including construction, is referred to throughout as the “New River Valley Passenger Rail Project” or “Project.” The Contract for the Project will consist of the preparation of 60% Engineering Design plans and related documents for the construction of tunnel modifications, passenger platforms, passenger station infrastructures, and layover facilities located within the Project limits.

Project Location

The Project limits will include multiple locations as seen in Figure 1 and Figure 2, and as listed in the Project Description below.

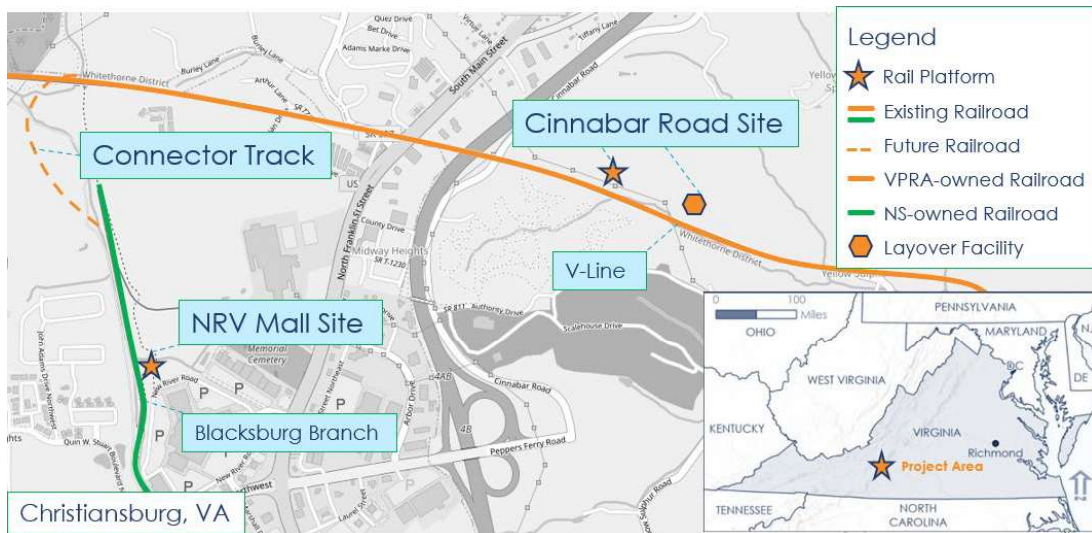


FIGURE 1: PROJECT LOCATION MAP

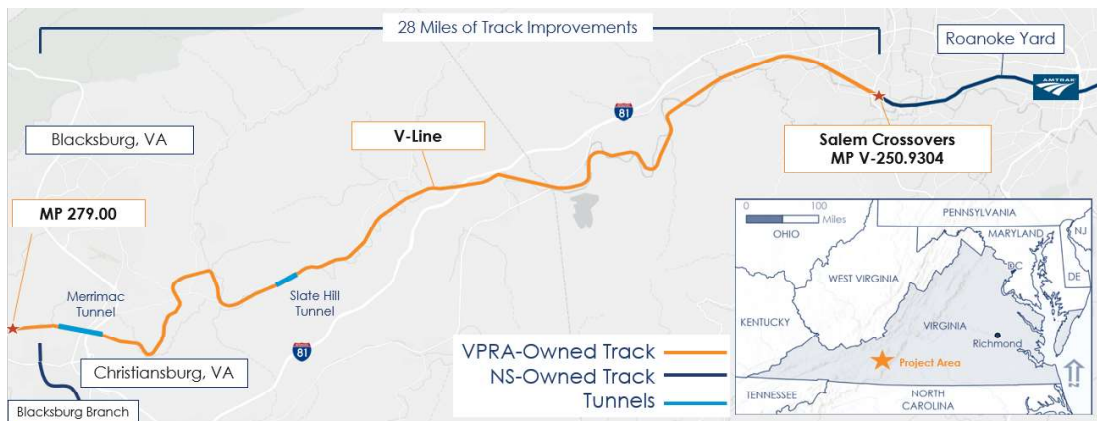


FIGURE 2: V-LINE MAP

Project Description

Amtrak passenger service will be extended from Roanoke to the New River Valley ("NRV") utilizing the VPRA-owned Virginian Line. The Project includes key infrastructure needed to begin passenger rail service. The Project proposes the following improvements:

- Slate Hill Tunnel Modifications
 - Tunnel Safety Improvements
 - Fire and Life Safety
 - Tunnel Support Building and Building Infrastructure
- Merrimac Tunnel Modifications
 - Tunnel Safety Improvements
 - Fire and Life Safety
 - Tunnel Support Building and Building Infrastructure
- Cinnabar Road Layover Facility
 - Access Road
 - Amtrak Layover Facility and Infrastructure
- Cinnabar Road Station Platform and Station Infrastructure
 - Access Road
 - 1,000' length hi-level Passenger Platform
 - Cinnabar Road Station Infrastructure
- New River Valley Station (NRV Mall Site) and Connector Track
 - 1,000' length hi-level Passenger Platform
 - NRV Mall Site Station Infrastructure
 - Virginian Line to Blacksburg Branch Connector Track

Other infrastructure improvements are needed to bring passenger rail service to NRV. However, these improvements are not included in the Contract and will be procured separately from this Request for Proposal.

Section 2. Description of Work

The 30% Preliminary Engineering plans and details have already been developed and reviewed by VPRA, and the work efforts outlined in this Scope of Work ("SOW") include the continued development of the proposed Project to a 60% Engineering Design set of plans and details together with other deliverables described herein. This section describes expectations of the Consultant for management, controls, stakeholder coordination, and 60% Engineering Design responsibilities. Successful completion of the work in this task order includes on-time, formal submittals of 60% Engineering Plans for VPRA and stakeholder review. In addition, these activities will be used to advance permitting and approvals necessary for project delivery. At VPRA's sole discretion, the Consultant may be awarded the optional task of carrying the Project through final design under a separate scope of work and amendment to the Contract.

Each task and subtask have additional details on the required submittals and other deliverables.

Task 1: Project Management and Coordination

This task's objective is to support VPRA in the oversight and execution of technical and administrative functions needed to keep the Project on schedule and within budget and

maintain compliance with all applicable requirements. The Consultant will use the VPRA Brand Standards for all applicable deliverables. All management, administrative, financial, accounting, and reporting procedures will be in accordance with Virginia law and VPRA policies and procedures.

1.1 PROJECT WORK PLAN

VPRA is developing a Program Management Plan ("PMP") that establishes the overall management strategies and action plan for implementing the Transforming Rail in Virginia program of projects, including managing the program scope, cost, schedule, quality, and associated risks.

A project-level Project Work Plan (PWP) will be provided by VPRA for the Project in accordance with the guidance set forth by the Federal Railroad Administration's ("FRA") Monitoring Procedure 20 – Project Management Plan Review available here: (<https://www.fra.dot.gov/eLib/Details/L16051>).

VPRA will coordinate input from project partners to include in this Plan. The PWP will be amended and revised as needed over the life of the Project and will be maintained by VPRA with support from the Consultant. VPRA will share the current PWP with the Consultant, who will be responsible for updating the 60% Engineering Design sections of the document once during this Contract.

The PWP prepared during 30% Preliminary Engineering is provided in Appendix M.

Project Work Plan Deliverables

- Project Work Plan Sections at each submission

1.2 QUALITY ASSURANCE/QUALITY CONTROL PLAN

VPRA has developed a program-level Quality Management Plan ("QMP") that establishes the overall quality management framework for professional services and associated deliverables related to design and construction contract documents within the Transforming Rail in Virginia program of projects.

The Consultant shall develop a project-level quality assurance/quality control plan ("QA/QC Plan"), including detailed QA/QC procedures consistent with or equal to the framework outlined in the QMP. The QA/QC Plan shall define the procedures for providing QC reviews of all deliverables, providing QA throughout the life of the Project, and maintaining quality records. The QA/QC Plan shall ensure conformance with all applicable design criteria, standards, and requirements. A process shall be established to ensure nonconforming work, information, and documents are not used. QA/QC Plan procedures also shall apply to all subconsultants or subcontractors.

It is assumed that work under Section 1.2 will consist of the following:

- Preparation and submission of the project QA/QC Plan to be delivered within 60 days of issuance of the Notice to Proceed ("NTP"), as described above, for approval, including updates as required throughout the Contract
- QA reviews of project deliverables by the project QC Administrator, for adherence to QA/QC Plan procedures

Quality Assurance/Quality Control Plan Deliverables

- Quality Assurance/Quality Control Plan

1.3 RISK MANAGEMENT

On or about issuance of the NTP, VPRA will provide the Consultant with a project Risk and Contingency Management Plan ("RCMP") and a prepopulated draft Risk Register for the project. The RCMP and Risk Register provided are based on the general procedures outlined in the FRA's Monitoring Procedure 40a – Risk and Contingency Review available here: (<https://railroads.dot.gov/elibrary/mp-40a-risk-and-contingency-review-sponsor-led>)

The Risk Register will identify any new risks and evaluate each risk based on probability and severity levels included in the register. The Risk Register also will provide the following:

- The entity responsible for each risk
- Parties other than the risk owner that are affected by each risk
- Description of mitigations and control activities that are either in process or planned

The Consultant shall provide updates at each design submission to the Risk Register and will submit to VPRA for review at each update. If there are "Significant" or "Very High" risks associated with the project, the Consultant will report those risks to VPRA immediately upon completion of the risk assessments and updates for inclusion in the programmatic Risk Register. The Consultant shall issue a final Risk Register, including a narrative of major costs and schedule of risks.

The Risk Register Matrix prepared during 30% Preliminary Engineering is provided in Appendix N.

Risk Management Deliverables

- Updates to Risk Register at each submission

1.4 COORDINATION MEETINGS

This task includes the following meetings throughout the length of the Project:

- One (1) kick-off meeting with VPRA within two (2) weeks of issuance of the NTP
- Weekly project management coordination meetings with VPRA; these meetings will be a combination of in-person meetings and/or conference calls.
 - To minimize the number of submittals, help advance the design quickly, and reduce the number of comments, it is anticipated that the Consultant will present the design and other deliverables for interim over-the-shoulder reviews and discussion during the standing project management coordination meetings.
- Design coordination meetings – discipline-specific meetings with VPRA and other stakeholders as directed by VPRA

The Consultant shall develop a coordination meeting schedule for inclusion in the design schedule described in **Task 1.5**. The Consultant shall provide agendas for each meeting (at least one [1] business day in advance of the scheduled meeting), shall facilitate the discussion during the meetings, and shall submit a meeting summary documenting each meeting within three (3) business days after the meeting.

The Consultant shall be responsible for supporting meetings for **Task 2 – Task 8**.

See **Task 8.0, Public Outreach**, for additional meeting requirements.

Coordination Meetings Deliverables

- Coordination Meeting Schedule
- Meeting Attendance, Agendas, and Materials
- Meeting Minutes

1.5 PROJECT ADMINISTRATION AND MANAGEMENT

The Consultant shall submit a detailed design schedule within 30 calendar days from issuance of the NTP. The design schedule shall contain all the activities, tasks, events, meetings, reviews, and deliverables for the duration of the Project to the 60% Engineering Design Submittal. Within the schedule, the Consultant shall provide a clear timeline for completion of deliverables and adhere to the proposed schedule. The Consultant shall complete all Work for the Contract within **228** calendar days from issuance of the NTP. The proposed design schedule shall be reviewed by VPRA. The Consultant shall address the review comments, update the design schedule, and resubmit to VPRA. It is the responsibility of the Consultant to propose recovery measures, mitigate delays, and update the sequence and logic of activities to avoid delays to the critical path and maintain the schedule. VPRA will provide the Consultant invoicing procedures and progress reports for use on this project.

In addition, this task will include:

- Overall technical direction and oversight of the Consultant's team
- Monthly progress reports and invoicing
- Electronic and paper record keeping for the purposes of maintaining an administrative record, which includes, but is not limited to, electronic copies of all deliverables in native (Word, Excel, CAD, etc.) and PDF format

Project Administration and Management Deliverables

- Engineering Design Schedule
- Monthly Progress Reports and Invoices
- Electronic Records of all Deliverables – Native and PDF

Task 2: Slate Hill Tunnel Modifications

This task includes advancing the existing 30% Preliminary Engineering plans (Appendix A) of four (4) project components: Slate Hill Tunnel Modifications, Tunnel safety Improvements, Tunnel Support Building, and Tunnel Support building infrastructure to a 60% Engineering Design set for all elements of the Project. All four (4) components will be designed to 60% Engineering Design unless VPRA decides to end the Project work early for certain or all components in this SOW.

In addition to advancing the above project components, VPRA will provide deferred comments from the 30% Preliminary Engineering design submittal, which shall be incorporated in the 60% Engineering Design plans.

Submittal Process:

The Consultant shall provide two (2) design submissions: draft 60% Engineering Design and Final 60% Engineering Design.

At VPRA's discretion, the Consultant shall advance to Final Design (optional). Should the design progress to final construction documents, submittals at 90%, 100%, and final design are expected and will follow this same process.

All plan submittals must go through the Project's previously established QA/QC process prior to submission. The following process, a similar process using Bluebeam, or a Consultant-proposed electronic comment-resolution process shall be followed for the Engineering Plans:

- VPRA will compile all comments from stakeholders and provide a comment matrix to the Consultant after each review has been completed.
- The Consultant shall respond to the comments using the VPRA-provided comment matrix and submit to VPRA for use during the comment-resolution meeting.
- If needed the Consultant shall conduct a comment-resolution meeting with VPRA and project stakeholders to discuss comments and responses, gather additional background to better understand comments, and provide backup to responses as necessary to reach agreement on the path forward for the submittal comments.
- The Consultant shall submit the updated comment-resolution matrix to document all agreed-to comment responses.
- The agreed-to comments shall be incorporated into the subsequent submittal.

The Final 60% Engineering Design plans shall incorporate all agreed-to comments developed from the reviewers and stakeholders of the Project. VPRA will confirm that all comments were properly incorporated as agreed to during the comment-resolution meeting and documented in the updated comment-resolution matrix. The Consultant is responsible for updating the Final 60% Engineering Design Plans to incorporate any previous comments that were not incorporated, but no new comments will be issued during the check of the Final 60% Engineering Design Plans.

Submittal Quantities:

The Consultant shall provide VPRA with one (1) electronic PDF copy of the plans, cost estimate, schedule, and specification deliverables at each submission. The Consultant shall provide all CADD and other native files with each submission.

2.1 TUNNEL MODIFICATIONS

The structural design scope advances the comprehensive structural design of the modifications and improvements listed below for the Slate Hill Tunnel in accordance with the code requirements listed under the 30% Preliminary Engineering documents. The Consultant shall perform detailed structural analysis and design using loading conditions for the new structures and modifications to the existing tunnels. The structural design shall conform with the requirements of the 2018 IBC, ACI 318-19, ASCE 7-22, American Railway Engineering and Maintenance-of-Way Association ("AREMA"), and state guidelines. The Consultant shall also develop the design documents, including design drawings and specifications for the tunnel components listed below.

The Slate Hill Tunnel is a single-bore, cast-in-place concrete-lined tunnel constructed in 1912. Originally constructed for freight services, the modifications listed below are intended to upgrade the existing tunnel to allow for safe passenger rail service through the tunnel. This 881-foot-long tunnel is in Montgomery County, Virginia.

Modifications to the tunnel include the following:

- Modifications to existing tunnel concrete lining for the two (2) - 100' Long Jet Fan Niches
- Modification to existing tunnel concrete lining for Emergency Egress Walkway
- Emergency Egress Walkway
- Jet Fans and Jet Fan Supports

See [Appendix F](#) for Recommendations for Final Design, [Appendix G](#) for Geotechnical Report, and [Appendix P](#) for Tunnel Safety Improvements (TSI) Report.

Tunnel Niche

The existing tunnel liner is to be modified to accommodate two (2) -100' Long Jet Fan Niches. The Consultant shall expand the details developed during the 30% preliminary design phase. Detailed design calculations and structural drawings shall be performed for all conditions of the tunnel, including preliminary, temporary, and final conditions. Additionally, calculations and details shall be developed for the removal of existing tunnel crown, structural ribbing, ribbing connection to the existing tunnel, rock bolts, grouted ground supports, emergency egress walkways, adits, and temporary support conditions. Structural ribbing in addition to traditional loading shall be designed to accommodate additional fan loadings, including dead load of fans, ancillary equipment, torsional loadings at startup, and impact loading.

Emergency Egress Walkway

Consultant shall expand the details for the emergency egress walkway developed during the 30% Preliminary Engineering design phase. Egress walkway shall be provided between the tunnel portals and connect to emergency access paths. The egress walkway within the tunnel will be designed to be removable and should attach to the existing tunnel. The Consultant shall provide calculations supporting the detail for the emergency egress walkway.

The existing concrete liner has sections that have increased thickness from previous repairs. The liner shall be minimally removed to allow for egress past these sections. Supporting details and calculations that verify capacity or reinforcement of these sections shall be provided.

Construction Monitoring Plan

Consultant shall provide a plan to monitor settlement, horizontal movement, and vibration due to the ongoing tunnel modifications. Plan shall establish acceptable levels of settlement and/or movement and procedures when excessive settlement and/or movement are encountered during construction.

Tunnel Modification Deliverables

- Updated Basis of Design for Tunnel Modification Design Elements.
- Updated structural drawings for the structures indicated above, including but not limited to:
 - Detailed rock bolt layout drawings, sections, and details
 - Detailed grouting plans, sections, and details
 - Detailed concrete removal/demolition plans
 - Detailed proposed reinforced concrete details and existing reinforced concrete modification details

- Detailed precast panel/ steel framing plans for egress walkway
- Proposed construction sequence and temporary support details
- DRAFT Technical Specifications for all structural work related to modifications and improvements to the tunnels, including but not limited to:
 - Rock support
 - Grouting
 - Concrete removal
 - Structural steel
 - Shotcrete
 - Excavation support
 - Geotechnical instrumentation
- Construction Monitoring Plan
- Updated Construction Cost Estimate, including:
 - Each construction task developed utilizing actual work crew sizes, labor progress rates, current construction material and equipment rental costs.
- Updated Construction Schedule
 - Schedule detailed by each construction task based on actual shifts to complete each task with defined working hours during tunnel shutdown windows.

Coordination

The Consultant shall coordinate with the following:

- The Owner for allowable tunnel closures and working hours for construction.
- Geotechnical Investigation

Assumptions and Exclusions

- Geotechnical information is adequate to provide soil/rock properties to accurately advance the design.

2.2 TUNNEL SAFETY IMPROVEMENTS

The existing tunnels were constructed prior to 1914 and were primarily utilized for freight rail traffic. These tunnels need to be upgraded to provide safe passage for passenger rail service. The plans and details developed during the 30% Preliminary Engineering design phase are to be advanced to include the items listed under the trailing sections:

2.2.1 INSTRUMENTATION, CONTROLS, AND AUTOMATION (ICA) DESIGN

The Consultant shall develop and advance the following ICA design elements:

- Tunnel SCADA system
- Tunnel ventilation system
- Linear Heat Detection System
- Radio communications
- Call boxes/Blue Light stations/Telephone systems
- CCTV cameras
- Fire Alarm System

- Communications architecture, networking and interfaces between systems, sub-systems and equipment in the tunnel, support buildings and ancillary areas for communication to Operation Control Center (OCC) and Back-up OCC (BOCC)
 - All references to OCC in this document include the BOCC unless specified otherwise.
- Implementation of Cybersecurity system

Systems and communications design shall consider tunnels, tunnel portals, support buildings, ancillary spaces, equipment rooms, communication rooms, egress paths, areas of refuge and other spaces as determined by the Authority Having Jurisdiction ("AHJ"). Systems, interfaces communications architecture and network designs shall provide safe operation of tunnels per NFPA 130 requirements and in accordance with Basis of Design Report ("BODR") and 30% Preliminary Engineering drawings. The intent is to provide capability to perform normal and emergency tunnel operations per NFPA 130 requirements:

- Normal tunnel operations from existing Operations Control Center and a Back-up OCC
- Emergency operations from the new local control center which shall also be the local command post during emergency situations

The OCC may be one location or multiple locations, to be determined by coordination with Owner.

The Consultant shall hire the services of a Control System Integrator ("CSI") or perform the role of the CSI for the project. The CSI shall also be referred to as the Consultant or Integrator in this section of the document.

Systems and communications design shall be compatible with existing servers and network equipment at existing OCC/BOCC for communications interface. Systems designs shall be in accordance with Owner's requirements and design criteria. Tunnel SCADA system shall include redundant Programmable Logic Controllers ("PLCs"), control panels, and Remote Input/Output (RIO) panels in the tunnel. The RIO panels shall interface with field devices. Tunnel SCADA PLCs shall be programmed to:

- Control and monitor tunnel ventilation system
- Monitor trouble alarms and failures of other systems and sub-systems
- Interface with network equipment for communication to OCC and BOCC

The Consultant shall develop design documents including drawings, technical specifications:

- To clearly describe functionality, programming and system integration requirements for each ICA design element mentioned above. For networking and hardwired interfaces with other systems and sub-systems such as:
 - Mechanical systems
 - Electrical systems
 - Fire Alarm system
 - Lighting control system
- To interface with Owner's existing backbone network for communication to OCC and BOCC.

- Additional coordination and discussions with Owner and passenger rail operating entities are required to clarify location of existing OCC/BOCC and communications interfaces to backbone network.
- To implement:
 - A complete and reliable cybersecurity system based on listed standards and codes in the document
 - Passive cybersecurity software or hardware solution

Coordination

The Consultant shall coordinate with the following:

- The Owner and passenger rail operating entities for existing OCC/BOCC and locations to interface with existing backbone network.
- Design development of other trades for programming and interface requirements for monitoring and control operations.

Assumptions and Exclusions

- OCC and backbone network are existing and available for interfaces with Tunnel systems to perform normal operations as per NFPA 130 requirements.
- SCADA systems and communication systems equipment at OCC has availability of spares and scalability to integrate tunnel systems for remote monitoring and control operations.
- The signaling system and Automatic Train Control ("ATC") system design and interfaces with Tunnel SCADA system are beyond the scope of this project.

ICA Deliverables

- Updated Basis of Design for ICA Design Elements
- Concept of Operations ("ConOps")
- ICA drawings
- Tunnel ventilation control system – Plan
- Tunnel ventilation control panels layout & BOM
- Fire detection plan
- Fire detection system network
- Communication Rooms - Plan and Layout
- Local Command Post - Plan and Layout
- Control systems block diagram.
- Communication network architecture
- Communication Node Cabinet layout & BOM
- RIO panel layout & BOM
- Control schematic wiring diagrams
- DRAFT Technical Specifications
- As-builts review

2.2.2 FIRE AND LIFE SAFETY

The scope advances Fire and Life Safety component design for tunnel systems as per NFPA 130, NFPA 14, and NFPA 22 requirements.

The scope of work includes:

- Tunnel Ventilation
- Egress
- Tunnel Fire Protection
- Tunnel Support Building HVAC
- Tunnel Support Building Fire Protection
- Coordination with other disciplines
- Quality Assurance and Quality Control
- System control measures and integration into a broader response shall be demonstrated.

Tunnel Ventilation

The tunnel ventilation system shall be designed in accordance with the design calculations performed during the 30% Preliminary Engineering design development. Additional performance design calculations are not necessary except for structural support calculations.

Tunnel ventilation jet fans shall meet the following:

- The jet fan horsepower requirement shall not exceed the nameplate rating of the jet fan at the ASHRAE 99.6% winter temperature for heating loads. The service factor shall not be used for jet fan power exceedances.
- Forward flow from fan shall move air through impeller then over the motor.
- Fan shall be “fully reversible” with reverse airflow greater than 97% of forward airflow.
- Jet Fans shall be painted carbon steel with aluminum hubs and rotors. Silencers shall be sized to attenuate noise at 5 ft above the walkway at any point along the length of the tunnel in accordance with NFPA 130.
- Motors shall have a 25-year life span, with a service factor of 1.15.
- Bearings shall have a design life of 40,000 hours on a 90-percentile average. The motor shall have grease fittings that are readily accessible for annual changes in order to grease the motor bearings.
- Power and control connection for the fan shall be housed in a NEMA 4x316 stainless box on the exterior of the jet fan, and the power factor shall be in accordance with NEMA MG-1.
- Jet fans shall be inspectable and maintainable. A 30-inch elevated bucket shall be able to rise between the two jet fans such that the structural supports may be inspected, and the power connections may be disconnected. A maintenance manual shall be provided that provides a maintenance regime for the equipment.
- Heaters for the jet fans shall be 120V and can heat the fan motor when the motor is not active.
- Fans shall be capable of being controlled remotely.
- Specified fan specifications shall be able to be sourced from multiple manufacturers.
- Quantity: Four (4) jet fans + one (1) spare jet fan

Egress

The means of Egress shall include the following items:

- Egress signage shall be provided throughout the tunnel at required intervals with exit points clearly identified. The tunnel support building shall also have signage in

accordance with the VAUSBC. Additional signage shall be provided as necessary at locations such as areas of refuge. Evacuation destinations shall be clearly indicated and identified.

- The ConOps shall establish when and how a train evacuation is directed after receipt of alarm.
- The ConOps document shall document the anticipated egress strategy.
- Fire department access and equipment locations shall be coordinated such that tunnel evacuees are not impeded by the presence of this equipment.
- Egress doors adjacent to the trackway shall be rated for repeated pressure swings of +10 in.w.g. to -10 in.w.g.

Tunnel Fire Protection

Tunnel Fire Protection System shall meet the following requirements:

- Utilize a dry standpipe system in accordance with the Basis of Design and the 30% Preliminary Engineering drawings.
- The dry standpipe shall be constructed of ductile iron with mechanical Victaulic type couplings.
- Remote air relief valves shall be provided at appropriate locations and the dry pipe shall be drainable after use.
- Minimum water supply shall be capable of providing 1-hour of water with 2-hose streams active. Freeze protection shall be provided in the water storage tank and any wet lines to the fire pump room.
- Fire department connections and fire hose valves 4" and less shall be bronze or brass construction.
- Hose connections shall have 2-1/2-inch valves and shall be of the pressure-reducing type.
- Fire pumps shall be provided with normal and emergency backup power.
- Fire department connections shall be provided at the tunnel support building such that the fire department may pressurize the standpipe system.

Tunnel Drainage

Existing tunnel structures contain weep holes and allow for entrapped water to pass through the tunnel liner and exit through the tunnel portals. Ability to process drainage shall not be hindered by the proposed tunnel modifications. The tunnel drainage shall be designed to accommodate expected additional water flows during a fire emergency, as fire flows from two (2) fire hoses (500 gpm) must be drained. Tunnel water flows shall be designed to not exceed the height of the bottom of rail in the tunnel.

Tunnel Support Building HVAC and Fire Protection

The ambient outdoor design conditions documented in the ASHRAE Fundamentals Handbook shall be used based upon the 0.4% summer and 99.6% winter annual frequency of occurrence.

The following table provides a guide for the application of HVAC and Fire Protection. The HVAC systems shall be designed in accordance with the following criteria:

Rooms	Heating (Min Temp. in deg F dry bulb)	Cooling (Max Temp. in deg F dry bulb)	Ventilation	Fire Protection
Electrical Room	40	104	Positively pressurized	Fire detection only
Emergency Electrical Room	40	104	Positively pressurized	Fire detection only
UPS Room	60	Note 1	Negatively pressurized	Note 2
Communications Room	60	80	Positively pressurized	Note 2
Storage Room	40	104		Sprinklered
Fire Pump Room	40	104		Sprinklered
Air compressor room	40	104		Sprinklered
Clean Agent Room	40	104		Sprinklered
Fire Command Center	60	80		Sprinklered

1. As required by Manufacturer to maintain maximum service life of the batteries.
2. Fire protection shall be in accordance with applicable codes and standards.

Due to the potentially infrequent nature of the electrical equipment operating, heat loads from electrical equipment shall not be part of the heating calculations.

Sheet metal ducts shall be constructed of lock formed, quality galvanized steel with joints that are airtight. Ducts shall be sized such that the pressure drop does not exceed 0.1 in.w.g. per 100 ft of duct.

Portable fire extinguishers shall be provided for each space in accordance with the requirements of NFPA 10, the Virginia Statewide Fire Prevention Code ("SFPC"), and Virginia Uniform Statewide Building Code ("USBC").

HVAC calculations shall be submitted supporting the cooling and heating loads for the ancillary support building.

FIRE AND LIFE SAFETY DELIVERABLES

- Updated Basis of Design for the Fire and Life Safety Design elements
- Provide 60% Engineering Design drawings and specifications, including the following:
 - Calculations
 - Design Reports
 - Updated BODR
 - Full Technical Specifications
 - ConOps
 - QA/QC Documentation

2.2.2 TUNNEL SUPPORT BUILDING AND BUILDING INFRASTRUCTURE

The Consultant shall continue development of the 60% Engineering Design plans for the Project based on 30% Preliminary Engineering plans. Plans for the Tunnel Support Building include civil, architectural, structural, electrical, lighting, communications, public address, CCTV, plumbing, landscape architecture, mechanical, and fire protection plans.

TUNNEL SUPPORT BUILDING AND BUILDING INFRASTRUCTURE DELIVERABLES

- Updated Engineering Basis of Design for the Building and Building Infrastructure design elements.
- Civil Plans for the Support Building, including access roadways.
- Grading Plans and Proposed locations for drainage solutions
- Hydrology and Hydraulics Report
- Hydraulic Structures Plans and details
- E&S Plans
- Plans and details for retaining walls (if required)
- Quantities will be developed to support the cost estimate based on the level of detail included in the design plans, but these will not be presented on plan sheets.

2.3 ROW ACQUISITION DOCUMENTATION

The Consultant must follow VPRA process to notify abutting landowners of entry onto their property for the purpose of performing studies related to the Project. VPRA must approve all notice letters prior to the Consultant sending to the landowners.

The Consultant shall identify Right-of-Way (ROW) impacts to adjacent landowners based on the 60% Engineering Design and shall prepare the ROW Acquisition Plans for all additional properties with a ROW impact. The ROW Acquisition Plans will be based on field survey work and will be used to acquire ROW. A ROW impact is described as a parcel where land acquisition, temporary easement, or permanent easement is required. Permanent easements shall include utility, drainage, right of way and line of sight easements as well as access, construction, and maintenance easements. Temporary easements shall include construction, staging and laydown area easements. The Consultant shall identify temporary easements as part of the 60% Engineering Design and make every effort to minimize all property easements, including temporary construction easements. The Consultant shall present all impacts in a ROW Impacts Matrix.

The ROW Matrix prepared during 30% Preliminary Engineering is provided in Appendix O.

ROW Acquisition Documentation Deliverables

- Updated ROW Impacts Matrix

Task 3: Merrimac Tunnel Modifications

This task includes advancing the existing 30% Preliminary Engineering plans (Appendix B) of four (4) project components: Merrimac Tunnel Modifications, Tunnel safety Improvements, Tunnel Support Buildings, and Tunnel Support building infrastructure to a 60% Engineering Design set for all elements of the Project. All four (4) components will be designed to 60% Engineering Design

unless VPRA decides to end project development for certain or all components in this SOW prior to 60% Engineering Design.

In addition to advancing the above project components, VPRA will provide deferred comments from the 30% Preliminary Engineering design submittal, which shall be incorporated in the 60% Engineering Design plans.

Submittal Process:

The Consultant shall provide two (2) design submissions: draft 60% Engineering Design and final 60% Engineering Design.

At VPRA's discretion, the Consultant shall advance to Final Design (Optional). Should the design progress to final construction documents, submittals at 90%, 100%, and final are expected and will follow this same process.

All plan submittals must go through the Project's previously established QA/QC process prior to submission. The following process, a similar process using Bluebeam, or a Consultant-proposed electronic comment-resolution process shall be followed for the Engineering Plans:

- VPRA will compile all comments from stakeholders and provide a comment matrix to the Consultant after each review has been completed.
- The Consultant shall respond to the comments using the VPRA-provided comment matrix and submit to VPRA for use during the comment-resolution meeting.
- If needed, the Consultant shall conduct a comment-resolution meeting with VPRA and project stakeholders to discuss comments and responses, gather additional background to better understand comments, and provide backup to responses as necessary to reach agreement on the path forward for the submittal comments.
- The Consultant shall submit the updated comment-resolution matrix to document all agreed-to comment responses.
- The agreed-to comments shall be incorporated into the subsequent submittal.

The final 60% Engineering Design plans shall incorporate all agreed-to comments developed from the reviewers and stakeholders of the project. VPRA will confirm that all comments were properly incorporated as agreed during the comment-resolution meeting and documented in the updated comment-resolution matrix. The Consultant is responsible for updating the Final 60% Engineering Design Plans to incorporate any previous comments that were not incorporated, but no new comments will be issued during the check of the Final 60% Engineering Design plans.

Submittal Quantities:

The Consultant shall provide VPRA with one (1) electronic PDF copy of the plans, cost estimate, schedule, and specification deliverables at each submission. The Consultant shall provide all CADD and other native files with each submission.

3.1 TUNNEL MODIFICATIONS

The structural design scope advances the comprehensive structural design of the modifications and improvements listed below for the Merrimac Tunnel in accordance with the code

requirements listed under the 30% Preliminary Engineering documents. The Consultant shall perform detailed structural analysis and design using loading conditions for the new structures and modifications to the existing tunnels. The Structural Design shall conform with the requirements of the 2018 IBC, ACI 318-19, ASCE 7-22, AREMA, and state guidelines. The Consultant shall also develop the design documents, including design drawings and specifications for the tunnel components listed below.

The Merrimac Tunnel is a single-bore, cast-in-place concrete-lined tunnel that was completed (and in-service) in 1908, and subsequently, modified with the present concrete-liner in 1914. Originally constructed for freight services, the modifications listed below are intended to upgrade the existing tunnel to allow for safe passenger rail service through the tunnel. This 5,175' foot long tunnel is in Montgomery County, Virginia.

Modifications to the tunnel include the following:

- Modifications to existing tunnel concrete lining for three (3) - 100' Long Jet Fan Niches
- Modification to existing tunnel concrete lining for emergency egress walkway
- Emergency Egress Walkway
- East and West Emergency Egress Shaft excavation and break through at the adit location to egress shaft.
- East and West Stair Headhouses
- Jet Fans and Jet Fan Supports

See [Appendix F](#) for Recommendations for Final Design, [Appendix H](#) for Geotechnical Report, and [Appendix Q](#) for Tunnel Safety Improvements (TSI) Report

Tunnel Niche

The existing tunnel liner is to be modified to accommodate (3) -100' Long Jet Fan Niches. The Consultant shall expand the details developed during the 30% Preliminary Engineering design phase. Detailed design calculations and structural drawings shall be performed for all conditions of the tunnel, including: preliminary, temporary and final conditions. Additionally, calculations and details shall be developed for the removal of existing tunnel crown, structural ribbing, ribbing connection to the existing tunnel, rock bolts, grouted ground supports, emergency egress walkways, emergency egress shaft, adits, and temporary support conditions. Structural ribbing in addition to traditional loading shall be designed to accommodate additional fan loadings, including: dead load of fans, ancillary equipment, torsional loadings at startup, and impact loading.

Emergency Egress Walkway

Consultant shall expand the details for the emergency egress walkway developed during the 30% Preliminary Engineering design phase. Egress walkway shall be provided between the tunnel portals and connect to emergency access paths. The egress walkway within the tunnel will be designed to be removable and should attach to the existing tunnel. The Consultant shall provide calculations supporting the detail for the emergency egress walkway.

The existing concrete liner has sections of the liner that have increased thickness at locations of likely previous repairs. The liner shall be minimally removed to allow for egress past these sections. Supporting details and calculations verify capacity proposed condition or of required reinforcement of these sections shall be provided.

Emergency Egress Escape Shafts

Consultant shall expand the details for the emergency egress escape shafts developed during the 30% Preliminary Engineering design phase. Two escape shafts and stair headhouses, east and west, shall be developed to include the following details and necessary supporting calculations:

- Adit framing
- Adit breakthrough
- Escape shaft stairs and supports
- Emergency Escape Shaft
- Shaft excavation details
- Headhouse structural framing and connection to shaft foundation

Construction Monitoring Plan

Consultant shall provide a plan to monitor settlement, horizontal movement, and vibration because of the ongoing tunnel modifications. Plan shall establish acceptable threshold levels of settlement and/or movement, duration of monitoring prior to, during and after modification work in tunnel and egress shaft/adit construction. Procedures when excessive settlement and/or movement are encountered during construction should be established to control impact to existing structure and limits to determine work stoppages.

Tunnel Modification Deliverables

- Updated Basis of Design for Tunnel Modification Design Elements.
- Updated Structural drawings for the structures indicated above, including but not limited to:
 - Detailed rock bolt layout drawings, sections, and details
 - Detailed grouting plans, sections, and details.
 - Detailed concrete removal/demolition plans.
 - Adit Breakthrough and framing details
 - Emergency Egress Escape Shaft details
 - Detailed proposed reinforced concrete details and existing reinforced concrete modification details.
 - Detailed precast panel/ steel framing plans for egress walkway
 - Proposed construction sequence and temporary support details.
 - Stair structure support in shaft
 - Stair Headhouse structure and connection to shaft foundation
- DRAFT Technical Specifications for all structural work related to modifications and improvements to the tunnels, including but not limited to:
 - Rock support
 - Grouting
 - Concrete removal
 - Structural steel
 - Shotcrete
 - Excavation support
 - Geotechnical instrumentation
 - Reinforced concrete
 - Concrete formwork

- Construction Monitoring Plan
- Updated Construction Cost Estimate, including:
 - Each construction task developed utilizing actual work crew sizes, labor progress rates, current construction material and equipment rental costs.
- Updated Construction Schedule
 - Schedule detailed by each construction task based on actual shifts to complete each task with defined working hours during tunnel shutdown windows.

Coordination

The Consultant shall coordinate with:

- The Owner for allowable tunnel closures and working hours for construction.
- Geotechnical Investigation

Assumptions and Exclusions

- Geotechnical information is adequate to provide soil/rock properties to accurately advance the design.

3.2 TUNNEL SAFETY IMPROVEMENTS

The existing tunnels were constructed prior to 1914 and were primarily utilized for freight rail traffic. These tunnels need to be upgraded to provide safe passage for passenger rail service. The plans and details developed during the 30% Preliminary Engineering Design phase are to be advanced to include the items listed under the trailing sections:

3.2.1 INSTRUMENTATION, CONTROLS, AND AUTOMATION (ICA) DESIGN

The Consultant shall design and advance the following ICA design elements:

- Tunnel SCADA system
- Tunnel ventilation system
- Linear Heat Detection System
- Radio communications
- Call boxes/Blue Light stations/Telephone systems
- CCTV cameras
- Fire Alarm System
- Communications architecture, networking and interfaces between systems, sub-systems and equipment in the tunnel, support buildings and ancillary areas for communication to Operation Control Center (OCC) and Back-up OCC (BOCC)
 - All references to the OCC in this document include references to the BOCC unless specified otherwise.
- Implementation of Cybersecurity System

Systems and communications design shall consider tunnels, tunnel portals, support buildings, ancillary spaces, equipment rooms, communication rooms, egress shafts, egress paths, areas of refuge and other spaces as determined by the AHJ. Systems, interfaces, communications network, and architecture and network designs shall provide safe operation of tunnels per NFPA 130 requirements and in accordance with BODR and 30% Preliminary Engineering drawings. The

intent is to provide capability to perform normal and emergency tunnel operations pursuant to NFPA 130 requirements:

- Normal tunnel operations from existing OCC and a BOCC
- Emergency operations from the new local control center which shall also be the local command post during emergency situations.

The OCC may be one location or multiple locations, to be determined by coordination with Owner.

The Consultant shall hire the services of a CSI or perform the role of the CSI for the project. The CSI shall also be referred to as the Consultant or Integrator in this section of the document.

Systems and communications design shall be compatible with existing servers and network equipment at existing OCC/BOCC for communications interface. Systems designs shall be as per Owner's requirements and design criteria. Tunnel SCADA system shall include redundant Programmable Logic Controllers (PLCs), control panels, and Remote Input/Output (RIO) panels in the tunnel. RIO panels shall interface with field devices. Tunnel SCADA PLCs shall be programmed to:

- Control and monitor tunnel ventilation system
- Monitor trouble alarms and failures of other systems and sub-systems
- Interface with network equipment for communication to OCC and BOCC

The Consultant shall develop design documents including drawings, technical specifications:

- To clearly describe functionality, programming and system integration requirements for each ICA design element mentioned above. For networking and hardwired interfaces with other systems and sub-systems such as:
 - Mechanical systems
 - Electrical systems
 - Fire Alarm system
 - Lighting control system
- To interface with Owner's existing backbone network for communication to OCC and BOCC.
- To implement:
 - A complete and reliable cybersecurity system based on listed standards and codes in the document
 - Passive Cybersecurity software or hardware solution

Coordination

The Consultant shall coordinate with the following:

- The Owner for OCC locations and to interface with existing backbone for communication to OCC.
- Design development of other trades for programming and interface requirements for monitoring and control operations.

Assumptions and Exclusions

- OCC and backbone network are existing and available for interfaces with Tunnel systems to perform normal operations as per NFPA 130 requirements.
- SCADA systems and communication systems equipment at OCC has availability of spares and scalability to integrate tunnel systems for remote monitoring and control operations.
- The signaling system and ATC system design and interfaces with Tunnel SCADA system are beyond the scope of this project.

ICA Deliverables

- Updated Basis of Design for ICA Design Elements
- ConOps
- ICA drawings
- Tunnel ventilation control system – Plan
- Tunnel Ventilation control panels layout & BOM
- Fire Detection plan
- Fire detection system network
- Communication Rooms - Plan and Layout
- Local Command Post - Plan and Layout
- Control systems block diagram.
- Communication network architecture
- Communication Node Cabinet layout & BOM
- RIO panel layout & BOM
- Control schematic wiring diagrams
- DRAFT Technical Specifications
- As-builts Review

3.2.2 FIRE AND LIFE SAFETY

The scope advances Fire and Life Safety component design for tunnel systems as per NFPA 130, NFPA 14 and NFPA 22 requirements.

The scope of work includes the following:

- Tunnel Ventilation
- Egress
- Emergency Egress Shafts/Headhouses
- Tunnel Fire Protection
- Tunnel Support Building and Headhouses HVAC
- Tunnel Support Building and Headhouses Fire Protection
- Coordination with other disciplines
- Quality Assurance and Quality Control
- System control measures, including the area of refuge and integration into a broader response shall be demonstrated.

Tunnel Ventilation

The tunnel ventilation system shall be designed in accordance with the design calculations performed during the 30% Preliminary Engineering design development. Additional performance design calculations are not necessary except for structural support calculations.

Tunnel ventilation jet fans shall meet the following:

- The jet fan horsepower requirement shall not exceed the nameplate rating of the jet fan at the ASHRAE 99.6% winter temperature for heating loads. The service factor shall not be used for jet fan power exceedances.
- Forward flow from fan shall move air through impeller then over the motor.
- Fan shall be “fully reversible” with reverse airflow greater than 97% of forward airflow.
- Jet Fans shall be painted carbon steel with aluminum hubs and rotors. Silencers shall be sized to attenuate noise at 5 ft above the walkway at any point along the length of the tunnel in accordance with NFPA 130.
- Motors shall have a 25-year life span, with a service factor of 1.15.
- Bearings shall have a design live of 40,000 hours on a 90-percentile average. The motor shall have grease fittings that are readily accessible for annual changes in order to grease the motor bearings.
- Power and control connection for the fan shall be housed in a NEMA 4x316 stainless box on the exterior of the jet fan, and the power factor shall be in accordance with NEMA MG-1.
- Jet fans shall be inspectable and maintainable. A 30-inch elevated bucket shall be able to rise between the two jet fans such that the structural supports may be inspected, and the power connections may be disconnected. A maintenance manual shall be provided that provides a maintenance regime for the equipment.
- Heaters for the jet fans shall be 120V, that can heat the fan motor when the motor is not active.
- Fans shall be capable of being controlled remotely.
- Specified fan specification shall be able to be sourced from multiple manufacturers.
- Quantity: Six (6) jet fans + one (1) spare jet fan

Egress

The means of Egress shall include the following:

- Egress signage shall be provided throughout the tunnel at required intervals, the emergency escape shaft, headhouses and tunnel support building. Emergency signage shall be in accordance with NFPA 130 and the USBC. Additional signage shall be provided as necessary at locations such as areas of refuge. Evacuation destinations shall be clearly indicated and identified.
- The ConOps shall establish when and how a train evacuation is directed after receipt of alarm.
- The ConOps document shall document the anticipated egress strategy.
- Fire department access and equipment locations shall be coordinated such that tunnel evacuees are not impeded by the presence of this equipment.
- Egress doors adjacent to the trackway shall be rated for repeated pressure swings of +10 in.w.g. to -10 in.w.g.

Tunnel Fire Protection

Tunnel Fire Protection System shall meet the following requirements:

- Utilize a dry standpipe system in accordance with the Basis of Design and the preliminary 30% Preliminary Engineering drawings.
- The dry standpipe shall be constructed of ductile iron with mechanical Victaulic type couplings.
- Remote air relief valves shall be provided at appropriate locations and the dry pipe shall be drainable after use.
- Minimum water supply shall be capable of proving 1-hour of water with 2-hose streams active. Freeze protection shall be provided in the water storage tank and any wet lines to the fire pump room.
- Fire department connections and fire hose valves 4" and less shall be bronze or brass construction.
- Hose connections shall have 2-1/2-inch valves and shall be of the pressure-reducing type.
- Fire pumps shall be provided with normal and emergency backup power.
- Fire department connections shall be provided at the tunnel support building such that the fire department may pressurize the standpipe system.

Tunnel Drainage

Existing tunnel structures contain weep holes and allow for entrapped water to pass through the tunnel liner and exist through the tunnel portals. Ability to process drainage shall not be hindered from the proposed tunnel modifications. The Tunnel drainage shall be designed to accommodate expected additional water flows during a fire emergency, fire flows from 2 fire hoses (500 gpm) must be drained. Tunnel water flows shall be designed to not exceed the height of the bottom of rail in the tunnel.

Tunnel Support Building and Headhouse HVAC and Fire Protection

The ambient outdoor design conditions documented in the ASHRAE Fundamentals Handbook shall be used based upon the 0.4% summer and 99.6% winter annual frequency of occurrence.

The following table provides a guide for the application of HVAC and Fire Protection. The HVAC systems shall be designed in accordance with the following criteria:

Rooms	Heating (Min Temp. in deg F dry bulb)	Cooling (Max Temp. in deg F dry bulb)	Ventilation	Fire Protection
Electrical Room	40	104	Positively pressurized	Fire detection only
Emergency Electrical Room	40	104	Positively pressurized	Fire detection only
UPS Room	60	Note 1	Negatively pressurized	Note 2
Communications Room	60	80	Positively pressurized	Note 2
Storage Room	40	104		Sprinklered
Fire Pump Room	40	104		Sprinklered
Air compressor room	40	104		Sprinklered
Clean Agent Room	40	104		Sprinklered

Fire Command Center	60	80		Sprinklered
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1. As required by Manufacturer to maintain maximum service life of the batteries.
2. Fire protection shall be in accordance with applicable codes and standards.

Due to the potentially infrequent nature of the electrical equipment operating, heat loads from electrical equipment shall not be part of the heating calculations.

Sheet metal ducts shall be constructed of lock formed, quality galvanized steel with joints that are airtight. Ducts shall be sized such that the pressure drop does not exceed 0.1 in.w.g. per 100 ft of duct.

Portable fire extinguishers shall be provided for each space in accordance with the requirements of NFPA 10, the SFPC, and the USBC.

HVAC calculations shall be submitted supporting the cooling and heating loads for the ancillary support building.

FIRE AND LIFE SAFETY DELIVERABLES

- Updated Basis of Design for the Fire and Life Safety Design elements
- Provide 60% Engineering Design drawings and specifications, including the following:
 - Calculations
 - Design Reports
 - Updated BODR
 - Full Technical Specifications
 - ConOps
 - QA/QC Documentation

3.2.3 TUNNEL SUPPORT BUILDING, HEADHOUSES, AND BUILDING INFRASTRUCTURE

The Consultant shall continue development of the 60% Engineering Design Plans for the Project based on 30% Preliminary Engineering plans. Plans for the Tunnel Support Building and headhouse buildings include: civil, architectural, structural, electrical, lighting, communications, public address, CCTV, Plumbing, landscape architecture, mechanical, and fire protection plans.

TUNNEL SUPPORT BUILDING, HEADHOUSES, AND BUILDING INFRASTRUCTURE DELIVERABLES

- Updated Engineering Basis of Design for the Tunnel Support Building, Headhouse buildings, and Building Infrastructures design elements.
- Civil Plans for the Tunnel Support Building, Headhouse Buildings, including access roadways.
- Grading Plans and Proposed locations for drainage solutions
- Hydrology and Hydraulics Report
- Hydraulic Structures Plans and details
- E&S Plans
- Plans and details for retaining walls (if required)

- Quantities will be developed to support the cost estimate based on the level of detail included in the design plans, but these will not be presented on plan sheets.

3.3 ROW ACQUISITION DOCUMENTATION

The Consultant must follow VPRA process to notify abutting landowners of entry onto their property for the purpose of performing studies related to the project. VPRA must approve all notice letters prior to the Consultant sending to the landowners.

The Consultant shall identify ROW impacts to adjacent landowners based on the 60% Engineering Design and shall prepare the ROW Acquisition Plans for all additional properties with a ROW impact. The ROW Acquisition Plans will be based on field survey work and will be used to acquire ROW. A ROW impact is described as a parcel where land acquisition, temporary easement, or permanent easement is required. Permanent easements shall include utility, drainage, right of way and line of sight easements as well as access, construction, and maintenance easements. Temporary easements shall include construction, staging and laydown area easements. The Consultant shall identify temporary easements as part of the 60% Engineering Design and make every effort to minimize all property easements, including temporary construction easements. The Consultant shall present all impacts in a ROW Impacts Matrix.

The ROW Matrix prepared during 30% Preliminary Engineering is provided in Appendix O.

ROW Acquisition Documentation Deliverables

- Updated ROW Impacts Matrix

Task 4: Cinnabar Road Layover Facility

This task includes advancing the existing 30% Preliminary Engineering plans (Appendix C) of two (2) project components: Cinnabar Road Layover Access Road and Amtrak Layover Facility to a 60% Engineering Design plan set for all elements of the Project. The two (2) project components will be designed to 60% Engineering Design unless VPRA decides to end project development for certain or all components in this SOW. Note, this scope does not include the station building itself, but all improvements needed for the station building construction are included.

Submittal Process:

The Consultant shall provide two (2) design submissions: draft 60% Engineering Design and final 60% Engineering Design.

At VPRA's discretion, the Consultant shall advance to Final Design (Optional). Should the design progress to final construction documents, submittals at 90%, 100%, and final are expected and will follow this same process.

All plan submittals must go through the Project's previously established QA/QC process prior to submission. The following process, a similar process using Bluebeam, or a Consultant-proposed electronic comment-resolution process shall be followed for the Engineering Plans:

- VPRA will compile all comments from stakeholders and provide a comment matrix to the Consultant after each review has been completed.

- The Consultant shall respond to the comments using the VPRA-provided comment matrix and submit to VPRA for use during the comment-resolution meeting.
- If needed the Consultant shall conduct a comment-resolution meeting with VPRA and project stakeholders to discuss comments and responses, gather additional background to better understand comments, and provide backup to responses as necessary to reach agreement on the path forward for the submittal comments.
- The Consultant shall submit the updated comment-resolution matrix to document all agreed-to comment responses.
- The agreed-to comments shall be incorporated into the subsequent submittal.

The final 60% Engineering Design plans shall incorporate all agreed-to comments developed from the reviewers and stakeholders of the project. VPRA will confirm that all comments were properly incorporated as agreed to during the comment-resolution meeting and documented in the updated comment-resolution matrix. The Consultant is responsible for updating the Final 60% Engineering Design Plans to incorporate any previous comments that were not incorporated, but no new comments will be issued during the check of the Final 60% Engineering Design Plans.

Submittal Quantities:

The Consultant shall provide VPRA with one (1) electronic PDF copy of the plans, cost estimate, schedule, and specification deliverables at each submission. The Consultant shall provide all CAD and other native files with each submission.

4.1 SURVEY, SUE, AND GEOTECHNICAL

A survey and preliminary Geotech exploration were performed under the 30% Preliminary Engineering development phase. VPRA will provide Consultant with all available data and findings. A list of recommendations for additional survey, SUE, and geotechnical work that was developed by the Preliminary Engineering Firm is attached as [Appendix F](#). The Consultant shall follow the [VDOT Survey Manual](#) to perform a survey denoting the existing field conditions to adequately support the design of the project. VPRA will provide the Consultant with available rail corridor information from Norfolk Southern.

Geotechnical exploration plans, borings, and lab testing of existing soils were performed under the 30% Preliminary Engineering development phase. During this phase of the Project, the Consultant shall develop loadings and provide them to the geotechnical engineer. The Consultant shall develop a final geotechnical report outlining the foundation recommendations for the project. This report should include but is not limited to bridge and retaining wall foundations, platform foundations, pavement design, slope stability, and slope protection. This detailed report shall be submitted to VPRA for review and approval with the 60% Engineering Design plan set.

SUE investigation (Level C) was performed as a deliverable of the 30% Preliminary Engineering plans. This optional task will include advancing SUE to Level B.

60% Engineering Design plans shall include plan view outline for the locations of all performed borings and include boring findings on the plans.

Survey, SUE, and Geotechnical Deliverables

- Survey, SUE, and Geotechnical Deliverables
- Additional Topographic Existing survey and aerial features (CADD)
- Level B SUE investigation (Field locate logs and CADD)
- Final PE Geotechnical Engineering Report

4.2 ROW ACQUISITION DOCUMENTATION

The Consultant must follow the VPR process to notify abutting landowners of entry onto their property for the purpose of performing studies related to the Project. VPR must approve all notice letters prior to the Consultant sending to the landowners.

The Consultant shall identify ROW impacts to adjacent landowners based on the 60% Engineering Design and shall prepare the ROW Acquisition Plans for all additional properties with a ROW impact. The ROW Acquisition Plans will be based on field survey work and will be used to acquire ROW. A ROW impact is described as a parcel where land acquisition, temporary easement, or permanent easement is required. Permanent easements shall include utility, drainage, right of way and line of sight easements as well as access, construction, and maintenance easements. Temporary easements shall include construction, staging and laydown area easements. The Consultant shall identify temporary easements as part of the 60% Engineering Design and make every effort to minimize all property easements, including temporary construction easements. The Consultant shall present all impacts in a ROW Impacts Matrix.

The ROW Matrix prepared during 30% Preliminary Engineering is provided in Appendix O.

ROW Acquisition Documentation Deliverables

- Updated ROW Impacts Matrix

4.3 RAILROAD DESIGN

Railroad design work shall include horizontal and vertical track alignments for the purpose of providing a safe, low-maintenance track infrastructure to support passenger service, station operations, and access to the layover facility. The Consultant shall review 30% Preliminary Engineering plans, conduct analysis, and continue the development of the track plans. Design will include general layout of signals and consider the access for maintenance of signal and positive train control facilities to ensure accommodation and consideration of the required signal system that has been incorporated into the design.

The design shall follow Amtrak Design Criteria, Amtrak Platform Guidelines, Amtrak Track Design Specification Manual, NS Standards and Public Projects Manual (current version), and the most current version of AREMA's recommended practices. The design shall comply with all FRA regulations. If applicable, the Consultant shall incorporate the survey information developed as a part of the previously completed 30% Preliminary Engineering design.

The railroad design shall include, but not be limited to, the following elements:

- Horizontal alignments
- Vertical profiles
- Track geometry
- Horizontal and vertical clearances to obstructions
- Typical sections

- Cross sections (for verification of drainage, earthwork, right-of-way impacts, and constructability)
- Grading and Drainage
- Utility Impacts
- Retaining wall locations
- Special trackwork (such as turnouts, at-grade crossings, etc.)
- ROW impacts
- Construction limits

Railroad Design Deliverables

- Updated Engineering Basis of Design for the Railroad Design Elements.
- Track Geometry Data Sheets
- Railroad Plan and Profile Sheets (50' horizontal/10' vertical scale)
- Alignments with stations, tangent bearings, and curve data (chord definition)
- Profiles with stations, proposed grades, and curve data
- Horizontal and vertical clearances
- Special trackwork (such as turnouts, at-grade crossings, etc.)
- Survey and aerial feature lines gathered as part of this scope and previously gathered gray-scaled in the background on the plan view
- ROW impacts on adjacent properties
- Updated Utility Impacts
- Fencing to enclose VPRA and Amtrak facilities
- Typical Sections Plan Sheets
- Cross-Sections at 50' intervals

4.4 CIVIL ENGINEERING

Proper drainage from railroads is critical to providing safe conditions and maintaining transportation infrastructure. The Consultant shall adequately design drainage and stormwater management structures to adequately convey design flows. All designs shall consider environmental concerns including considerations for water oil separators, floodplain impacts, erosion and sediment control measures, and the protection of structures.

All current federal and Commonwealth of Virginia regulations pertinent to the design of drainage and stormwater management shall be followed, which may include Best Management Practices (BMPs) from the Virginia Stormwater BMP Clearinghouse. Additionally, within the railroad corridor, special attention shall be paid to the surface drainage, grading, and stormwater management best practices and standards found within the latest editions of the *AREMA Manual for Railway Engineering*, NS Standards and Public Projects Manual, and the *Virginia Stormwater Management Handbook*. If differences exist between the above-stated regulations, the more stringent of the regulations shall apply. Outside the immediate railroad footprint, i.e., for access roads, parking lots, other site work, etc., drainage design shall be in accordance with VDOT's *Drainage Manual*, revised January 2021.

In conjunction with the development of the track plans, grading plans shall be prepared. The Consultant shall document hydrologic and hydraulic analysis illustrating the existing and proposed capacity of hydraulic structures and establishing the need for improvements, if any, in a Hydrology and Hydraulics Report. The Consultant shall design and provide plans for the proposed hydraulic structures. If a bridge structure is required, the Consultant shall bring it to the attention of VPRA

prior to starting design. The Consultant also shall prepare a Soil Erosion and Sediment Control (E&S) Plan showing the site's existing topography, indicating how it will be altered, identifying the control measures that will be installed, and describing how and when these controls will be implemented and maintained. All erosion and sediment control measures shall follow VDOT's *Drainage Manual*, revised January 2021 and VDOT's *Road and Bridge Standards*, revised September 2022, and shall be supplemented if required by the current *Virginia Department of Environmental Quality Erosion and Sediment Control Handbook*.

The Consultant shall continue development of the 60% Engineering Design plans for the Project based on 30% Preliminary Engineering plans. Plans for the Cinnabar Road layover facility include civil, architectural, structural, electrical, lighting, communications, public address, CCTV, Plumbing, landscape architecture, mechanical, and fire protection plans.

Civil Engineering Deliverables

- Updated Engineering Basis of Design for the Civil Engineering design elements.
- Civil Plans for the Cinnabar layover facility, Cinnabar Layover Facility Infrastructure, including access roadways.
- Grading Plans and Proposed locations for drainage solutions
- Hydrology and Hydraulics Report
- Hydraulic Structures Plans and details
- E&S Plans
- Plans and details for retaining walls
- Quantities will be developed to support the cost estimate based on the level of detail included in the design plans, but these will not be presented on plan sheets.

4.5 UTILITY COORDINATION AND DESIGN

The Consultant shall be responsible for the identification of conflicts and design for the utility relocations required for the Project.

The Consultant shall be responsible for the design of water and sanitary sewer utility relocations and new service lines required by the Project and the preparation of Utility Relocation Plans. Proposed lines including relocations of water and/or sanitary sewer facilities shall be designed in accordance with the Utility Owner's requirements and standards. The approximate location of proposed electrical, water and sanitary sewer lines shall be coordinated with the Utility Owner during the PE phase. Approximate easements required and horizontal alignments for water or sanitary sewer and electrical shall be shown on the Utility Relocation Plans. All utility information provided by VPRRA shall be shown on the Utility Relocation Plans.

The Consultant shall finalize the matrix of potential impacts to all utilities to determine the cost and impacts to construction schedule.

Utility Relocation Design Deliverables

- Utility Plans
- Utility Relocation Plans
- Utility Coordination
- Updated Utility Impact Matrix

4.6 PERMIT COORDINATION (OPTIONAL)

The Consultant may review the list of environmental permits and commitments identified by VPRA and will provide comments and additional activities needed following completion of early design activities. Environmental permits and commitments include permitting requirements, as well as other environmental approvals, tasks, and plans related to the Project that were committed as part of the National Environmental Policy Act (NEPA) document as minimization, avoidance, or mitigation for the proposed action or that will be required by local, state, or federal agencies.

The Consultant shall prepare permits and thus also be responsible for providing design files, exhibits and cross sections, impact calculations, and material reviews for environmental permits and commitments related to the Project. The Consultant will collaborate with VPRA to gather applicable information and for reviews of the permit applications. VPRA will lead agency coordination, and the Consultant will participate and provide materials for meetings. VPRA will develop any NEPA re-evaluation work, if needed.

Permit Coordination Deliverables

- Permit and environmental commitment support documentation

Task 5: Cinnabar Station Platform and Station Infrastructure

This task includes advancing the existing 30% Preliminary Engineering plans (Appendix D of three (3) project components: Cinnabar Platform, Cinnabar Road Station Infrastructure, and Cinnabar Road Station Access Road to a 60% Engineering Design set for all elements of the Project. All three (3) components will be designed to 60% Engineering Design unless VPRA decides to end project development for certain or all components in this RFP early. Please note that this scope does not include the station building itself, but all improvements needed for the station building construction are included.

Submittal Process:

The Consultant shall provide two (2) design submissions: draft 60% Engineering Design and final 60% Engineering Design.

At VPRA's discretion, the Consultant shall advance to Final Design (Optional). Should the design progress to final construction documents, submittals at 90%, 100%, and final are expected and will follow this same process.

All plan submittals must go through the Project's previously established QA/QC process prior to submission. The following process, a similar process using Bluebeam, or a Consultant-proposed electronic comment-resolution process shall be followed for the Engineering Plans:

- VPRA will compile all comments from stakeholders and provide a comment matrix to the Consultant after each review has been completed.
- The Consultant shall respond to the comments using the VPRA-provided comment matrix and submit to VPRA for use during the comment-resolution meeting.
- If needed the Consultant shall conduct a comment-resolution meeting with VPRA and project stakeholders to discuss comments and responses, gather

additional background to better understand comments, and provide backup to responses as necessary to reach agreement on the path forward for the submittal comments.

- The Consultant shall submit the updated comment-resolution matrix to document all agreed-to comment responses.
- The agreed-to comments shall be incorporated into the subsequent submittal.

The final 60% Engineering Design plans shall incorporate all agreed-to comments developed from the reviewers and stakeholders of the project. VPRA will confirm that all comments were properly incorporated as agreed to during the comment-resolution meeting and documented in the updated comment-resolution matrix. The Consultant is responsible for updates to the Final 60% Engineering Design Plans to incorporate any previous comments that were not incorporated but no new comments will be issued during the check of the Final 60% Engineering Design plans.

Submittal Quantities:

The Consultant shall provide VPRA with one (1) electronic PDF copy of the plans, cost estimate, schedule, and specification deliverables at each submission. The Consultant shall provide all CAD and other native files with each submission.

5.1 SURVEY, SUE, AND GEOTECHNICAL (OPTIONAL)

A survey and preliminary Geotech exploration were performed under the 30% Preliminary Engineering development phase. VPRA will provide Consultant with all available data and findings. A list of recommendations for additional survey, SUE and geotechnical work was developed by the Preliminary Engineering Firm and is attached as [Appendix F](#). The Consultant shall follow the VDOT Survey Manual to perform a survey denoting the existing field conditions to adequately support the design of the project. VPRA will provide the Consultant with available rail corridor information from Norfolk Southern.

Geotechnical exploration plans, borings, and lab testing of existing soils were performed under the 30% Preliminary Engineering development phase. During this phase of the Project, the Consultant shall develop loadings and provide them to the geotechnical engineer. The Consultant shall develop a final geotechnical report outlining the foundation recommendations for the project. This report should include but is not limited to: bridge and retaining wall foundations, platform foundations, pavement design, slope stability, and slope protection. This detailed report shall be submitted to VPRA for review and approval with the 60% Engineering Design plan set.

Subsurface Utility Engineering (SUE) investigation (Level C) was performed as a deliverable of the 30% Preliminary Engineering plans. This optional task will include advancing SUE to Level B.

60% Engineering Design plans shall include plan view and outline the locations of all performed borings and include boring findings on the plans.

Survey, SUE, and Geotechnical Deliverables

- Survey, SUE, and Geotechnical Deliverables
- Additional Topographic Existing survey and aerial features (CADD)
- Level B SUE investigation (Field locate logs and CADD)
- Final PE Geotechnical Engineering Report

5.2 ROW ACQUISITION DOCUMENTATION

The Consultant must follow the VPRA process to notify abutting landowners of entry onto their property for the purpose of performing studies related to the Project. VPRA must approve all notice letters prior to the Consultant sending them to the landowners.

The Consultant shall identify ROW impacts to adjacent landowners based on the 60% Engineering Design and shall prepare the ROW Acquisition Plans for all additional properties with a ROW impact. The ROW Acquisition Plans will be based on field survey work and will be used to acquire ROW. A ROW impact is described as a parcel where land acquisition, temporary easement, or permanent easement is required. Permanent easements shall include utility, drainage, right of way and line of sight easements as well as access, construction, and maintenance easements. Temporary easements shall include construction, staging and laydown area easements. The Consultant shall identify temporary easements as part of the 60% Engineering Design and make every effort to minimize all property easements, including temporary construction easements. The Consultant shall present all impacts in a ROW Impacts Matrix.

The ROW Matrix prepared during 30% Preliminary Engineering is provided in Appendix O.

ROW Acquisition Documentation Deliverables

- Updated ROW Impacts Matrix

5.3 RAILROAD DESIGN

Railroad design work shall include horizontal and vertical track alignments for the purpose of providing a safe, low-maintenance track infrastructure to support passenger service, station operations, and potential access to the layover facility. The Consultant shall review 30% Preliminary Engineering plans, conduct analysis, and continue the development of the track plans. Design will include general layout of signals and consider the access for maintenance of signal and positive train control facilities to ensure accommodation and consideration of the required signal system has been incorporated into the design.

The design shall follow Amtrak Design Criteria, Amtrak Platform Guidelines, Amtrak Track Design Specification Manual, NS Standards and Public Projects Manual (current version), and the most current version of the American Railway Engineering and Maintenance-of-Way Association's (AREMA) recommended practices. The design shall comply with all FRA regulations. The Consultant shall incorporate the survey information developed as a part of the current contract if applicable.

The railroad design shall include, but not be limited to, the following elements:

- Horizontal alignments
- Vertical profiles
- Track geometry
- Horizontal and vertical clearances to obstructions
- Typical sections
- Cross sections (for verification of drainage, earthwork, right-of-way impacts, and constructability)
- Grading and drainage
- Utility impacts
- Retaining wall locations
- Special trackwork (such as turnouts, at-grade crossings, etc.)

- ROW impacts
- Construction limits

Railroad Design Deliverables

- Updated Engineering Basis of Design for the Railroad Design Elements.
- Track Geometry Data Sheets
- Railroad Plan and Profile Sheets (50' horizontal/10' vertical scale)
- Alignments with stations, tangent bearings, and curve data (chord definition)
- Profiles with stations, proposed grades, and curve data
- Horizontal and vertical clearances
- Special trackwork (such as turnouts, at-grade crossings, etc.)
- Survey and aerial feature lines gathered as part of this scope and previously gathered gray-scaled in the background on the plan view
- ROW impacts on adjacent properties
- Updated Utility Impacts
- Fencing to enclose VPRA and Amtrak facilities
- High-level passenger platform and connection to site facilities
- Typical Sections Plan Sheets
- Cross-Sections at 50' intervals

5.4 CIVIL ENGINEERING

Proper drainage from railroads is critical to providing safe conditions and maintaining transportation infrastructure. The Consultant shall adequately design drainage and stormwater management structures to adequately convey design flows. All designs shall consider environmental concerns including considerations for water oil separators, floodplain impacts, erosion and sediment control measures, and the protection of structures.

All current federal and Commonwealth of Virginia regulations pertinent to the design of drainage and stormwater management shall be adhered to, which may include best management practices (BMPs) from the Virginia Stormwater BMP Clearinghouse. Additionally, within the railroad corridor, special attention shall be paid to the surface drainage, grading, and stormwater management best practices and standards found within the latest editions of the *AREMA Manual for Railway Engineering*, *NS Standards and Public Projects Manual*, and the *Virginia Stormwater Management Handbook*. If differences exist between the above-stated regulations, the more stringent of the regulations shall apply. Outside the immediate railroad footprint, i.e., for access roads, parking lots, other site work, etc., drainage design shall be in accordance with *VDOT's Drainage Manual*, revised January 2021.

In conjunction with the development of the track plans, grading plans shall be prepared. The Consultant shall document hydrologic and hydraulic analysis illustrating the existing and proposed capacity of hydraulic structures and establishing the need for improvements, if any, in a Hydrology and Hydraulics Report. The Consultant shall design and provide plans for the proposed hydraulic structures. If a bridge structure is required, the Consultant shall bring it to the attention of VPRA prior to starting design. The Consultant also shall prepare a Soil Erosion and Sediment Control (E&S) Plan showing the site's existing topography, indicating how it will be altered, identifying the control measures that will be installed, and describing how and when these controls will be implemented and maintained. All erosion and sediment control measures shall follow *VDOT's Drainage Manual*, revised January 2021 and *VDOT's Road and Bridge Standards*, revised September 2022, and shall

be supplemented if required by the current *Virginia Department of Environmental Quality Erosion and Sediment Control Handbook*.

The Consultant shall continue development of the 60% Engineering Design plans for the Project based on 30% Preliminary Engineering plans. The platform shall be designed as a high-level platform with a minimum of 1,000 feet long. Canopy shall be provided on approximately two-thirds of the length of the platform.

Civil Engineering Deliverables

- Plans for the Cinnabar Road Station; including, civil, architectural, structural, electrical, lighting, communications, public address, CCTV, Plumbing, landscape architecture, mechanical, and fire protection plans.
- Updated Engineering Basis of Design for the Civil Engineering design elements.
- Civil Plans for the Cinnabar Road Platform, Cinnabar Road Station Infrastructure, including access roadways.
- Grading Plans and Proposed locations for drainage solutions
- Hydrology and Hydraulics Report
- Hydraulic Structures Plans and details
- E&S Plans
- Plans and details for retaining walls at the Cinnabar Road Station
- Quantities will be developed to support the cost estimate based on the level of detail included in the design plans, but these will not be presented on plan sheets.

5.5 UTILITY COORDINATION AND DESIGN

The Consultant shall be responsible for the identification of conflicts and design for the utility relocations required for the Project.

The Consultant shall be responsible for the design of water and sanitary sewer utility relocations and new service lines required by the Project and the preparation of Utility Relocation Plans. Proposed lines including relocations of water and/or sanitary sewer facilities shall be designed in accordance with the Utility Owner's requirements and standards. The approximate location of proposed electrical, water and sanitary sewer lines shall be coordinated with the Utility Owner during the PE phase. Approximate easements required and horizontal alignments for water or sanitary sewer and electrical shall be shown on the Utility Relocation Plans. All utility information provided by VPRA shall be shown on the Utility Relocation Plans.

The Consultant shall finalize the matrix of potential impacts to all utilities to determine the cost and impacts to construction schedule.

Utility Relocation Design Deliverables

- Utility Plans
- Utility Relocation Plans
- Utility Coordination
- Updated Utility Impact Matrix

5.6 PERMIT COORDINATION (OPTIONAL)

The Consultant will review the list of environmental permits and commitments identified by VPRA and will provide comments and additional activities needed following completion of early design activities. Environmental permits and commitments include permitting requirements as well as other environmental approvals, tasks, and plans related to the Project that were committed as part of the NEPA document as minimization, avoidance, or mitigation for the proposed action or that will be required by local, state, or federal agencies.

The Consultant shall prepare permits and thus also be responsible for providing design files, exhibits and cross sections, impact calculations, and material reviews for environmental permits and commitments related to the Project. The Consultant will collaborate with VPRA to gather applicable information and for reviews of the permit applications. VPRA will lead agency coordination, and the Consultant will participate and provide materials for meetings. VPRA will develop any NEPA re-evaluation work, if needed.

Permit Coordination Deliverables

- Permit and environmental commitment support documentation

Task 6: New River Valley Station and Connector Track

This task includes advancing the existing preliminary 30% Preliminary Engineering plans (Appendix E) of three (3) project components: New River Valley Mall Platform, Connector Track and Station Infrastructure to a 60% Engineering Design set for all elements of the Project. All three (3) components will be designed to 60% Engineering Design unless VPRA decides to end project development for certain or all components in this statement of work early. Please note that this scope does not include the station building itself, but all improvements needed for the station building construction are included.

Submittal Process:

The Consultant shall provide two (2) design submissions: draft 60% Engineering Design and final 60% Engineering Design.

At VPRA discretion, the Consultant shall advance to Final Design (Optional). Should the design progress to final construction documents, submittals at 90%, 100%, and final are expected and will follow this same process.

All plan submittals must go through the Project's previously established QA/QC process prior to submission. The following process, a similar process using Bluebeam, or a Consultant-proposed electronic comment-resolution process shall be followed for the Engineering Plans:

- VPRA will compile all comments from stakeholders and provide a comment matrix to the Consultant after each review has been completed.
- The Consultant shall respond to the comments using the VPRA-provided comment matrix and submit to VPRA for use during the comment-resolution meeting.
- If needed the Consultant shall conduct a comment-resolution meeting with VPRA and project stakeholders to discuss comments and responses, gather

additional background to better understand comments, and provide backup to responses as necessary to reach agreement on the path forward for the submittal comments.

- The Consultant shall submit the updated comment-resolution matrix to document all agreed-to comment responses.
- The agreed-to comments shall be incorporated into the subsequent submittal.

The final 60% Engineering Design plans shall incorporate all agreed-to comments developed from the reviewers and stakeholders of the project. VPRA will confirm that all comments were properly incorporated as agreed to during the comment-resolution meeting and documented in the updated comment-resolution matrix. The Consultant is responsible for updates to the final 60% Engineering Design plans to incorporate any previous comments that were not incorporated but no new comments will be issued during the check of the final 60% Engineering Design plans.

Submittal Quantities:

The Consultant shall provide VPRA with one (1) electronic PDF copy of the plans, cost estimate, schedule, and specification deliverables at each submission. The Consultant shall provide all CAD and other native files with each submission.

6.1 SURVEY, SUE, AND GEOTECHNICAL

A survey and preliminary Geotech exploration were performed under the 30% Preliminary Engineering development phase. The Consultant shall request all available data and findings from VPRA, a list of recommendations for additional survey, SUE, and geotechnical work that was developed by the Preliminary Engineering Firm and attached as Appendix F. The Consultant shall follow the VDOT Survey Manual to perform a survey denoting the existing field conditions to adequately support the design of the project. VPRA will provide the Consultant with available rail corridor information from Norfolk Southern.

Geotechnical exploration plans, borings, and lab testing of existing soils were performed under the 30% Preliminary Engineering development phase. During this phase of the Project, the Consultant shall develop loadings and provide them to the geotechnical engineer. The Consultant shall develop a final geotechnical report outlining the foundation recommendations for the project. This report should include but is not limited to bridge and retaining wall foundations, platform foundations, pavement design, slope stability, and slope protection. This detailed report shall be submitted to VPRA for review and approval with the 60% Engineering Design plan set.

SUE investigation (Level C) was performed as a deliverable of the 30% Preliminary Engineering plans. This optional task will include advancing SUE to Level B.

60% Engineering Design plans shall include plan view outlines of the locations of all performed borings and include boring findings on the plans.

Survey, SUE, And Geotechnical Deliverables

- Survey, SUE, and Geotechnical Recommendation Deliverables
- Additional Topographic Existing survey and aerial features (CADD)
- Level B SUE investigation (Field locate logs and CADD)
- Final PE Geotechnical Engineering Report

6.2 ROW ACQUISITION DOCUMENTATION

The Consultant must follow the VPR process to notify abutting landowners of entry onto their property for the purpose of performing studies related to the Project. VPR must approve all notice letters prior to the Consultant sending to the landowners.

The Consultant shall identify ROW impacts to adjacent landowners based on the 60% Engineering Design and shall prepare the ROW Acquisition Plans for all additional properties with a ROW impact. The ROW Acquisition Plans will be based on field survey work and will be used to acquire ROW. A ROW impact is described as a parcel where land acquisition, temporary easement, or permanent easement is required. Permanent easements shall include utility, drainage, right of way and line of sight easements as well as access, construction, and maintenance easements. Temporary easements shall include construction, staging and laydown area easements. The Consultant shall identify temporary easements as part of the 60% Engineering Design and make every effort to minimize all property easements, including temporary construction easements. The Consultant shall present all impacts in a ROW Impacts Matrix.

The ROW Matrix prepared during 30% Preliminary Engineering is provided in Appendix O.

ROW Acquisition Documentation Deliverables

- Updated ROW Impacts Matrix

6.3 RAILROAD DESIGN

Railroad design work shall include horizontal and vertical track alignments for the purpose of providing a safe, low-maintenance track infrastructure to support passenger service and station operations. The Consultant shall review 30% Preliminary Engineering plans, conduct analysis, and continue the development of the track plans. Design will include general layout of signals and consider the access for maintenance of signal and positive train control facilities to ensure accommodation and consideration of the required signal system that has been incorporated into the design.

The design shall follow Amtrak Design Criteria, including Amtrak Platform Guidelines and the Amtrak Track Design Specification Manual, NS Standards and Public Projects Manual (current version), and the most current version of the American Railway Engineering and Maintenance-of-Way Association's (AREMA) recommended practices. The design shall comply with all FRA regulations. The Consultant shall incorporate the survey information developed as a part of the current contract if applicable.

The railroad design shall include, but not be limited to, the following elements:

- Horizontal alignments
- Vertical profiles
- Track geometry
- Horizontal and vertical clearances to obstructions
- Typical sections
- Cross sections (for verification of drainage, earthwork, right-of-way impacts, and constructability)
- Grading and drainage
- Utility impacts
- Retaining wall locations
- Special trackwork (such as turnouts, at-grade crossings, etc.)

- ROW impacts
- Construction limits

Railroad Design Deliverables

- Updated Engineering Basis of Design for the Railroad Design Elements.
- Track Geometry Data Sheets
- Railroad Plan and Profile Sheets (50' horizontal/10' vertical scale)
- Alignments with stations, tangent bearings, and curve data (chord definition)
- Profiles with stations, proposed grades, and curve data
- Horizontal and vertical clearances
- Special trackwork (such as turnouts, at-grade crossings, etc.)
- Survey and aerial feature lines gathered as part of this scope and previously gathered gray-scaled in the background on the plan view
- ROW impacts on adjacent properties
- Updated utility impacts
- Fencing to enclose VPRA and Amtrak facilities
- High-level passenger platform and connection to site facilities
- Typical Sections Plan Sheets
- Cross-Sections at 50' intervals

6.4 CIVIL ENGINEERING

Proper drainage from railroads is critical to providing safe conditions and maintaining transportation infrastructure. The Consultant shall adequately design drainage and stormwater management structures to adequately convey design flows. All designs shall consider environmental concerns including considerations for water oil separators, floodplain impacts, erosion and sediment control measures, and the protection of structures.

All current federal and Commonwealth of Virginia regulations pertinent to the design of drainage and stormwater management shall be adhered to, which may include best management practices (BMPs) from the Virginia Stormwater BMP Clearinghouse. Additionally, within the railroad corridor, special attention shall be paid to the surface drainage, grading, and stormwater management best practices and standards found within the latest editions of the *AREMA Manual for Railway Engineering*, *NS Standards and Public Projects Manual*, and the *Virginia Stormwater Management Handbook*. If differences exist between the above-stated regulations, the more stringent of the regulations shall apply. Outside the immediate railroad footprint, i.e., for access roads, parking lots, other site work, etc., drainage design shall be in accordance with *VDOT's Drainage Manual*, revised January 2021.

In conjunction with the development of the track plans, grading plans shall be prepared. The Consultant shall document hydrologic and hydraulic analysis illustrating the existing and proposed capacity of hydraulic structures and establishing the need for improvements, if any, in a Hydrology and Hydraulics Report. The Consultant shall design and provide plans for the proposed hydraulic structures. If a bridge structure is required, the Consultant shall bring it to the attention of VPRA prior to starting design. The Consultant also shall prepare a Soil Erosion and Sediment Control (E&S) Plan showing the site's existing topography, indicating how it will be altered, identifying the control measures that will be installed, and describing how and when these controls will be implemented and maintained. All erosion and sediment control measures shall follow *VDOT's Drainage Manual*, revised January 2021 and *VDOT's Road and Bridge Standards*, revised September 2022, and shall

be supplemented if required by the current *Virginia Department of Environmental Quality Erosion and Sediment Control Handbook*.

The Consultant shall continue development of the 60% Engineering Design plans for the Project based on 30% Preliminary Engineering platform plans. The platform shall be designed as a high-level platform with a minimum length of 1,000 feet. A canopy shall be provided on approximately two-thirds of the length of the platform.

Civil Engineering Deliverables

- Plans for the New River Valley Mall Station Platform; including civil, architectural, structural, electrical, lighting, communications, public address, CCTV, plumbing, landscape architecture, mechanical, and fire protection plans.
- Updated Engineering Basis of Design for the New River Valley Mall Platform, Connector Track and Station Infrastructure
- Civil Plans for the New River Valley Mall Platform, Connector Track and Station Infrastructure, including access roadways
- Grading Plans and Proposed locations for drainage solutions
- Hydrology and Hydraulics Report
- Hydraulic Structures plans and details
- E&S Plans
- Plans and details for retaining walls at the New River Valley Mall Station and connector track
- Quantities will be developed to support the cost estimate based on the level of detail included in the design plans, but these will not be presented on plan sheets.

6.5 UTILITY COORDINATION AND DESIGN

The Consultant shall be responsible for the identification of conflicts and design for the utility relocations required for the Project.

The Consultant shall be responsible for the design of water and sanitary sewer utility relocations and new service lines required by the Project and the preparation of Utility Relocation Plans. Proposed lines including relocations of water and/or sanitary sewer facilities shall be designed in accordance with the Utility Owner's requirements and standards. The approximate location of proposed electrical, water and sanitary sewer lines shall be coordinated with the Utility Owner during the PE phase. Approximate easements required and horizontal alignments for water or sanitary sewer and electrical shall be shown on the Utility Relocation Plans. All utility information provided by VPRRA shall be shown on the Utility Relocation Plans.

The Consultant shall finalize the matrix of potential impacts to all utilities to determine the cost and impacts to construction schedule.

Utility Relocation Design Deliverables

- Utility Plans
- Utility Relocation Plans
- Utility Coordination
- Updated Utility Impact Matrix

6.6 PERMIT COORDINATION (OPTIONAL)

The Consultant may review the list of environmental permits and commitments identified by VPRA and will provide comments and additional activities needed following completion of early design activities. Environmental permits and commitments include permitting requirements as well as other environmental approvals, tasks, and plans related to the Project that were committed as part of the NEPA document as minimization, avoidance, or mitigation for the proposed action or that will be required by local, state, or federal agencies.

VPRA will lead the permitting activities. The Consultant will be responsible for providing design files, exhibits and cross sections, impact calculations, and material reviews for environmental permits and commitments related to the Project. VPRA will also lead development of a NEPA re-evaluation, if needed.

Permit Coordination Deliverables

- Permit and environmental commitment support documentation

Task 7: Cost Estimate, Schedule, & Technical Specifications

7.1 CONSTRUCTION COST ESTIMATE

The Consultant shall use the VPRA Cost Estimate Template to prepare a Construction Cost Estimate based on quantities from each milestone submittal. The cost estimate should be supplemented with estimated quantities for major categories not included in the 30% Preliminary Engineering design and percentage costs for quantity categories that are indeterminate based on the level of design. The cost estimate shall include, but is not limited to, all engineering, ROW acquisition, utility relocation, signals, construction, construction engineering support, construction inspection, agency oversight, other professional services, and contingency reserves. Emphasis should be placed on identifying any high-risk items and applying a contingency appropriate for the level of design at each submission. The construction cost should include, but not be limited to, major items such as railroad, retaining walls, major drainage, environmental mitigation, utilities, and hazardous waste remediation. The Construction Cost Estimate prepared during 30% Preliminary Engineering for the Project is provided in Appendix J.

Additionally, the Consultant shall consider costs commonly associated with railroad-specific work including flagmen, watchmen, force account reviews, prevailing wage, Buy America, and the impacts on productivity when working on an active railroad.

The Consultant shall coordinate with VPRA for guidance on and establishment of third-party costs (i.e., inspection, agency oversight, flagmen and watchmen rates, and utility force account review).

The cost estimate shall be presented in the Standard Cost Category (SCC) format as defined in FRA's Capital Cost Estimating Guidance, August 30, 2016 (<https://www.fra.dot.gov/eLib/Details/L17452>), and Monitoring Procedure 33, SCC Worksheets reference (<https://www.fra.dot.gov/eLib/details/L16055>). Using the VPRA Cost Estimate Template, the Consultant shall report the cost in year of expenditure dollars.

The Consultant shall develop a Cost Estimate and Unit Cost Methodology Memorandum documenting background for costing assumptions, unit costs, contingency, risk-based unit prices, etc. in accordance with FRA's Cost Estimating Guidance for Capital Projects.

The Consultant shall submit an updated Construction Cost Estimate and Cost Estimate and Unit Cost Methodology Memorandum with each milestone submittal.

The Consultant shall request from VPRA the construction cost index forecast for inflation percentages.

Construction Cost Estimate Deliverables

- Opinion of Probable Cost (Engineer's Construction Cost Estimate) with the Draft 60% Engineering Design Plans and Final 60% Engineering Design Plans
- Estimated quantities provided for each task

7.2 CONSTRUCTION SCHEDULE

The Consultant shall develop a milestone Critical Path Method (CPM) schedule for construction of the Project. This schedule shall illustrate how each of the Project Components will be completed to achieve the full construction of the project with minimal impacts to railroad operations. The Consultant shall review the construction schedule developed during the 30% Preliminary Engineering design phase and transfer key milestone completion dates, including for adjacent projects, i.e., Slate Hill tunnel modifications, etc., to develop the most accurate construction schedule. The schedule shall exclude completion of the station building located at the Cinnabar Road Station. The Construction Schedules prepared during 30% Preliminary Engineering are provided in Appendix K.

The project-level construction schedule shall be coordinated with the master program schedule and VPRA's Work Breakdown Structure (WBS).

The Consultant shall submit an updated construction schedule with each milestone submittal.

Construction Schedule Deliverables

- Milestone Critical Path Method Construction Schedule with the draft 60% Engineering Design plans, and final 60% Engineering Design plans

7.3 TECHNICAL SPECIFICATIONS

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.

If during the design, a specific standard, specification, or reference document is required but is not listed herein, it is the responsibility of the Consultant to identify the pertinent standard, specification, or reference document and submit it for review and approval prior to inclusion in the Contract Documents.

As part of each design submission, the Consultant shall submit a matrix of all standard technical specifications and project-specific performance specifications that are proposed for the Project. The Consultant shall indicate each specification as invoke, delete, or modify to signify which specs are required for the Project, not necessary for the Project, or need modification to be applicable

to the Project, respectively. The technical specifications will be part of the bridging documents necessary for the project development and delivery.

The standards and practices to be utilized for the Project are:

General

- AASHTO Guide Specifications for Highway Construction, 9th Edition
- VDOT Materials Approved Lists
- VDOT Construction Manual (2005, revised May 2016)
- VDOT Post Construction Manual (December 2016)
- VDOT Construction Inspection Manual (January 2018)
- VDOT's Minimum Requirements for Quality Assurance & Quality Control on Design- Build & Public-Private Transportation Act Projects (July 2018)
- VDOT Traffic Engineering Design Manual (2020)
- VDOT Right of Way Manual of Instructions, Third Edition (8/18/2020)
- VDOT Utility Manual of Instructions – Utility Relocation Policies and Procedures, Tenth Edition (Rev 08/14/2017)
- VDOT Land Use Permit Regulations 24 VAC 30-151 (11/23/2011)
- VDOT Policy Manual for Public Participation in Transportation Projects (Rev July 2020)
- VDOT Instructional & Information Memorandums (IIM) – All Divisions (as of date of RFP)
- VDOT Road and Bridge Standards, Vol. 1 and Vol. 2 (2016), including all revisions as of the date of the RFP
- 2020 VDOT Road and Bridge Specifications
- VDOT 2022 Supplement to the 2020 VDOT Road and Bridge Specifications
- 2011 VDOT Virginia Work Area Protection Manual with Revision Number 2.1 (Revised November 2020)
- 2010 ADA Standards for Accessible Design
- Proposed Accessibility Guidelines for Pedestrian Facilities in the Public Right-of-Way, dated July 26, 2011
- Americans with Disabilities Act (ADA) and Architectural Barriers Act (ABA) Accessibility Guidelines for Buildings and Facilities dated July 23, 2004, and amended May 7, 2014
- VDOT Policy for Integrating Bicycle and Pedestrian Accommodations, adopted March 18, 2004, by the CTB
- Transportation Research Board Highway Capacity Manual (2010)
- VDOT CADD Manual
- VDOT State Noise Abatement Policy (July 13, 2011)
- ISO 9001 Quality Management Systems September 2015
- AASHTO Guide for Park-and-Ride Facilities, 2nd Edition
- Virginia Uniform Statewide Building Code (2009)
- Uniform Relocation Assistance and Real Property Act of 1970, as amended
- 1950 Code of Virginia, Titles 25.1 and 33.1, as amended
- VDOT Survey Manual 2010 Edition, Issued 2009, Rev. August 2021

- American Railway Engineering and Maintenance-of-Way Association (AREMA) Manual for Railway Engineering, Current Edition
- Norfolk Southern Standards and Public Project Manual
- Amtrak Platform Guidelines
- Amtrak Track Design Specification Manual

Roadway Design

- VDOT State Bicycling Policy Plan (September 2011)
- VDOT Road Design Manual
- AASHTO A Policy on Geometric Design of Highways and Streets, 7th Edition (2018)
- AASHTO Roadside Design Guide, Fourth Edition, October 2011 (updated chapter 6)
- AASHTO Guide for the Development of Bicycle Facilities, 4th Edition (2012)
- AASHTO Guide for the Planning, Design, and Operation of Pedestrian Facilities, 2nd Edition, December 2021
- FHWA 23CFR630 Subpart J Work Zone Safety and Mobility

Geotechnical and Pavement Design

- AASHTO Guide for Design of Pavement Structures (Rigid Pavement and Flexible Pavement) (1993 Edition and subsequent revisions)
- AASHTO Manual on Subsurface Investigations (1988)
- VDOT Pavement Design Guide for Subdivision and Secondary Roads, 2014
- VDOT Manual of Instruction for Material Division including all associated memorandum
- FHWA 23 CFR626 - Part 626 Pavement Policy – April 1, 2011

Structures

- VDOT Manual of the Structure and Bridge Division
- VDOT Supplement to the AASHTO Manual for Bridge Element Inspection, January 2016
- AASHTO Guide Specification for LRFD Seismic Bridge Design, 2nd Edition, 2012, 2014 and 2015 Interim Revisions
- 4. AASHTO LRFD Bridge Design Specifications, 8th Edition, 2017; and VDOT Modifications
- AASHTO Standard Specifications for the Design of Highway Bridges, 16th Edition, 1996; 1997 and 1998 Interim Specifications; and VDOT Modifications
- AASHTO Construction Handbook for Bridge Temporary Works, 2nd Edition, 2017
- AASHTO Guide Design Specifications for Bridge Temporary Works, 2nd Edition, 2017
- AASHTO Manual for Bridge Evaluation, 3rd Edition, 2018 and all interim revisions
- AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaries, and Traffic Signals, 6th Edition, 2013 with 2015 Interim Revisions
- AASHTO Guide Specifications for Structural Design of Sound Barriers, 1989, with 1992 and 2002 Interim Revisions

- FHWA Recording and Coding Guide for the Structure Inventory and Appraisal of the Nation's Bridges, December 1995, including Errata sheets and Revisions
- FHWA 23CFR650 - Subpart C – National Bridge Inspection Standards (“NBIS”)
- AASHTO LRFD Bridge Construction Specifications, 4th Edition, 2017
- AASHTO Manual for Bridge Element Inspection, 1st Edition, with 2015 Interim Revisions
- AASHTO Guide Specifications for Wind Loads on Bridges During Construction, 2017
- VDOT Traffic and Ancillary Structures Inventory & Inspection Manual, 2021
- American Railway Engineering and Maintenance-of-Way Association (AREMA) Manual for Railway Engineering, Current Edition

Drainage

- VDOT 2002 Drainage Manual (including current Errata Sheets) and revisions (Revised 01/2021)
- Virginia Stormwater Management Handbook, Volume I & Volume II, (First Edition – 1999), Virginia Department of Conservation and Recreation
- 2013 Virginia Stormwater Management Handbook, Second Edition, (Draft)
- 2013 BMP Standards and Specifications (Draft)
- Virginia Erosion and Sediment Control Handbook (Third Edition – 1992), Department of Conservation and Recreation
- FHWA Hydraulic Engineering Circular Number 21 (HEC-21), Design of Bridge Deck Drainage Systems, 1993
- FHWA Hydraulic Engineering Circular Number 22 (HEC-22), Urban Drainage Design Manual, 2009, Revised August 2013
- FHWA Culvert Inspection Manual, 1986
- Virginia, Erosion and Sediment Control Law and Regulations, FY 2009
- FEMA National Flood Insurance Program Regulations
- US Army COE, River Analysis System (HEC RAS), Version 4.1
- The Virginia SWM Law dated 2015(as listed in the Code of Virginia)
- The Virginia SWM Regulations dated 2015 (as listed in the Virginia Administrative Code)

Traffic Control Devices

- USDOT FHWA Standard Highway Signs, 2004 Edition and 2012 Supplement
- 2009 Manual of Uniform Traffic Control Devices (MUTCD), Revisions 1 and 2 (May 2012) and 2011 Virginia Supplement to MUTCD, Revision 1 (September 2013)
- National Fire Protection Association NEC Standards, 2008
- Virginia Standard Highway Signs, 2011 Edition
- Virginia Standard Highway Signs, Revision 1, January 2015
- Traffic Operations and Safety Analysis Manual (TOSAM), Version 1.0, February 2020
- VDOT Guardrail Installation Training Manual (GRIT), Revised August 2019
- Virginia Work Area Protection Manual 2011 Edition, Revision 2.1 (November 1, 2020)

Instrumentation, Controls and Automation

- American National Standards Institute (ANSI) / International Society of Automation (ISA) Standards
 - ANSI/ISA-101-2015 Human Machine Interfaces for Process Automation Systems (referred to as ISA-101)
 - ISA-112 (working draft version), SCADA Systems
 - ANSI/ISA-62381-2011 (IEC-62381 Modified), Automation Systems in the Process Industry – Factory Acceptance Test (FAT), Site Acceptance Test (SAT), and Site Integration Test (SIT) (referred to as ISA-62381)
 - ANSI/ISA-18.2-2009, Management of Alarm Systems for the Process Industries
 - ANSI/ISA-62443-1-1 (99.01.01)-2007, Security for industrial automation and control systems Part 1: Terminology, concepts, and models (referred to as ISA-99.01)
 - ANSI/ISA-62443-2-1 (99.02.01)-2009, Security for industrial automation and control systems: Establishing an industrial automation and control systems security program (referred to as ISA-99.02)
 - ANSI/ISA-62443-3-3 (99.03.03)-2013, Security for industrial automation and control systems Part 3-3: System security requirements and security levels (referred to as ISA-99.03)
- National Fire Protection Agency
 - NFPA 70 – National Electrical Code, 2014
 - NFPA 70E – Standard for Electrical Safety in the Workplace, 2015
 - NFPA 72 - National Fire Alarm and Signaling Code
 - NFPA 130 - Standard for Fixed Guideway Transit and Passenger Rail Systems
- American National Standards Institute (ANSI) / Telecommunications Industry Association (TIA) / Electronic Industries Association (EIA)
 - ANSI/TIA/EIA-568-B Commercial Building Telecommunications Cabling Standards.
 - TIA-568C: Generic Telecommunications Cabling for Customer Premises.
 - TIA/EIA 598-C: Optical Fiber Cable Color Coding.
 - TIA/EIA 606-A: Administration Standard for Commercial Telecommunications Infrastructure
- AREMA Communication and Signals Manual (AREMA C&S) of recommended practices
- IEEE 1100: IEEE Recommended Practice for Powering and Grounding Electronic Equipment
- ANSI/BICSI Telecommunications Distribution Methods Manual
- EN 50122-1: Railway Applications, Fixed Installations – Protective Provisions Relating to Electrical Safety and Grounding
- Electronic/Telecommunications Industries Association (EIA/TIA) Standards
 - ANSI/TIA-568-C
 - ANSI/TIA-569-A
 - ANSI/TIA-607-B
 - ANSI/TIA-606-B
 - ANSI/TIA-1005 Generic Telecommunication Standards

Technical Specifications Deliverables

- Technical Specification Matrix

Task 8: Public Outreach

The Consultant shall coordinate the public outreach strategy with VPRR External Affairs and Communication department prior to undertaking activities to ensure consistent messaging. The Consultant shall follow guidance established in the VPRR Project Communications and Public

Engagement Manual, in addition to prevailing state and local legal requirements for public information:

- VPRA Project Communications and Public Engagement Manual – Consultant should request from VPRA.
- VDOT Public Involvement Manual, Location and Design Division – https://www.virginia.gov/business/resources/LocDes/Public_Involvement_Manual.pdf

8.1 PUBLIC OUTREACH

Public Meeting

The Consultant shall support VPRA at one (1) public meeting around the time of the 60% Engineering Design submittal. The meeting is intended to present project design plans and receive public comment. The Consultant shall follow guidance provided in the *VPRA Project Communications and Public Engagement Manual* and the *VDOT Public Involvement Manual, Location and Design Division*. VPRA shall secure meeting locations and send out notifications for the public to attend. The Consultant shall provide the materials for the public meeting and outreach. The public meeting format may include display boards, presentations, and informal discussions between project team members and meeting attendees. Information packets containing meeting handouts/fact sheets, maps, and/or comment forms prepared by the Consultant will be available to meeting participants. The Consultant shall apply VPRA Brand Standards on all outreach material.

The Consultant will support VPRA to publicize all public meetings by supplying the materials needed. VPRA will utilize the Project website, newspaper advertisements, press releases, email lists, local distribution of meeting flyers (nearby public facilities, community groups), and/or social media to publicize all public meetings. The public meetings will be accessible to persons with disabilities and persons with Limited English Proficiency (LEP). Special services, such as an interpreter or sign language services, will be made available upon request. VPRA's public notices announcing these meetings will provide instructions for requesting these services. The Consultant will be responsible for providing project- and event-specific content to VPRA to be incorporated into promotional materials for the meetings.

The Consultant shall follow guidelines for Title VI and Environmental Justice Public Involvement as described in the *VPRA Project Communications and Public Engagement Manual*. The Consultant shall determine whether 5% or 1,000 persons, whichever is less, of the total population within ¼-mile of the project limits identify as a LEP language group. If so, the Consultant will work with VPRA to translate key public outreach material for the identified language(s).

The Consultant shall summarize all questions and comments received during the public meetings for the record in public meeting reports. All written comments, including correspondence and comment sheets, shall be scanned and filed in accordance with the Project's procedures for record filing as defined in the PWP.

Public Outreach Deliverables

- Contact Information of In-Person Meeting Attendees
- Public Meeting Materials
- Public Meeting Comment Summary

Appendix A – Slate Hill Tunnel 30% PE Design Plans

The material contained within this Appendix contains confidential information and will be made available to Offerors upon execution of VPRA's Confidentiality and Non-Disclosure Agreement ("NDA"). To request the NDA, please contact Slade Greenway at procurement@vpra.virginia.gov.

VPRA reserves the right to refuse to enter an NDA and to deny access to confidential information to any party, who in VPRA's sole discretion, does not have a legitimate business interest in the material.

Appendix B – Merrimac Tunnel 30% PE Design Plans

The material contained within this Appendix contains confidential information and will be made available to Offerors upon execution of VPRA's Confidentiality and Non-Disclosure Agreement ("NDA"). To request the NDA, please contact Slade Greenway at procurement@vpra.virginia.gov.

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Appendix C – Cinnabar Road Layover Station 30% PE Design Plans

The material contained within this Appendix contains confidential information and will be made available to Offerors upon execution of VPRA's Confidentiality and Non-Disclosure Agreement ("NDA"). To request the NDA, please contact Slade Greenway at procurement@vpra.virginia.gov.

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Appendix D – Cinnabar Road Station and Station Infrastructure 30% PE Design Plans

The material contained within this Appendix contains confidential information and will be made available to Offerors upon execution of VPRA's Confidentiality and Non-Disclosure Agreement ("NDA"). To request the NDA, please contact Slade Greenway at procurement@vpra.virginia.gov.

VPRA reserves the right to refuse to enter an NDA and to deny access to confidential information to any party, who in VPRA's sole discretion, does not have a legitimate business interest in the material.

Appendix E – New River Valley Station 30% PE Design Plans

The material contained within this Appendix contains confidential information and will be made available to Offerors upon execution of VPRA's Confidentiality and Non-Disclosure Agreement ("NDA"). To request the NDA, please contact Slade Greenway at procurement@vpra.virginia.gov.

VPRA reserves the right to refuse to enter an NDA and to deny access to confidential information to any party, who in VPRA's sole discretion, does not have a legitimate business interest in the material.

Appendix F – Recommendations for Supplemental Work for Final Design

The material contained within this Appendix contains confidential information and will be made available to Offerors upon execution of VPRA's Confidentiality and Non-Disclosure Agreement ("NDA"). To request the NDA, please contact Slade Greenway at procurement@vpra.virginia.gov.

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Appendix G – Slate Hill Geotech Report

The material contained within this Appendix contains confidential information and will be made available to Offerors upon execution of VPRA's Confidentiality and Non-Disclosure Agreement ("NDA"). To request the NDA, please contact Slade Greenway at procurement@vpra.virginia.gov.

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Appendix H – Merrimac Geotech Report

The material contained within this Appendix contains confidential information and will be made available to Offerors upon execution of VPRA's Confidentiality and Non-Disclosure Agreement ("NDA"). To request the NDA, please contact Slade Greenway at procurement@vpra.virginia.gov.

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Appendix I – Basis of Design

The material contained within this Appendix contains confidential information and will be made available to Offerors upon execution of VPRA's Confidentiality and Non-Disclosure Agreement ("NDA"). To request the NDA, please contact Slade Greenway at procurement@vpra.virginia.gov.

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Appendix J – Construction Cost Estimate

The material contained within this Appendix contains confidential information and will be made available to Offerors upon execution of VPRA's Confidentiality and Non-Disclosure Agreement ("NDA"). To request the NDA, please contact Slade Greenway at procurement@vpra.virginia.gov.

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Appendix K – Construction Schedule

The material contained within this Appendix contains confidential information and will be made available to Offerors upon execution of VPRA's Confidentiality and Non-Disclosure Agreement ("NDA"). To request the NDA, please contact Slade Greenway at procurement@vpra.virginia.gov.

VPRA reserves the right to refuse to enter an NDA and to deny access to confidential information to any party, who in VPRA's sole discretion, does not have a legitimate business interest in the material.

Appendix L – Drainage and SWM Report

The material contained within this Appendix contains confidential information and will be made available to Offerors upon execution of VPRA's Confidentiality and Non-Disclosure Agreement ("NDA"). To request the NDA, please contact Slade Greenway at procurement@vpra.virginia.gov.

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Appendix M – Project Work Plan (PWP)

The material contained within this Appendix contains confidential information and will be made available to Offerors upon execution of VPRA's Confidentiality and Non-Disclosure Agreement ("NDA"). To request the NDA, please contact Slade Greenway at procurement@vpra.virginia.gov.

VPRA reserves the right to refuse to enter an NDA and to deny access to confidential information to any party, who in VPRA's sole discretion, does not have a legitimate business interest in the material.

Appendix N – Risk Register Matrix

The material contained within this Appendix contains confidential information and will be made available to Offerors upon execution of VPRA's Confidentiality and Non-Disclosure Agreement ("NDA"). To request the NDA, please contact Slade Greenway at procurement@vpra.virginia.gov.

VPRA reserves the right to refuse to enter an NDA and to deny access to confidential information to any party, who in VPRA's sole discretion, does not have a legitimate business interest in the material.

Appendix O – Right-of-Way (ROW) Matrix

The material contained within this Appendix contains confidential information and will be made available to Offerors upon execution of VPRA's Confidentiality and Non-Disclosure Agreement ("NDA"). To request the NDA, please contact Slade Greenway at procurement@vpra.virginia.gov.

VPRA reserves the right to refuse to enter an NDA and to deny access to confidential information to any party, who in VPRA's sole discretion, does not have a legitimate business interest in the material.

Appendix P – Slate Hill Tunnel Safety Improvements (TSI) Report

The material contained within this Appendix contains confidential information and will be made available to Offerors upon execution of VPRA's Confidentiality and Non-Disclosure Agreement ("NDA"). To request the NDA, please contact Slade Greenway at procurement@vpra.virginia.gov.

VPRA reserves the right to refuse to enter an NDA and to deny access to confidential information to any party, who in VPRA's sole discretion, does not have a legitimate business interest in the material.

Appendix Q – Merrimac Tunnel Safety Improvements (TSI) Report

The material contained within this Appendix contains confidential information and will be made available to Offerors upon execution of VPRA's Confidentiality and Non-Disclosure Agreement ("NDA"). To request the NDA, please contact Slade Greenway at procurement@vpra.virginia.gov.

VPRA reserves the right to refuse to enter an NDA and to deny access to confidential information to any party, who in VPRA's sole discretion, does not have a legitimate business interest in the material.

Appendix R – Amtrak Layover Facility - Review Drawing

The material contained within this Appendix contains confidential information and will be made available to Offerors upon execution of VPRA's Confidentiality and Non-Disclosure Agreement ("NDA"). To request the NDA, please contact Slade Greenway at procurement@vpra.virginia.gov.

VPRA reserves the right to refuse to enter an NDA and to deny access to confidential information to any party, who in VPRA's sole discretion, does not have a legitimate business interest in the material.

GENERAL TERMS AND CONDITIONS

The following general terms and conditions shall govern the RFP and any contract that is awarded in connection with the RFP. Each of VPRA and Consultant are referred to herein, individually, as a "Party" and, collectively, as the "Parties." Capitalized terms shall have the meaning set forth herein or elsewhere in the RFP Documents and/or Contract Documents. Terms required by state law or policy are not subject to negotiation or modification.

1. NATURE OF RELATIONSHIP

Consultant shall be acting as an independent contractor. Neither Consultant nor employees of Consultant are employees of VPRA under the meaning or application of any federal or state unemployment or insurance laws or workers' compensation laws, or otherwise. Consultant shall assume all liabilities or obligations imposed by any one or more of such laws with respect to employees of Consultant in the performance of this Contract. Consultant shall not have any authority to assume or create any obligation, express or implied, on behalf of VPRA, and Consultant shall have no authority to represent itself as an agent, employee, or in any other capacity of VPRA. Any Consultant employee who is assigned a VPRA email account shall identify the name of the firm under which they are employed in the signature block and shall clearly indicate that they are not employees of VPRA. In addition, while attending any meetings for assignments under this Contract, Consultant employee(s) shall introduce themselves as a Consultant to VPRA while also noting the name of the company they are employed with. For the avoidance of doubt, in no instance, shall Consultant employee(s) identify themselves as employees of VPRA.

2. STANDARD OF CARE

Consultant shall perform all services under this Contract in a skillful and competent manner, consistent with the standards generally recognized as being employed by professionals in the same discipline and, in the case of projects using federal funds, consistent with the standards of the federal funding partner (e.g., Federal Railroad Administration (FRA), Federal Transit Administration (FTA), etc.). Consultant warrants and represents that it is skilled in the professional calling necessary to perform the Contract services and that all employees and subconsultants, if any, shall have sufficient skill and experience to perform the services assigned to them. By delivery of completed Work, Consultant certifies that the Work conforms to the requirements of this Contract; all applicable federal, state and local laws; and the professional standard of care. All services shall be subject to the approval of VPRA through its designated representatives.

3. CONSULTANT'S MANAGEMENT OF THE WORK

Consultant shall be responsible for completely supervising and directing the work under this Contract and all subcontractors that it may utilize with the prior written consent of VPRA, using its best skill and attention. Subcontractors who perform Work under this Contract shall be responsible to the Consultant, and Consultant agrees that it is as fully responsible for the acts and omissions of its subcontractors as it is for the acts and omissions of its own employees. The control and supervision of all phases of the services provided by Consultant shall be under the direction of a Project/Contracts Manager. The Project/Contracts Manager shall manage the services provided under this Contract until all services have been completed and shall keep VPRA informed on a regular basis regarding the status and progress of the Contract services.

4. QUALIFICATIONS OF STAFF

A competent staff, adequate in number and experience to perform the described services in the prescribed time, shall be assigned at all times. Job duties and responsibilities of key personnel shall not be delegated to others for the duration of the Contract. If the services covered by this Contract include the practice of architecture, professional engineering, land surveying or certified landscape architecture, Consultant or subcontractor shall have in responsible charge at each place of business a full-time resident Virginia licensed architect, professional engineer, land surveyor or certified landscape architect exercising supervision and control of the services of each profession being practiced. Any personnel or subconsultant,

if any, who fail or refuse to perform the Contract services in a manner acceptable to VPRA, or who are determined by VPRA, in its sole discretion, to be uncooperative, incompetent, a threat to the adequate or timely completion of the Project, or a threat to the safety of persons or property, shall be promptly removed from the Project by Consultant at the request of VPRA. Consultant warrants that it will continuously furnish the necessary personnel to complete the services on a timely basis as contemplated by the Contract.

5. CHANGES IN STAFF

Consultant shall not change or substitute any key personnel including those identified in Consultant's proposal except due to voluntary or involuntary termination of employment, retirement, death, disability, incapacity, or as otherwise approved by VPRA. Unauthorized changes to Consultant's team at any time during the Contract may result in termination of services. If extenuating circumstances as listed above require a change, the Consultant shall submit in writing to VPRA's Project Manager, who, in his/her sole discretion, will determine whether to authorize a change, with it being understood and agreed that Consultant will provide VPRA at least thirty (30) days written notice of any request wherever practical. VPRA will have the right to review the qualifications of each individual proposed as a replacement and to approve or disapprove such individual prior to the commencement of any work by such individual. The individual proposed as a replacement shall be equally or more qualified than the key personnel that is being replaced. Consultant acknowledges that the discretionary reassignment of a key personnel to another project of Consultant is not considered extenuating circumstance and will not be permitted.

6. INSURANCE

Consultant shall furnish VPRA with certificates evidencing insurance as specified in the Insurance Requirements provision within RFP Documents on or before the Effective Date of the Contract and prior to beginning any work on the Project. Consultant agrees to maintain all required insurance coverages throughout the life of this Contract and to furnish certificates of coverage upon each renewal. In the event of a non-renewal or cancellation of such required insurance coverage, thirty (30) days written notice must be given to VPRA prior to such non-renewal or cancellation. Should a claim or other legal action be filed against VPRA, and if VPRA in its good faith opinion, believes it may have coverage under any of the insurance required herein, then VPRA has the right to demand, and to receive within a reasonable time period, copies of the insurance policies related to such required insurance without regard to whether Consultant has agreed to fully defend, hold harmless, and indemnify VPRA against any such claim or other legal action. In the event Consultant hires other persons or firms to perform some of the work related to this Contract, Consultant shall ensure, and certify to VPRA in writing that: (i) the acts or omissions of such persons or firms are covered under the above-referenced liability insurance; or (ii) such firms maintain insurance equal to or better than, and subject to the same limits, terms and conditions as, the insurance required of Consultant under this Contract (except for firms which, by the nature of their work, are not be required to carry professional liability insurance); and in either instance, Consultant shall provide, or cause to be provided, evidence of such insurance coverage, reasonably acceptable to VPRA.

7. OPERATING AUTHORITY AND CREDENTIALS OF VEHICLES

Wherever and whenever during the course of performing any Work under this Contract, Consultant will ensure that all vehicles utilized to accomplish the terms of the Contract are properly titled, registered, plated and have the required operating authority and credentials in accord with the *Code of Virginia*.

8. DELIVERABLES

Consultant shall deliver to VPRA the studies, plans, reports, specifications, or other documents and/or materials as are identified in the Scope of Work and as may be more particularly described in any Work Plan or Task Order (the "Deliverables"); and Consultant shall, upon completion of the Work, submit to VPRA all information developed in the course of the Consultant's services. Where applicable, Consultant shall endorse, as required by law, plans and reports prepared under this Contract, and shall affix thereto his or her seal of professional registration, showing that he or she is licensed to practice in the Commonwealth of Virginia. Consultant shall, upon request by VPRA and upon completion or termination of this Contract, deliver to VPRA all material furnished to Consultant by VPRA. Except as provided for herein or otherwise agreed in writing by the Parties, each and every report, draft, work product, map, record, and other

document reproduced, prepared, or caused to be prepared by the Consultant pursuant to or in connection with this Contract shall be the exclusive property of VPRA.

9. CORRECTION OF ERRORS

Consultant shall check for accuracy any reports, and the design, drafting and details of final plans prior to submission. Consultant will be required, without additional compensation, to correct any errors, including but not limited to omissions, discrepancies and ambiguities, in any services performed in fulfillment of the obligations of this Contract, and shall also reimburse VPRA for any costs incurred. Acceptance of the plans or reports by VPRA shall not relieve Consultant of the responsibility of subsequent correction of errors. Costs incurred by the Consultant in correcting errors in the plans or reports and reimbursing VPRA for costs incurred by VPRA as a result of such error shall be maintained in a separate account. Such account shall be clearly coded and identified, and shall be subject to audit by VPRA. Such costs shall not be billed to VPRA as a direct charge or an overhead item.

10. CHANGES TO THE CONTRACT

VPRA may, at any time, by written order, make any changes in this Contract which either increase or decrease the services hereunder. If such change causes an increase or decrease in the cost of or the time required for performance of this Contract, an equitable increase or decrease in consideration may be made and this Contract shall be modified in writing between VPRA and Consultant. Such written Contract modification shall set forth the proposed changes in services, extension of time for completion and adjustment of the compensation, including net fee, to be paid to Consultant, if any. If the Parties fail to agree upon the adjustment to be made, the Dispute shall be determined as provided in this Contract, but nothing in this section shall excuse Consultant from promptly and diligently proceeding with the prosecution of the services so changed.

11. CONTINGENCY FUND

On Contracts containing a contingency fund, the contingency fund shall not be used without written permission of VPRA. The additional services compensated by application of the contingency fund shall not begin until an agreement has been reached between the Parties with regarding the man-hours and costs required to perform such additional services. If any such additional services are provided prior to an agreement being reached between the parties regarding man-hours and costs, only those man-hours and costs determined to be necessary and reasonable by VPRA will be reimbursed.

12. INVOICING; PERIODIC PAYMENTS

Invoices for services rendered or scheduled shall be submitted by Consultant directly to accountspayable@vpva.virginia.gov. In the event Consultant is unable to email, invoices shall be mailed to 919 E. Main Street, 24th Floor, Richmond, VA 23219, Attn: Accounts Payable Department. Periodic payment of Consultant's invoices will be made within thirty (30) days of receipt by VPRA, subject to adjustment as set forth herein. All invoices shall show the VPRA Contract number, purchase order number, and federal employer identification number for Consultant's firm. Additionally, Consultant's invoices shall include the name of the person who performed the work, a brief description of the services performed and/or the specific task in the Scope of Work to which it relates, the date the services were performed, the number of hours spent on all work billed on an hourly basis, and a description of any reimbursable expenditures. Consultant may submit invoices for progress payments no more than once each month and no less than once each calendar quarter for Work performed during such period. VPRA, in its sole discretion, may reject and refuse payment on any invoice that includes charges for Work performed more than 180 days prior to the invoice date. VPRA reserves the right to audit and refuse to process payment should there be findings associated with excessive hours to perform the required task or an excessive number of persons utilized to complete the necessary task.

13. FINAL ACCEPTANCE AND FINAL PAYMENT

Upon receipt of a written notice from Consultant of completion of the services, VPRA will make a review to determine if all Work specified in the Contract has been satisfactorily completed in accordance with the

Contract Documents and applicable standards. If all services have been satisfactorily completed, VPRA will make final acceptance and provide written notification of same to Consultant. If the review discloses that any services, in whole or in part, are not in conformance with the Contract Documents and applicable standards, Consultant shall immediately correct the deficiency. Upon notification of completion or correction of the Work by Consultant, another review will be made that will constitute the final review. In such event, provided the services are in conformance with the Contract Documents and applicable standards, VPRA will make the final acceptance and provide notification to Consultant.

When final acceptance has been duly made by VPRA, Consultant shall submit a final estimate invoice. Upon review and approval of the final estimate invoice by VPRA, Consultant will be paid the entire sum due after previous payments are deducted and other amounts are retained or deducted under the provisions of the Contract. Final payment will become due and the final estimate paid within thirty (30) calendar days after approval of the final estimate invoice. VPRA will notify Consultant in writing when the final payment is made. Payments shall be subject to correction at the time of the final audit.

14. SET-OFF RIGHTS

VPRA shall have all of its common law, equitable and statutory rights of set-off. These rights shall include, but not be limited to, VPRA's option to withhold for the purposes of set-off any moneys due to Consultant under this Contract up to any amounts due and owing to VPRA with regard to this Contract, plus any amounts due and owing to the Commonwealth for any other reason including, without limitation, tax delinquencies, fee delinquencies or monetary penalties relative thereto.

15. AVAILABILITY OF FUNDS; APPROPRIATION

This Contract is contingent upon and subject to the availability and appropriation of sufficient state and/or federal funds. A failure by the Parties to perform any condition on its part to be performed under this Contract as a result of the failure of the General Assembly to appropriate sufficient funds, or the applicable oversight board or funding partner (e.g., FRA, FTA, etc.) to allocate sufficient funds, shall not in any manner constitute a breach or default by the Parties.

16. PROMPT PAYMENT OF SUBCONTRACTORS

Consultant is required to pay its subcontractors performing work related to this Contract for satisfactory performance of that work no later than thirty (30) calendar days after Consultant's receipt of payment for that work from VPRA. VPRA does not require retainage to be withheld by Consultant on any subcontracts. If Consultant elects to withhold retainage on subcontracts, Consultant agrees to pay subcontractors all undisputed retainage payments within thirty (30) calendar days of completion of the work, regardless of whether Consultant has received any retainage payment from VPRA. VPRA will notify Consultant and the subcontractor in writing when the services have been satisfactorily accepted. If retainage is not promptly paid, Consultant shall notify VPRA and the subcontractor in writing as to the reasons for not making payment. Consultant shall keep all property of VPRA and such property belonging to any third party which is managed, leased or operated by VPRA, free from all liens arising from services to be furnished in connection with this Contract. VPRA may, as a condition of final payment, require Consultant to submit an affidavit stating that all subcontractors and suppliers, if any, have been paid in full for any goods and/or services provided in connection with this Contract.

17. TAX EXEMPT STATUS

VPRA is exempt from state sales and use tax and federal excise tax. Consultant shall not include in the invoice any taxes imposed by any taxing authority of the state in which the Project is located, or any political subdivision thereof, upon the sale or use of the Work covered by this Contract. Any such sales or use tax, if applicable, shall be paid by Consultant. Consultant shall prepay all freight and transportation charges to the F.O.B point of delivery and such freight charges shall be stated separately, as requested from the sales price of material, so as not to impose any tax upon VPRA. Tax exemption certification shall be furnished to Consultant upon request.

18. SUSPENSION OF WORK

VPRA may, at its sole discretion, suspend any of the Work when determined to be in its best interest to do so. After receiving a suspension notice, Consultant must comply with the notice and cease performance of all Work under the Contract. Suspension of work will not entitle Consultant to any additional compensation. Consultant shall not resume Work unless and until so authorized by VPRA.

19. TERMINATION

19.1 Termination for Convenience

VPRA may cancel this Contract at any time, with or without cause, upon thirty (30) days' written notice to Consultant. Reasons for such termination shall be left to the sole discretion of VPRA. Upon termination, Consultant will be entitled to payment, determined on a pro rata basis, for services satisfactorily performed up to and including the effective date of termination.

19.2 Termination for Insufficient Funding

VPRA may immediately terminate this contract if the General Assembly fails to appropriate, or the applicable oversight board (i.e., the VPRA board of directors and/or the Commonwealth Transportation Board, depending on the funding source) fails to allocate, sufficient funds to continue the services, or if VPRA fails to receive funding anticipated from any other funding source. VPRA is not obligated to pay for any services that are provided after notice and effective date of termination. However, Consultant will be entitled to payment, determined on a pro rata basis, for services satisfactorily performed up to and including the effective date of termination.

19.3 Termination for Cause

VPRA may, in its sole and absolute discretion, by written notice of default to Consultant, terminate all or any part of this Contract if (a) Consultant fails to perform the Work described herein, within the time specified herein or any extension hereof; (b) Consultant fails to satisfy any of the other provisions of this Contract, or so fails to make progress as to endanger performance of this Contract in accordance with its terms; (c) Consultant is or becomes insolvent or unable to pay its debts as they become due; (d) any bankruptcy or insolvency proceeding is commenced by or against Consultant; or (e) application is made for appointment of a receiver or custodian for the Consultant or any of Consultant's properties, or for an assignment for the benefit of Consultant's creditors, and in any of these above-described circumstances, does not cure such failure within a period of ten (10) days (or such longer period as VPRA may in its sole discretion authorize in a writing signed by VPRA) after receipt of notice from VPRA specifying such failure. Any termination by VPRA shall be without prejudice to any claims for damages or other rights of VPRA against Consultant. In the event of termination for cause, all finished or unfinished documents, data, studies, surveys, drawings, maps, models, photographs and reports prepared by Consultant pursuant to this Contract shall, at the option of VPRA, be turned over to VPRA and become the property of VPRA.

19.4 Termination Necessitated by Standard

Consultant may, at any point, immediately terminate the Contract whenever it determines that the required services would be in violation of law or industry standard. In such instance, Consultant shall provide written notice to VPRA and include the specific law or industry standard that forms the basis for Consultant's determination that it is required to suspend work or terminate the Contract. Upon such termination by Consultant, VPRA shall only be obligated to compensate Consultant for services satisfactorily rendered through the date of termination.

20. EXAMINATION AND AUDIT; RETENTION OF RECORDS

Consultant agrees that VPRA or its designated representative (provided they have executed a

confidentiality/non-disclosure agreement with Consultant) shall have the right to review, photograph, and copy any records and supporting documentation pertaining to performance of this Contract. Consultant agrees to maintain such records for possible audit for a minimum of three (3) years after final payment, unless a longer period of records retention is stipulated. Consultant agrees to allow the auditor(s) access to such records during normal business hours and to allow interviews of any employees or others who might reasonably have information related to such records. Further, Consultant agrees to include a similar right of VPRA to audit records and interview staff in any subcontract related to performance of this Contract. It shall be Consultant's responsibility to notify VPRA, in writing, of the completion of that subcontractor's portion of the services so that the records of the subcontractor can be audited within the three (3) year retention period. Failure to do so may result in Consultant's liability for any costs not supported by the proper documentation for the subcontractor's phase of the services. Any overcharges determined as a result of an audit shall be set off against any future invoices of the Consultant, if work is ongoing, or invoiced to Consultant in the event final payment has already been tendered. Invoices for overcharges shall be deemed a debt due VPRA and the Commonwealth and shall be due and payable by Consultant within thirty (30) days of the date of the invoice.

21. DISPUTE RESOLUTION

Upon the occurrence of any Dispute that is not otherwise resolved by the Parties: (a) the Parties must first use all reasonable efforts to resolve the Dispute through a senior representative (b) if the Parties fail to achieve a resolution through a Senior Representative Negotiation, before either Party may institute legal action against the other in connection with the Dispute, the Parties must first attempt to resolve the Dispute by referring the matter to a Mediation. For purposes of this Section 21, "Dispute" shall be defined as "any claim, disagreement or controversy between the Parties concerning their respective rights and obligations under this Contract."

21.1 Senior Representative Negotiations

If either Party notifies the other Party of a Dispute, senior representatives of each Party (with authority to make decisions for the respective Parties) must meet and use all reasonable efforts to resolve the Dispute ("Senior Representative Negotiations"). The Senior Representative Negotiation must commence within thirty (30) days of receipt of notification from a Party initiating a Dispute and will not exceed sixty (60) consecutive days once commenced (or such longer period agreed by the Parties, with such period of negotiation being the "Senior Representative Negotiations Period"). Statements, materials and information prepared for, made or presented at, or otherwise derived from a Senior Representative Negotiation (including any meeting of the senior representatives) are privileged and confidential and may not be used as evidence in any proceedings. If the Senior Representative Negotiation resolves the Dispute, the Parties must record the resolution in writing.

21.2 Mediation

If the Parties are unable to come to a resolution through Senior Representative Negotiations during the Senior Representative Negotiations Period, then either Party may submit such Dispute to mediation proceedings (a "Mediation"). Mediation is intended to assist the Parties in resolving Disputes over the correct interpretation of this Contract.

21.2.1 The mediator must be selected by mutual agreement of the Parties or, if an agreement cannot be reached by the Parties within seven (7) Business Days of submission of the Dispute to Mediation, the mediator will be selected by the American Arbitration Association ("AAA") in accordance with its Commercial Industry Mediation Rules and Procedures then in effect. Any mediator selected by mutual agreement of the Parties or through the AAA selection process must have no current or ongoing relationship with either Party (or an Affiliate of either Party). The Parties agree that only one (1) mediator shall be selected as the AAA mediator.

21.2.2 Each Mediation must: (a) be administered in accordance with AAA's Commercial Industry Mediation Rules and Procedures then in effect; (b) be held in Richmond,

Virginia, unless the Parties mutually agree, in writing, to the Mediation being held in a different location; (c) be concluded within sixty (60) days of the date of selection of the mediator, or within such other time period as may be agreed by the Parties (acting reasonably having regard to the nature of the Dispute). The Parties shall share the mediator's fee and any filing or administrative fees equally. No mediator will be empowered to render a binding decision as to any Dispute. Any Mediation will be nonbinding.

22. FORUM AND VENUE

Any and all Disputes arising out of or in connection with this Contract, or any performances made hereunder that are not otherwise resolved through Senior Representative Negotiations or Mediation, shall be brought, and any judicial proceeding shall take place, only in the Circuit Court of the City of Richmond, Virginia or the United States District Court for the Eastern District of Virginia, Richmond Division. The Consultant accepts the personal jurisdiction of such court and waives all jurisdiction and venue-related defenses to the maintenance of such actions.

23. GOVERNING LAW

The validity, performance, and construction of the solicitation and this Contract shall be governed by and construed in accordance with the laws of the Commonwealth of Virginia, without reference to its choice of law provisions. No doctrine of choice of law shall be used to apply any law other than that of the Commonwealth of Virginia, and no defense, counterclaim or right of set-off given or allowed by the laws of any other state or jurisdiction, or arising out of the enactment, modification or repeal of any law, regulation, ordinance or decree of any foreign jurisdiction, be interposed in any action hereon.

24. NOTICES

Any notice required pursuant to the Contract shall be in writing and sent by registered or certified mail, return receipt requested, or by courier, express or overnight delivery, and by confirmed e-mail at the addresses of the Point of Contact designated by the Parties. In the event of notice to VPRA, a copy shall also be contemporaneously transmitted to its General Counsel. The date such notice shall be deemed to have been given shall be the Business Day of receipt if received during business hours, the first Business Day after the Business Day of receipt if received after business hours on the preceding Business Day, the first Business Day after the date sent by courier, express or overnight ("next day delivery") service, or the third Business Day after the date of the postmark on the envelope if mailed, whichever occurs first. As used herein, "Business Day" shall mean that day that is neither a Saturday, a Sunday nor a day observed as a legal holiday by the Commonwealth of Virginia or the United States Government.

25. COMPLIANCE WITH ALL LAWS AND REGULATIONS

Consultant shall comply with the applicable provisions of all federal, state, or local laws or ordinances and all related lawful orders, rules, and regulations, as well as any provisions, representations, or agreements, or contractual clauses required to be included or incorporated by reference or operation of law in the Contract. Consultant shall keep fully informed of all federal, state, and local laws, ordinances, and regulations, and all orders, decrees, and guidance of bodies or tribunals having any jurisdiction or authority, which in any manner affect those engaged or employed on this Contract, or which in any way affect the conduct of the services provided by Consultant. If any discrepancy or inconsistency is discovered between this Contract and any such law, ordinance, regulation, order, or decree, Consultant shall immediately report the same to VPRA in writing. To the extent required for the Work, Consultant shall secure and obtain any and all permits, licenses, and consents as may be necessary.

26. AUTHORIZATION TO CONDUCT BUSINESS IN THE COMMONWEALTH

A consultant organized as a stock or nonstock corporation, limited liability company, business trust, or limited partnership or registered as a registered limited liability partnership shall be authorized to transact business in the Commonwealth as a domestic or foreign business entity if so required by Title 13.1 or Title 50 of the *Code Virginia* or as otherwise required by law. Any business entity described above that enters

into a contract with VPRA shall not allow its existence to lapse or its certificate of authority or registration to transact business in the Commonwealth, if so required under Title 13.1 or Title 50, to be revoked or cancelled at any time during the term of the Contract. A public body may void any contract with a business entity if the business entity fails to remain in compliance with the provision of this section.

27. NON-DISCRIMINATION PROVISION

The Consultant shall comply with the provisions of the Virginians with Disabilities Act, Sections 51.5-40 through 51.5-46 of the Code of Virginia (1950); Further, pursuant to Va. Code § 2.2-4201, in every Contract over \$10,000 the provisions in A. and B. below apply:

A. During the performance of the Contract, Consultant agrees as follows:

1. Consultant will not discriminate against any employee or applicant for employment because of race, religion, color, sex, national origin, age, disability, or any other basis prohibited by state law relating to discrimination in employment, except where there is a bona fide occupational qualification reasonably necessary to the normal operation of Consultant. Consultant agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the provisions of this nondiscrimination clause.
2. Consultant, in all solicitations or advertisements for employees placed by or on behalf of Consultant, will state that Consultant is an equal opportunity employer. However, notices, advertisements and solicitations placed in accordance with federal law, rule or regulation shall be deemed sufficient for the purpose of meeting these requirements.
3. If Consultant employs more than five employees, Consultant shall (i) provide annual training on Consultant's sexual harassment policy to all supervisors and employees providing services in the Commonwealth, except such supervisors or employees that are required to complete sexual harassment training provided by the Department of Human Resource Management, and (ii) post Consultant's sexual harassment policy in (a) a conspicuous public place in each building located in the Commonwealth that Consultant owns or leases for business purposes and (b) Consultant's employee handbook.
4. The requirements of these provisions A. and B. are a material part of the Contract. If Consultant violates one of these provisions, VPRA may terminate the affected part of the Contract for breach, or at its option, the whole Contract. Violation of one of these provisions may also result in debarment from State contracting regardless of whether the specific contract is terminated.

B. Consultant will include the provisions of subdivisions 1-3 above in every subcontract or purchase order over \$10,000, so that the provisions will be binding upon each subcontractor or supplier.

28. IMMIGRATION REFORM AND CONTROL ACT OF 1986

By signing this Contract, Consultant certifies that it does not and will not during the performance of this Contract violate the provisions of the Federal Immigration Reform and Control Act of 1986, which prohibits employment of illegal aliens.

29. DRUG FREE WORKPLACE

Consultant acknowledges and certifies that they understand that the following acts by Consultant, its employees, and/or agents performing services on state property are prohibited: The unlawful manufacture, distribution, dispensing, possession or use of alcohol or other drugs; and any impairment or incapacitation from the use of alcohol or other drugs (except the use of drugs for legitimate medical purposes). Consultant further acknowledges and certifies that they understand that a violation of these prohibitions constitutes breach of contract and may result in default action being taken by VPRA in addition to any criminal penalties that may result from such conduct. During the performance of this Contract, Consultant agrees to provide a drug-free workplace for Consultant's employees.

30. OCCUPATIONAL SAFETY AND HEALTH STANDARDS

Consultant shall not require any individual employed in the performance of this Contract to work in surroundings or under working conditions which are unsanitary, hazardous, or dangerous to health or safety as determined under the Occupational Safety and Health Standards promulgated by the United States Secretary of Labor. This provision shall be made a condition of any subcontract entered into pursuant to this Contract. In addition, Consultant shall abide by the Virginia Occupational Safety and Health Standards adopted under Section 40.1-22 of the Code of Virginia (1950), as amended, and will fulfill the duties imposed under Section 40.1-51.1 of the Code of Virginia. Any violation of the aforementioned requirements or duties which is brought to the attention of Consultant by any person shall be immediately abated.

31. CRITICAL INFRASTRUCTURE INFORMATION/SENSITIVE SECURITY INFORMATION (CII/SSI)

The required services may involve the handling of Critical Infrastructure Information/Sensitive Security Information (CII/SSI) material. Firm(s) handling CII/SSI material will be required to sign non-disclosure agreements. Individuals with the firm(s) that handle CII/SSI material will be required to sign non-disclosure agreements. Once negotiations have been completed and prior to executing a contract, personnel handling CII/SSI material, visiting Critical Infrastructure (CI) facilities or performing bridge/tunnel inspections may be required to 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. However, if key personnel fail the fingerprint-based CHBC, the selection may be cancelled and negotiations begun with the next ranked offeror. VPRA reserves the right to conduct fingerprint-based CHBC on all employees of Consultant, on any employees of sub-consultants 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 Consultant. A VPRA issued photo-identification badge is required for each employee of Consultant or any sub-consultant who will need access to VPRA CI facilities or who will be performing bridge/tunnel inspections. Based upon the results of the fingerprint-based CHBC, VPRA reserves the right to deny issuance of a VPRA security clearance or a VPRA issued photo-identification badge.

32. CONFIDENTIALITY OF PERSONALLY IDENTIFIABLE INFORMATION

Consultant assures that information and data obtained as to personal facts and circumstances related to VPRA will be collected and held confidential, during and following the term of this Contract, and unless disclosure is required pursuant to court order, subpoena or other regulatory authority, will not be divulged without VPRA's written consent and only in accordance with federal law or the Code of Virginia. Consultants who utilize, access, or store personally identifiable information as part of the performance of a contract are required to safeguard this information and immediately notify VPRA of any breach or suspected breach in the security of such information. Consultant shall allow VPRA to both participate in the investigation of incidents and exercise control over decisions regarding external reporting. Consultants, subconsultants and their respective employees working on this Contract may be required to sign a confidentiality statement.

33. INTELLECTUAL PROPERTY RIGHTS

33.1 Rights, Generally

All rights in intellectual property developed or created pursuant to this Contract shall be the sole property of VPRA and deemed part of the Contract Deliverables. For purposes of this Contract, "Intellectual property" includes all inventions subject to the U.S. Patent System (including but not limited to new processes, materials, compounds and chemicals), and all creations subject to the U.S. Copyright Act of 1976 (including but not limited to printed material, software, drawings, blueprints, and compilations such as electronic databases). All copyrightable material created pursuant to this Contract shall be considered work made for hire and shall be considered part of the Contract Deliverables. Neither Party intends any copyrightable material created pursuant to this Contract, together with any other copyrightable material with which it may be combined or used, to be a "joint work" under the copyright laws. If the whole or any part of any such copyrightable material cannot be deemed work made for hire or is deemed a joint work, Consultant agrees to assign, and does hereby irrevocably

assign, its entire copyright interest therein to VPRA and shall execute and deliver such further documents as VPRA may reasonably request for the purpose of acknowledging or implementing such assignment. Consultant warrants that no individual, other than regular employees of Consultant or VPRA working within the scope of their employment, shall participate in the creation of any intellectual property pursuant to this Contract unless such individual and his or her employer, if any, have signed an intellectual property agreement satisfactory to VPRA.

33.2 Exceptions and Exclusions

Notwithstanding the foregoing, Consultant shall retain all right, title and interest in and to any intellectual property, technology, know-how, methodologies, works of authorship, and other materials pre-existing the Contract, created, acquired, or licensed separately from the Contract, or created in performance of the Contract but not identified as a Contract Deliverable, including any modifications, enhancements, improvements, or derivative works thereof (collectively referred to herein as, "Consultant Property"). To the extent that Consultant Property is contained in any of the Contract Deliverables, upon full and final payment, Consultant grants VPRA, under Consultant's intellectual property rights in such Consultant Property, a royalty-free, non-exclusive, non-transferable, perpetual license to use such Consultant Property solely in connection with VPRA's use of the Deliverables. Further, VPRA agrees that nothing in this Contract shall prevent Consultant from using any generalized knowledge, experience, know-how, or any of the ideas, concepts, methodologies, tools, or techniques derived from or discovered during the provision of services and that are not unique to VPRA (collectively, "Residual Knowledge") to perform similar services and develop similar work product, results, or technology as that performed or developed under the Contract. Consultant reserves the right to use, disclose, reproduce, sublicense, modify, prepare derivative works from, perform, and display its Residual Knowledge, subject to the obligations of confidentiality set forth in this Contract.

34. COVENANT REGARDING BROKERAGE

Consultant warrants that it has not employed or retained any company or person to solicit or secure this Contract and that it has not paid or agreed to pay any company or person, other than subconsultants identified in this Contract or a bona fide employee working solely for Consultant, any fee, commission, percentage, brokerage fee, gifts or any other consideration contingent upon or resulting from the award or making of this Contract. For breach or violation of this warranty, VPRA shall have the right to void this Contract without liability or, at its discretion, to deduct from the Contract price or consideration, or otherwise recover, the full amount of such fee, commission, brokerage fee, gift, or contingent fee.

35. TESTIMONY

In the event that the testimony of Consultant is required in any legal proceeding in connection with claims brought against or prosecuted by VPRA, Consultant agrees to appear as a witness on behalf of VPRA. Payment for appearance will be based on the approved current hourly salary rate and daily per diem rate for each eight-hour day's preparation for, or attendance in, court and one-fourth of this sum for each two hours or fraction thereof.

36. CONFIDENTIAL RELATIONSHIP; PUBLICITY

Consultant shall keep in strictest confidence, and treat as proprietary all information that may be acquired in connection with, or as a result of, this Contract. During the term of the Contract and at all times thereafter, Consultant shall not, without the prior written consent of VPRA, publish, communicate, divulge, or use (except in the performance of the Contract itself) any such information unless it is in the public domain. Except as required by any applicable law, regulation or judicial process, Consultant shall not release any information concerning the Contract or disclose or use VPRA's name for purposes of advertising or soliciting business, including, but not limited to, press releases, social media posts, brochures, photographs, or verbal announcements without the prior written permission of VPRA.

37. STRICT LOYALTY

Consultant acknowledges its duty of loyalty to VPRA and covenants to conduct itself in accordance with such duty. Consultant and its employees shall avoid all circumstances and actions that would place Consultant in a position of divided loyalty with respect to the obligations undertaken under this Contract.

38. INDEMNIFICATION

Subject to state law or regulation (inclusive of Va. Code § 11-4.4, whenever applicable), Consultant, to the fullest extent permitted by law, shall indemnify and hold harmless the Commonwealth of Virginia, VPRA, CSX Transportation, Inc., Norfolk Southern Railway Company, and National Railroad Passenger Corporation, together with their officers, employees, and affiliates (collectively, the "VPRA Indemnitees") from suits, claims, actions, damages and costs, of every name and description arising from the Work under this Contract. This obligation shall include the cost of attorneys' fees, disbursements, costs and other expenses incurred in connection with such suits, actions or proceedings. VPRA may retain such monies from the amount otherwise due Consultant as may be necessary to satisfy any claim for damages recovered against the VPRA Indemnitees relative to the project. Acceptance of the services by VPRA shall not waive any of the rights of VPRA contained in this section nor release or absolve the Consultant from any liability, responsibility or duty contained herein.

39. LIMITATION OF LIABILITY

Each Party's liability to the other Party for any loss, cost, claim, injury, liability, or expense, including reasonable attorney's fees, relating to or arising from any act or omission in its performance of this Contract, is limited to the amount of direct damage actually incurred. To the extent permitted by applicable law, neither Party will be liable to the other under this Contract for any indirect, incidental, special or consequential damages, or damages from loss of profits, revenue, data or use of the supplies, equipment and/or services delivered under this Contract.

40. FORCE MAJEURE

A Party shall not be in default for any failure to perform any of its obligations under the Contract if such failure arises from any cause that could not have been prevented by means reasonably available to the Party and that was beyond the control of and without the fault or negligence of the Party. Such causes include but are not limited to: acts of God or of the public enemy; acts of Government in either its sovereign, legislative or contractual capacity; fire; flood; landslide; earthquake; epidemic; pandemic; quarantine restrictions; freight embargo; sabotage; or unusually severe weather. The affected Party shall, as soon as reasonably possible, give Notice to the other, including all relevant information that it has available, regarding any such actual event that is impacting or any potential event that threatens to impact the affected Party's performance of its obligations under the Contract.

41. ASSIGNMENT AND SUBCONTRACTING

Any Contract awarded or any interest thereunder shall not be assigned, subcontracted, or transferred, in whole or in part, by Consultant without the prior written consent of VPRA. Consultant shall not assign any monies due or to become due to it, without the prior written consent of VPRA. No assignment shall relieve Consultant from its obligations under the Contract. This Contract shall inure to the benefit of and shall be binding upon the personal representatives and legal successors of the respective Parties hereto. Nothing contained in this Contract is intended or shall be construed to inure to the benefit of any person or entity other than the Parties hereto and their legal successors.

42. DUTY TO COOPERATE ON FUNDING OPPORTUNITIES

VPRA seeks to maximize funding opportunities pertaining to its projects and the Work included in this Contract may become eligible for a grant and subject to certain requirements of a funding sponsor. Consultant agrees to work cooperatively and creatively with VPRA in connection with any grant application

submittals to VPRA's funding partners. Consultant further agrees to fully comply with any terms and conditions required as a result of VPRA's participation in a grant.

43. REMEDIES CUMULATIVE

Except as otherwise expressly provided herein, all rights, powers and privileges conferred hereunder upon the Parties hereto shall be cumulative and in addition to all other rights, powers, and remedies hereunder and those available at law or in equity. All such rights, powers, and remedies may be exercised separately or at once, and no exercise of any right, power or remedy shall be construed to be an election of remedies or shall preclude future exercise of any or all other rights, powers, and remedies granted hereunder or available at law or equity, except as provided herein.

44. NO WAIVER

Except as otherwise expressly provided herein, neither the failure of either Party to exercise any power given such Party hereunder or to insist upon strict compliance by the other Party with its obligations hereunder, nor any custom or practice of the Parties at variance with the terms hereof, shall constitute a waiver of either Party's right to demand exact compliance with the terms hereof.

45. ENTIRE AGREEMENT

This Contract contains the entire agreement of the Parties hereto with respect to the subject matter hereof, and no representations, inducements, promises or agreements, oral or otherwise, between the Parties not embodied herein or incorporated herein by reference with respect to the subject matter hereof, shall be of any force or effect. Any previous agreements or understandings among the Parties regarding the subject matter hereof are merged into and superseded by this Contract.

46. AMENDMENTS

No amendment to the Contract shall be binding on the Parties hereto unless such amendment is in writing and is executed by an authorized representative of the Party against whom enforcement of such amendment is sought.

47. SOVEREIGN IMMUNITY

VPRA, specifically and the Commonwealth of Virginia generally, neither waive nor abrogate their sovereign immunity, in part or in whole, in any manner, under any theory, hereunder. Notwithstanding the foregoing, VPRA agrees and acknowledges that the Contract constitutes a legal, valid, and binding obligation of VPRA, enforceable against VPRA in accordance with its terms, except as enforceability may be limited or otherwise affected by (i) bankruptcy, insolvency, reorganization, moratorium and other laws affecting the rights of creditors generally, (ii) principles of equity, whether considered at law or in equity, and (iii) the sovereign immunity of the Commonwealth of Virginia; provided that sovereign immunity shall not bar an action to enforce a claim based on a breach of this Contract presented in accordance with the law of the Commonwealth of Virginia.

48. SEVERABILITY

The invalidity, illegality, or unenforceability of any provision of this Contract or the occurrence of any event rendering any provision of this Contract void, shall not affect the validity or enforceability of any other provision. Any such provision shall be severed from the Contract and the remainder shall be construed and enforced as if it did not contain it.

END OF DOCUMENT

**SPECIAL PROVISION INVOLVING PROPERTY AND FACILITIES
OWNED, CONTROLLED OR UTILIZED BY
CSX TRANSPORTATION, INC.,
NORFOLK SOUTHERN RAILWAY COMPANY, AND
THE NATIONAL RAILROAD PASSENGER CORPORATION**

This Special Provision shall apply to all work being undertaken by Contractor in and along property and facilities owned, controlled or utilized by CSX Transportation, Inc., Norfolk Southern Railway Company, and/or the National Railroad Passenger Corporation (collectively, the "Railroad Operators" and each a "Railroad Operator"). These terms are required pursuant to VPRA's contractual arrangements with the Railroad Operators and are not subject to negotiation or modification. In the event of a conflict between the terms and conditions of this Special Provision and any other instrument incorporated within the Contract Documents, the terms and conditions of this Special Provision shall control. Capitalized terms not defined herein shall have the meaning assigned in the Contract, and if not defined therein, the meaning recognized within industry. For reference, Contractor as used herein, may be identified elsewhere in the Contract Documents as "Design-Builder," "CM/GC Contractor," "Consultant," "Service Provider," or "Vendor".

1. DEFINITIONS

1.1 **"Affiliate"** means, when used to indicate a relationship with a specified Person, a Person that: (a) directly or indirectly, through one or more intermediaries has a 10% or more voting or economic interest in such specified Person or (b) controls, is controlled by or is under common control with such specified Person, and a Person is deemed to be controlled by another Person, if controlled in any manner whatsoever that results in control in fact by that other Person (or that other Person and any Person or Persons with whom that other Person is acting jointly or in concert), whether directly or indirectly and whether through share ownership, a trust, a contract, or otherwise.

1.2 **"Amtrak-Assumed Individuals"** means:

- i. an employee of Amtrak;
- ii. any person who is on an Amtrak train other than a Commonwealth-Introduced Individual;
- iii. any person other than a Commonwealth-Introduced Individual at or adjacent to a passenger station located on the rail lines used for Amtrak service who is at such passenger station for the purpose of boarding or detraining from an Amtrak train, meeting an Amtrak train, purchasing a ticket for an Amtrak train, making a reservation for an Amtrak train, or obtaining information about Amtrak service or conducting business with Amtrak (including a vendor from whom Amtrak receives compensation);
- iv. any person at or adjacent to a passenger station who is providing local transportation to or accompanying a person described in (iii) above; and
- v. any person injured or killed by the collision of a vehicle or person with an Amtrak train on or adjacent to the rail lines on which Amtrak operates, including the collision of a derailed Amtrak train or any part thereof beyond the Commonwealth's railroad right-of-way.

1.3 **"Amtrak-Assumed Property"** means:

- i. the property of any Amtrak-Assumed Individual;
- ii. any locomotive, passenger car, or any other property or equipment owned by, leased to, used by or otherwise in control, custody, or possession of Amtrak (except that Amtrak's

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dispatching of trains, which trains are not otherwise in control, custody, or possession of Amtrak, by itself shall not be deemed to place such trains into Amtrak's control, custody, or possession); and

- iii. property of parties other than Amtrak and VPRA, to which damage is caused by fuel oil which is demonstrated to have spilled from an Amtrak engine and for fuel oil which is demonstrated to have spilled by Amtrak's employees, agents, or contractors (but excluding CSXT) while fueling an Amtrak Train.

1.4 **"Amtrak Trains"** means all trains operated by Amtrak as part of its intercity passenger rail service, but which excludes commuter rail service.

1.5 **"Commonwealth"** means the Commonwealth of Virginia.

1.6 **"Commonwealth-Introduced Individual"** means any employee, invitee, or agent of the Commonwealth or the Commonwealth's contractor in the course of his employment or agency, except when such employee, invitee, or agent is a fare-paying passenger of Amtrak.

1.7 **"CSXT Indemnitees"** means CSXT, any Affiliate of CSXT, and any of the officers, directors, shareholders, employees, agents, successors, or assigns of such entities.

1.8 **"Norfolk Southern Railway Indemnified Parties"** means the Norfolk Southern Railway Company, its parent company, its affiliates, and any and all of their respective officers, directors, employees, agents, affiliates, successors, and permitted assigns.

1.9 **"Person"** means any individual (including the heirs, beneficiaries, executors, legal representatives or administrators thereof), corporation, partnership, joint venture, trust, limited liability company, limited partnership, joint stock company, unincorporated association or other entity or a governmental authority, including VPRA.

2. RAILROAD OPERATOR INDEMNIFICATION AND INSURANCE REQUIREMENTS

Subject to applicable law, including Va. Code § 11-4.1, the following indemnity and insurance obligations shall apply to the Contract:

2.1 Projects Involving Property/Rights of Way Used by CSX Transportation, Inc. ("CSXT")

Where the Scope of Work involves entry or work upon "Segment 1" or "Segment 3" (as defined within the Comprehensive Rail Agreement dated March 26, 2021, ("CSXT Comprehensive Rail Agreement")), Contractor shall be required to indemnify the CSXT Indemnitees, regardless of fault, to the same extent Contractor is required to indemnify VPRA pursuant to the Contract Documents. A copy of the CSXT Comprehensive Rail Agreement is available at <https://vapassengerrailauthority.org/wp-content/uploads/2021/06/11.1.1.43-Comprehensive-Rail-Agreement-Fully-Executed-without-Exhibits-1.pdf?bcs-agent-scanner=6f5ab9a3-367c-924b-9a9a-e2794740ce2d>.

Additionally, prior to entering upon any property/right of way owned or controlled by CSXT, Contractor may be required to execute CSXT's standard Inspection Right of Entry Agreement using the CSXT Property Portal (https://propertyportal.csx.com/pub_ps_res/ps_res/jsf/public/index.faces). CSXT shall have sole discretion on whether Contractor will be required to execute the standard Inspection Right of Entry Agreement, and if executed, Contractor's failure to comply with the standard Inspection Right of Entry Agreement may constitute a breach of the Contract.

2.2 Projects Involving Property/Rights of Way Used by Norfolk Southern Railway Company (“Norfolk Southern”)

Where the Scope of Work involves entry upon the Purchased V-Line (as defined within the Comprehensive Rail Agreement dated January 10, 2022 (“NS Comprehensive Rail Agreement”)) for purposes of construction and maintenance activities, Contractor shall be required to indemnify the Norfolk Southern Railway Indemnified Parties to the same extent Contractor is required to indemnify VPRA pursuant to the Contract Documents. To the extent Contractor engages in construction and maintenance activities on the Purchased V-line, it must also be adequately insured in accordance with the requirements set forth in Exhibit K to the NS Comprehensive Rail Agreement. A copy of the NS Comprehensive Rail Agreement is available at <https://vapassengerrailauthority.org/wp-content/uploads/2022/02/Redacted-Final-Signature-NSR-Comprehensive-Rail-Agreement-Combined-Execution-Version-c.pdf?bcs-agent-scanner=a52d286c-bdbb-d647-90e8-d47eec142fd9>.

Additionally, prior to entering upon any property/right of way owned or controlled by Norfolk Southern, Contractor may be required to execute Norfolk Southern’s standard Right of Entry Agreement using the Norfolk Southern Access NS Property Portal (<http://www.nscorp.com/content/nscorp/en/real-estate/norfolk-southern-services/access-norfolk-southern-property.html>). Norfolk Southern shall have sole discretion on whether the Contractor will be required to execute the standard Right of Entry Agreement, and if executed, Contractor’s failure to comply with the standard Right of Entry Agreement may constitute a breach of the Contract. Background information (FAQs) on Norfolk Southern’s right of entry process is available at <http://www.nscorp.com/content/nscorp/en/real-estate/norfolk-southern-services/access-norfolk-southern-property/right-of-entry-faqs.html>.

2.3 Projects Involving Rail Lines Used by the National Railroad Passenger Corporation (“Amtrak”)

Where the Scope of Work involves entry or work upon rail lines used in connection with the operation of Amtrak Trains, Contractor shall be obligated to indemnify and defend Amtrak for all losses or claims arising from the acts or omissions of the Contractor in the performance of the Contract whether or not Contractor is negligent and irrespective of any negligence or fault of Amtrak. Notwithstanding the foregoing, Contractor’s indemnity and duty to defend shall not extend to Amtrak-Assumed Individuals and/or Amtrak-Assumed Property.

In case a lawsuit shall at any time be brought against Amtrak asserting a liability against which Contractor or any of its subcontractors has agreed to indemnify and save harmless Amtrak, Contractor or subcontractor, at Contractor’s or subcontractor’s own cost and expense and without any cost or expense whatever to Amtrak, shall defend such suit and indemnify and save harmless Amtrak against all costs and expenses thereof and promptly pay or cause to be paid any final judgment recovered against Amtrak; provided, however, that Amtrak shall promptly upon the bringing of any such suit against it give notice to VPRA and thereafter provide all such information as may from time to time be requested by either VPRA or Contractor.

To the extent Contractor engages in construction and maintenance activities on Amtrak rail lines, it must also be adequately insured in accordance with the requirements set forth in Attachment 1 to this Special Provision

3. INCLUSION IN SUBCONTRACTOR AGREEMENTS

Contractor agrees to have the foregoing terms flow down to each subcontractor agreement and lower tier subcontract issued under this Contract, modified only to identify the subcontractor that will be subject to the provisions.

Attachment 1
(Amtrak Insurance Requirements)

A. Liability Insurance Guidelines for Construction Projects Impacting Rail Lines

The guidelines below are intended to provide protection for Amtrak under contracts issued by VPRA for the construction along the Amtrak rail lines:

1. Limits of Insurance

Construction Crossing Active ROW	\$10M/\$20M
Construction Adjacent to Active ROW	\$10M/\$20M
Construction Not Impacting Active ROW	\$10M/\$20M

2. Amtrak included as an additional insured

3. Contractor and its insurer waive right of recovery/subrogation against Amtrak

4. No exclusion for contractual liability to railroads

5. Cross liability of insureds and severability of interests of insureds

6. Contractor coverage is primary and non-contributory with respect to coverage carried by additional insureds

B. Liability Insurance Guidelines for Maintenance along Rail Lines

The guidelines below are intended to provide protection for Amtrak under contracts issued by VPRA for the maintenance of the Amtrak rail lines:

1. Limits of Insurance

Maintenance Within the ROW	\$10M/\$20M
Maintenance Outside of ROW	\$2M/\$2M

2. Amtrak included as an additional insured

3. Contractor and its insurer waive right of recovery/subrogation against Amtrak

4. No exclusion for contractual liability to railroads

5. Cross liability of insureds and severability of interests of insureds

6. Contractor coverage is primary and non-contributory with respect to coverage carried by additional insureds

INSURANCE REQUIREMENTS

Consultant, at its sole expense, shall procure and maintain the types of insurance specified below (or cause others to procure the types and amounts of insurance specified below as appropriate) subject to any conditions noted therein. Consultant shall have its insurance broker or insurance company submit a certificate of insurance giving evidence of the relevant coverage types and amounts set forth below, prior to commencing the corresponding Work under the Contract. All required insurances shall contain a waiver of subrogation provision in favor of the Commonwealth of Virginia, Virginia Passenger Rail Authority, CSX Transportation, Inc., and National Railroad Passenger Corporation.

1. **Workers' Compensation** for all of its employees engaged in the Project as required by Chapter 8 of Title 65.2 of the *Code of Virginia* (1950), as amended.
2. **Employer's Liability Insurance** with limit of no less than \$1,000,000 per accident for bodily injury or disease.
3. **Commercial General Liability Insurance** including coverage for premises and operations, independent contractors, personal injury, and broad form contractual liability of limits of at least \$1,000,000 per occurrence and \$2,000,000 annual aggregate applicable on a per project basis. Policy must include a CG 24 17 Contractual Liability – Railroads endorsement. The Commonwealth of Virginia, Virginia Passenger Rail Authority, CSX Transportation, Inc., and National Railroad Passenger Corporation are to be named as an additional insured on a primary, non-contributory basis.
4. **Automobile Liability Insurance** with a limit of at least \$1,000,000 combined single limit for bodily injury and property damage covering all owned (if any), non-owned, hired, or borrowed vehicles on site or off. The Commonwealth of Virginia, Virginia Passenger Rail Authority, CSX Transportation, Inc., and National Railroad Passenger Corporation are to be named as an additional insured on a primary, non-contributory basis.
5. **Umbrella/Excess Liability Insurance** in excess of the underlying limits noted above for all the above mentioned policies in the amount of \$5,000,000 per occurrence and in the aggregate. Such policy(ies) shall apply without any gaps in the limits of coverages and be at least as broad as and follow the form of underlying primary coverages required herein. The Commonwealth of Virginia, Virginia Passenger Rail Authority, CSX Transportation, Inc., and National Railroad Passenger Corporation are to be named as an additional insured on a primary, non-contributory basis.
6. **Professional Liability Insurance** covering liability for acts, errors, or omissions arising in connection with professional services, for not less than \$2,000,000 with respect to any one claim and in the aggregate.
7. **Cyber Liability Insurance** with limits not less than \$2,000,000 per claim. Coverage shall be sufficiently broad to respond to the duties and obligations as is undertaken by Consultant in this Contract and shall include, but not be limited to, claims involving infringement of intellectual property, including but not limited to infringement of copyright, trademark, trade dress, invasion of privacy violations, information theft, damage to or destruction of electronic information, release of private information,

alteration of electronic information, extortion, and network security. The policy shall provide coverage for breach response costs as well as regulatory fines and penalties, and credit monitoring expenses with limits sufficient to respond to these obligations.

8. **Railroad Protective Liability Insurance** will be maintained on behalf of owners/operators of railway service within the Project limits (the "Railway Operators") whenever requested by the Railway Operators. The policy, which shall name the Railway Operators as covered insureds, shall be in accordance with the form prescribed by the Railway Operators and must comply with Federal Aid Policy Guide 23 CFR 646 subpart A. The limits of the policy will be set by the Railway Operators.

****END OF DOCUMENT****

CONTRACT FOR CONSULTING SERVICES

Contract Id No. [insert number]

This Contract for Consulting Services ("Contract") dated this ____ day of _____, 202__ is made and entered into between the VIRGINIA PASSENGER RAIL AUTHORITY, a political subdivision of the Commonwealth of Virginia ("VPRA") and _____, a [specify entity type (e.g., limited liability company, corporation, etc.)], organized under the laws of [specify state], and authorized to transact business in the Commonwealth of Virginia ("Consultant").

WITNESSETH:

WHEREAS, pursuant to its enabling legislation (Va. Code § 33.2-287 *et seq.*), VPRA is, among other things, expressly authorized to procure goods and services and to make and enter into contracts necessary and or incidental to the performance of its duties; and

WHEREAS, in accordance with its Procurement Rules, VPRA issued a solicitation for the above-numbered Contract and received proposals from offerors determined to be responsive and responsible; and

WHEREAS, upon consideration of the evaluation criteria set forth within the RFP Documents (defined below), VPRA has determined that Consultant possesses the requisite skill, experience, ability, background, certification, and knowledge to provide the services described in this Contract and desires to retain Consultant to render services under the terms and conditions set forth in this Contract.

NOW, THEREFORE, for and in consideration of the mutual promises, covenants and conditions herein contained, the parties hereto agree as follows:

ARTICLE 1

PROJECT TITLE/DESCRIPTION

The project or program that is the subject this Contract (the "Project" or "Program") is hereby identified as follows: New River Valley Passenger Rail Project.

ARTICLE 2

CONTRACT EXHIBITS

The following exhibits (the "Exhibits") are attached and hereby incorporated by reference into this Contract:

Exhibit A	Definitions
Exhibit B	Designation of Confidential/Proprietary Information (Form PD 25) [if applicable; specify "Reserved" if exhibit not needed]
Exhibit C	Scope of Work
Exhibit D	Designated Key Personnel
Exhibit E	Approved Fee Schedule (Form PD 71)
Exhibit F	General Terms and Conditions (Form PD 100)
Exhibit G	Insurance Requirements
Exhibit H	Approved Small and Diverse Business Subcontracting Plan (Form PD 60)
Exhibit I	Approved DBE Utilization Plan (Form PD 50B)
Exhibit J	Monthly Small and Diverse Business Subcontracting Utilization Report (Form PD 61)
Exhibit K	Monthly DBE Participation Report (Form PD 51)

ARTICLE 3

CONTRACT DOCUMENTS

Each of the documents listed below (together the "Contract Documents") is an essential part of the Contract and a requirement occurring in one is binding as though occurring in all. The Contract Documents are intended to be complementary and to comprise a complete Contract. In the event of any conflict among the Contract Documents, the order of precedence is as follows:

- (a) Change Orders;
- (b) Work Plans/Task Orders;
- (c) The Contract, including the Exhibits thereto and such other documents as may be incorporated by reference;
- (d) Consultant's Proposal dated [redacted];
- (e) Request for Proposals [specify RFP no.] dated [specify] (inclusive of all attachments, exhibits, and addendum) (collectively, the "RFP Documents"); and

(f) **[list additional materials where applicable]**.

Notwithstanding anything to the contrary contained in the Contract Documents, in the event of any conflict between any Federal requirements and the other requirements of the Contract Documents, the Federal requirements will prevail, take precedence, and be in force over and against any such conflicting provisions.

ARTICLE 4
CONTRACT REPRESENTATIVES

The respective points of contact for the parties (each a "Contract Representative") and related contact information, including the places for delivery of notice, are as designated below:

For VPRA:

Virginia Passenger Rail Authority
Attn: Oliver Thatcher, Engineering Project Senior Manager
919 East Main Street, Suite 2400
Richmond, VA 23219
Phone: (804) 385-4176
Email: oliver.thatcher@vpra.virginia.gov

Any notice tendered to VPRA in accordance with the Contract shall also be contemporaneously sent by electronic mail to Michael Westermann, General Counsel at: michael.westermann@vpra.virginia.gov.

For the Consultant:

Company Name:
Address:

Point of Contract:
Phone:
Email:

EACH PARTY SHALL NOTIFY THE OTHER PARTY PROMPTLY OF ANY CHANGES IN THEIR CONTACT INFORMATION. UNLESS AND UNTIL NOTICE OF THE NEW ADDRESS OR POINT OF CONTACT IS GIVEN IN THE MANNER REQUIRED FOR NOTICE, A NOTICE TO SUCH PARTY IS SUFFICIENT IF GIVEN CONSISTENT WITH THE INFORMATION SET FORTH HEREIN.

ARTICLE 5
DEFINITIONS

A list of acronyms and definitions used throughout the Contract Documents is set forth at Exhibit A. Unless specifically defined differently elsewhere within the Contract Documents, acronyms and capitalized terms shall have the meaning set forth in Exhibit A. Any acronym or capitalized term used in

this Contract, but not defined in Exhibit A or elsewhere in the Contract Documents, shall have the meaning generally ascribed to such terms within the engineering and design industry.

ARTICLE 6 **SERVICES**

Consultant shall furnish services required for the Project as outlined in the Scope of Work ("SOW") attached at Exhibit C and as may be more particularly described in any Work Plan and/or Task Order that may be issued under the Contract (the "Work"). All such Work shall be delivered in conformance with the Contract Documents. VPRA may, in its sole discretion, elect to delete certain tasks/services set forth within the SOW and any Work Plan and/or Task Order.

Upon successful completion of the Work, VPRA may, in its sole discretion, direct Consultant to perform the final design services associated with the Work (the "Final Design Work") at rates negotiated and agreed to by the parties. If authorized, Final Design Work will be added to the Contract through a Change Order. Any such Change Order, if issued, will include Consultant's supplemental Small and Diverse Subcontracting Plan and DBE Utilization Plan for the Final Design Work.

No Additional Services shall be rendered by Consultant unless and until such Additional Services are first approved by written amendment to this Contract. As used herein, "Additional Services," means any work that is determined by VPRA to be necessary for the proper completion of professional services in support of the Project, but which is not included within the SOW and which the parties did not reasonably anticipate would be necessary at time for execution of this Contract. Compensation for any authorized Additional Services shall be in accordance with the terms of the agreed Fee Schedule, inclusive of any adjustments made thereto in accordance with the terms of this Contract. For the sake of clarity, Additional Services are separate from the Final Design Work.

Consultant acknowledges and agrees that this Contract and the provision of services hereunder are nonexclusive and that VPRA may enter into similar agreements with other entities for the provision of similar services.

ARTICLE 7
KEY PERSONNEL

Consultant's list of designated Key Personnel approved and accepted by VPRA is identified in Exhibit D. Consultant shall comply with all requirements applicable to Key Personnel as are set forth in the Contract Documents.

ARTICLE 8
TERM; COMMENCEMENT OF WORK

The initial term of this Contract ("Initial Term") shall commence on the date this Contract is fully executed by the parties and shall continue in effect until completion of the Work, or until VPRA, in its sole discretion, determines Work must terminate as provided for in this Contract. Notwithstanding the foregoing, Consultant shall complete the Work within **228 calendar days** from issuance of the NTP.

Where a Change Order is issued for the Final Design Work, the Contract Term shall be extended by the timeframe specified in the Change Order (the "Extended Term"). A separate NTP will be issued for any Final Design Work.

Consultant shall not commence the Work or Final Design Work until such time as the Director of Procurement or his/her designee has issued an NTP to Consultant. Under no circumstances shall VPRA be liable for any services rendered unless and until the NTP has been issued. Consultant must acknowledge receipt of the NTP. In its sole discretion, VPRA may elect to issue a "Preliminary" or "Emergency" NTP.

ARTICLE 9
PAYMENT OF FEES AND COSTS

Subject to the terms set forth in the Contract Documents, VPRA will compensate the Consultant for the Work in accordance with the Fee Schedule negotiated and agreed to by the parties and attached at Exhibit E. For any Extended Term, the Director of Procurement or designee and Consultant shall negotiate and agree upon any adjustment to the billing rates set forth in the Fee Schedule, prior to commencement of the Extended Term and as condition precedent to the NTP.

Consultant shall be compensated based on the Approved Fee Schedule, which shall be comprised of actual direct salary costs, overhead costs, and a ___% fixed amount for profit. Consultant will be

reimbursed for all eligible direct costs consistent with this Contract or as otherwise agreed by the Parties and documented in a written amendment to this Contract. Indirect cost rates shall be updated on an annual basis in accordance with the Consultant's annual accounting period and in compliance with the Federal cost principles.

Direct costs shall include mileage, parking (as needed), and travel [expand to include other direct costs where applicable]. Consultant shall not be reimbursed for any other expenses unless the expense is first approved in writing by VPRA. Reimbursement for travel (mileage, meals, and lodging) is not allowed for positions not required to have a vehicle, unless approved in advance by VPRA. In those cases where travel allowance is authorized, travel reimbursement shall be in accordance with the most current version of the Commonwealth of Virginia, Department of Accounts ("DOA"), "Commonwealth Accounting Policies and Procedures (CAPP) Manual Topic 20335." The CAPP Manual is available at the DOA website at <http://www.doa.virginia.gov>. When travel is authorized, it must originate from Consultant's nearest office.

Consultant may account for annual escalation of its hourly wage rates once a year beginning one year from execution of this Contract. The escalation rate shall be negotiated and not exceed 3.0%. Where escalation is proposed by Consultant, an amended fee schedule shall be submitted to VPRA's Contract Representative (as designated in Article 4) for approval prior to escalated rates being invoiced to VPRA.

Invoicing and payment will be governed by Article 12 of the General Terms and Conditions (Form PD 100) attached hereto as Exhibit F. For the sake of clarity, any payment terms set forth in Consultant's Proposal which in any way deviate from or otherwise conflict with VPRA's General Terms and Conditions (Form PD 100) will be deemed a nullity and of no legal effect.

ARTICLE 10 **INSURANCE**

Consultant agrees to maintain insurance in accordance with Exhibit F (General Terms and Conditions) and the requirements and specifications set forth in the Insurance Requirements attached hereto at Exhibit G, subject to any agreed exceptions and modifications as may be granted in writing by VPRA's Director of Procurement. In executing this Contract, Consultant warrants and represents that the certificates of coverage furnished to VPRA remain in full force and effect as of the Effective Date of this Contract.

ARTICLE 11
**REPORTING ON SMALL, DIVERSE, AND DISADVANTAGED
BUSINESS PARTICIPATION**

Consultant shall be bound by its participation commitments within its approved Small and Diverse Business Subcontracting Plan (Exhibit H) and approved DBE Utilization Plan (Exhibit I), and Consultant may not make changes to its contractual small business commitments, substitute a certified SWaM or DBE or make any other changes to the plans without the prior written approval of VPRA. Unauthorized changes or substitutions, including performing Work designated for a SWaM or DBE with Consultant's own forces, without the prior written approval of VPRA shall be a breach of the Contract. Notwithstanding the foregoing, VPRA may allow amendments to the approved Small and Diverse Business Subcontracting Plan and/or approved DBE Utilization Plan where the modification to the plan will have the effect of increasing overall certified SWaM and/or DBE utilization on the Project or where Consultant is able to evidence that a subconsultant/subcontractor certified as a SWAM or DBE has been terminated for cause or has been decertified.

Unless otherwise directed by VPRA, Consultant shall report SWaM and DBE utilization on a monthly basis using VPRA Procurement Forms PD 61 and PD 51 (Exhibits J and K, respectively), which forms shall be included with Consultant's invoices. If a subcontractor/subconsultant is certified as both a SWaM and a DBE, Consultant shall report their utilization on both Forms PD 61 and PD 51 and utilization credit will be allowed under both the Small and Diverse Business Subcontracting Plan and DBE Utilization Plan, including for the same work activity.

Consultant shall maintain a record of payments to certified SWaM and DBE businesses and all other subcontractors and suppliers for Work performed, including any Final Design Work, if authorized. The records shall be made available to VPRA for inspection and copying upon request. Consultant shall report to VPRA any performance deficiencies with its approved Small and Diverse Business Subcontracting Plan and/or approved DBE Utilization Plan. Any notice of deficiency provided by Consultant shall include a description of the proposed corrective action to be taken by the Consultant.

Consultant has a duty to accurately report SWaM and DBE information to VPRA. A Consultant who intentionally supplies inaccurate information may be subject to civil and/or criminal sanctions or contractual remedies available to VPRA and other third parties.

Neither Consultant nor any of its subcontractors/subconsultants shall discriminate on the basis of race, color, national origin, or sex in the performance of this Contract.

ARTICLE 12
E-VERIFY COMPLIANCE

Consultant and its subconsultants/subcontractors have an obligation to utilize the U.S. Department of Homeland Security's ("DHS") E-Verify system for all newly hired employees. By executing this Contract, the Consultant certifies that it is registered with and uses the E-Verify system for all newly hired employees. Consultant shall provide a copy of its DHS Memorandum of Understanding ("MOU") to VPRA's Contract Representative within ten (10) Business Days of Contract execution. If Consultant is not enrolled in DHS E-Verify System, it will do so within (10) Business Days of the Notice of Award and provide VPRA's Contract Representative a copy of its MOU within ten (10) Business Days of Contract execution.

ARTICLE 13
REPRESENTATIONS AND WARRANTIES TRUE AND COMPLETE

All representations and warranties of Consultant in this Contract are true, accurate and complete in all material respects as of the Effective Date of this Contract.

ARTICLE 14
COUNTERPARTS/FACSIMILE OR ELECTRONIC EXECUTION

This Contract may be executed in one or more counterparts, each of which shall be deemed an original, and all of which together shall constitute one and the same instrument. The facsimile or electronic transmission of the signature of any party executing this Contract on behalf of VPRA or the Consultant to the other party hereto shall constitute an original hereof.

ARTICLE 15
EFFECTIVENESS

This Contract shall be binding and deemed effective when executed by the parties whose signature is provided for on the signature pages hereof (the "Effective Date").

ARTICLE 16
AUTHORITY TO EXECUTE AGREEMENT

Each individual executing this Contract represents that he or she is duly authorized to sign and deliver this Contract on behalf of the party indicated and that this Contract is binding on such party in accordance with its terms.

IN WITNESS WHEREOF, the undersigned have executed this Contract on the dates set forth beside their respective signatures.

[SIGNATURES FOLLOW ON SUBSEQUENT PAGE]

For: VIRGINIA PASSENGER RAIL AUTHORITY

By, _____
(signature)

(printed name)

Its, _____
(title)

Dated: _____

For: [specify]

By, _____
(signature)

(printed name)

Its, _____
(title)

Dated: _____

EXHIBIT A

ACRONYMS AND DEFINITIONS

As used in the Contract to which this Exhibit is attached and in the other Contract Documents (unless otherwise specified therein), the following acronyms and terms shall have the meanings set forth below (unless the context requires otherwise).

A.1 ACRONYMS

AASHTO	American Association of State Highway and Transportation Officials
AREMA	American Railway Engineering and Maintenance-of-Way Association
ATC	Automatic Train Control
BMP	Best Management Practice
BOD	Basis of Design
BOCC	Backup Operation Control Center
CADD	Computer-Assisted Drafting and Design
CFR	Code of Federal Regulations
CSI	Control System Integrator
CSXT	CSX Transportation, Inc.
DHS	United States Department of Homeland Security
DSBSD	Department of Small Business and Supplier Diversity
EA	Environmental Assessment
EEO	Equal Employment Opportunity
EIS	Environmental Impact Statement
FEIS	Final Environmental Impact Statement
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FRA	Federal Railroad Administration
GIS	Geographic Information System
MWAA	Metropolitan Washington Airports Authority
NBIS	National Bridge Inspection Standards
NEPA	National Environmental Policy Act
NTP	Notice to Proceed
OCC	Operation Control Center
OSHA	Occupational Safety and Health Administration
PE	Preliminary Engineering
PH	Public Hearing
PMP	Project Management Plan
QA	Quality Assurance
QC	Quality Control
QCP	Quality Control Plan
QMP	Quality Management Plan
RCMP	Risk and Contingency Management Plan
ROD	Record of Decision
ROW	Right of Way
SCC	Standard Cost Category
SOP	Standard Operating Procedure
SOW	Scope of Work
SSI	Sensitive Security Information
SUE	Subsurface Utility Engineering
TS&L	Type, Size, and Location
U.S.C.	United States Code
USDOT	United States Department of Transportation
VDOT	Virginia Department of Transportation

A.2 DEFINITIONS

Amtrak	The National Railroad Passenger Corporation.
Approved Fee Schedule	The VPRA approved hourly wage rates and Federal Acquisition Regulation (“FAR”) audited overhead rates submitted by the Consultant and included in the Contract at <u>Exhibit E</u> .
Business Days	A Monday, Tuesday, Wednesday, Thursday, or Friday that is not a holiday.
Change Order	Means any written modification to the Contract between VPRA and Consultant, signed by VPRA and Consultant.
Commonwealth	The Commonwealth of Virginia.
Consultant	[insert firm name]
Contract	The written agreement entered into between VPRA and Consultant dated XXX and the Contract Documents as defined in <u>Article 3</u> of the Contract.
Contract Documents	The documents and materials defined in <u>Article 3</u> of the Contract.
Contract Representative	The respective points of contact for the parties as specified in <u>Article 4</u> to the Contract.
Contract Term	The Initial Term and any Extended Term.
Criminal History Background Check	A criminal history check of an individual based on fingerprints and other identifying information obtained by a law enforcement officer conducted through the Federal Bureau of Investigation-Identification Division (FBI-ID).
Critical Infrastructure	A system or asset so vital that its incapacity or destruction would (i) have a debilitating impact on public health, safety or security; or (ii) cause significant economic harm or instability.
Disadvantaged Business Enterprise (DBE)	A firm certified as a DBE by either DSBSD or MWAA.
Dispute	Shall have the meaning set forth in Section 21 of the General Terms and Conditions.
General Assembly	The legislative body of the Commonwealth.
Insurance Requirements	The minimum insurance that must be maintained by Consultant during the performance of the Contract as set forth <u>Exhibit G</u> to the Contract.
Key Personnel	The individuals specified in <u>Exhibit D</u> to the Contract.
Notice to Proceed	The written notice issued by VPRA authorizing Consultant to proceed with the Work and any Final Design Work, if authorized.
Organizational Conflict of Interest Policy	VPRA’s policy governing conflicts of interest and which is available at Procurement - VPRA (vapassengerrailauthority.org) .
Project	The New River Valley Passenger Rail Project.
Party	A party to the Contract, as identified therein.
Sensitive Security Information	The information covered by Title 49 of the Code of Federal Regulations.
SWaM	A firm certified by DSBSD as a small, women-owned, or minority-owned business or related to a small, women-owned, or minority-owned business.
Task Order	Means any document issued by VPRA and signed by both parties for the services to be provided under this Contract and which may include terms pertaining to milestones and deliverables.
Utility Owner	The owner or operator of any utility.

Work	The meaning set forth in Article 6 to the Contract.
Work Plan	Means the plan that outlines the Project's planned activities, budget, timeline, outputs/outcomes and milestones as agreed to by both parties.