

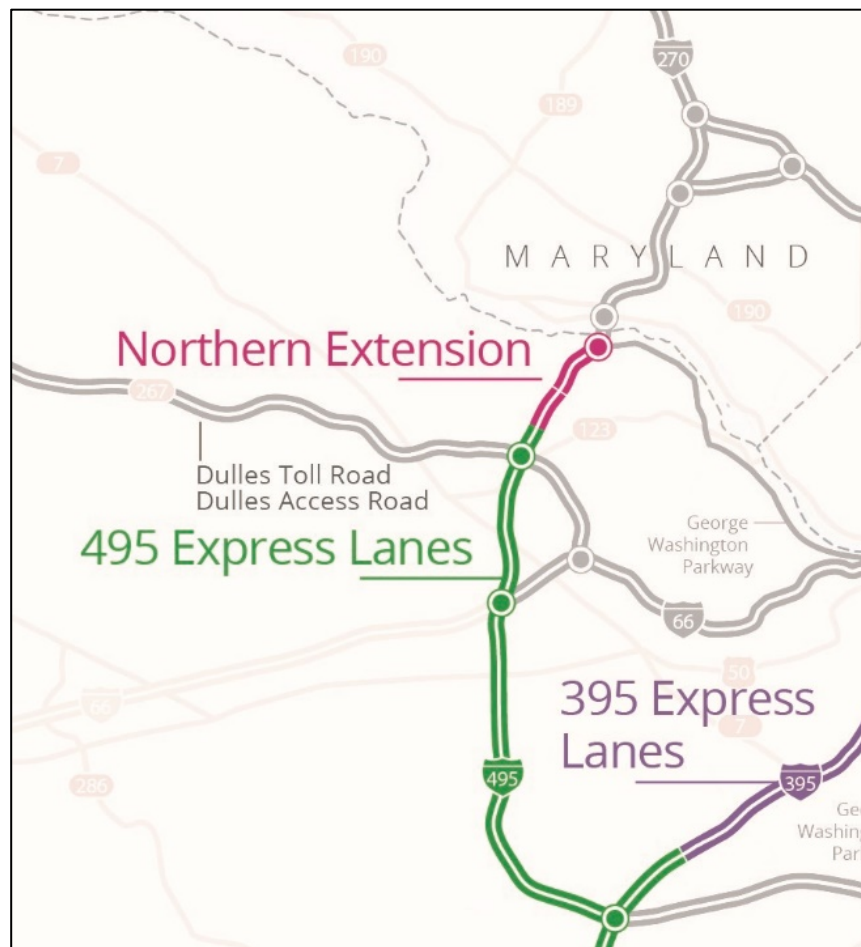
**EXHIBIT B-5**

**NEXT SCOPE DOCUMENT**

[See attached]

## 495 EXPRESS LANES NORTHERN EXTENSION SCOPE OF WORK

Project NEXT is an extension of the 495 HOV/HOT Lanes (Express Lanes) in Fairfax County, Virginia. As shown below, the Project will extend along Interstate 495 (I-495) from the current northern terminus of the 495 Express Lanes near Old Dominion Drive (Route 738) to the vicinity of the George Washington Memorial Parkway (GW Parkway), and improvements to the Dulles Toll Road, Georgetown Pike and GW Parkway interchanges, existing bridges and the General Purpose lanes. I-495 currently operates with four General Purpose lanes in each direction along the Project corridor.



The primary objective of the Project is to extend the 495 Express Lanes further north to provide additional capacity in the corridor, which will be available at no charge to HOV 3+ vehicles, and open to other authorized vehicles paying a toll. This extension will be subject to the same operating rules and regulations as the existing 495 Express Lanes, and when complete, will operate as a

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single, fully integrated 495 Express Lanes facility between the Springfield Interchange and the GW Parkway.

The final design and construction of Project NEXT also shall not preclude the ultimate planned roadways as shown in the *Future Project NEXT Phase 2 Concept Roll Plots, 2045 Design Year Concept Roll Plots* provided in Appendix A.

A full description of the scope of work and requirements for Project NEXT is provided below.

**Roadway Alignment**

The NEXT Express Lanes conceptual roadway alignment and profile has been determined after an analysis of numerous alternatives and coordination with VDOT and the Federal Highway Administration (FHWA). The Design-Builder shall provide a NEXT Express Lanes alignment design that is in accordance with the Technical Requirements and consistent with the Request for Proposal (RFP) Conceptual Plans shown in Appendix A. The two Express Lanes shall be located on the inside of the General Purpose lanes within the I-495 corridor. Additional details on the conceptual roadway alignment and typical sections are provided in Appendix A. The new NEXT Express Lanes shall be located to the inside and separated from the I-495 General Purpose lanes by a four-foot buffer and a row of plastic bollards spaced at 8 foot on center, similar to the existing 495 Express Lanes.

- Approximately two miles of new two-lane Express Lanes in each direction (with full shoulders) from the existing northern terminus near Old Dominion Drive (Route 738) to the vicinity of the GW Parkway.
- New northbound I-495 General Purpose (GP) Auxiliary Lane between Dulles Toll Road (DTR) and Georgetown Pike (Route 193)
- New HOT Lanes (Express Lanes) access points with adequate merge lengths as follows (at-grade HOT Lanes access points other than those stated below are prohibited):
  - Dulles Toll Road EB to 495 Express Lanes NB Ramp E1, including necessary adjustments to the existing GP lane Ramp D2)
  - Dulles Toll Road EB to 495 Express Lanes SB
  - Dulles Toll Road WB to 495 Express Lanes NB (Ramp E3)
  - GW Parkway WB to 495 Express Lanes SB
  - 495 Express Lanes NB to GW Parkway EB

**Pavement**

The Design-Builder shall be responsible for the design and construction of the paving elements including necessary geotechnical evaluations, geotechnical improvements, full depth asphalt pavement, and asphalt mill and overlay.

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The locations for new pavement and mill and overlay areas are provided in the RFP Conceptual Plans and Technical Requirements. The Design-Builder shall be responsible for the final design and construction of all pavements in accordance with the Technical Requirements.

**Bridges and Retaining Walls**

The Design-Builder shall be responsible for the design and construction of required bridge and structural elements:

- Replacement of existing four bridges:
  - Live Oak Drive over I-495 (with bicycle/pedestrian facilities added)
  - Georgetown Pike over I-495 (with bicycle/pedestrian facilities added); including provisions for future Express Lanes ramp(s).
  - Old Dominion Drive over I-495 (with bicycle/pedestrian facilities added)
  - I-495 General Purpose Lanes NB over Dulles Toll Road EB to 495 NB Express Lanes and General Purpose Lanes (bridge over Ramp D2)
- Construction of four new Express Lane ramps and bridges:
  - GW Parkway WB to 495 Express Lanes SB
  - 495 Express Lanes NB to GW Parkway EB
  - Dulles Toll Road EB to 495 Express Lanes NB over Dulles Airport Access Road
  - Dulles Toll Road EB to 495 Express Lanes NB over Dulles Toll Road/I-495 GP NB
- Modification of existing bridges:
  - I-495 GP and Express Lanes over Scott’s Run Creek (widening)
  - George Washington Memorial Parkway over the GP (rehabilitation)
  - Lewinsville Road over I-495 (sidewalk modifications)
- Repair, reconstruction, and/or replacement of existing concrete barriers including construction of bridge pier protection; and
- Construction of new retaining walls and repair and/or modification of existing retaining walls.

**Other Structures**

The Design-Builder shall be responsible for the design, required repairs and construction of existing structures and new structures associated with the Project NEXT, including but not limited to:

- Repair, removal, and/or modification of existing overhead sign structures;
- Design and construction of proposed overhead sign structures;

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- Design and construction of proposed light poles and miscellaneous lighting structures;
- Design and construction of noise barriers at approved locations;
- Design and construction of TMS roadside equipment and associated infrastructure; and
- Removal and disposal of existing structures as required.

**Drainage and Storm Water Management**

The Design-Builder shall be responsible for the design and construction of the integrated storm water conveyance system (including but not limited to culverts, junction boxes, storm sewers, erosion control, sediment control, outfall conveyance channels through the Project NEXT area) to meet all applicable hydraulic requirements, including current Federal Emergency Management Administration, FHWA, and VDOT guidelines and standards as described in the VDOT Drainage Manual, Hydraulic Design Advisories and applicable Informational and Instructional Memoranda.

Part II-C criteria of the Virginia Stormwater Management Protection Regulations applies for water quality control of the Project NEXT. Performance Based Methods shall be used for determining post construction phosphorous removal and nutrient credit requirements. Nutrient credits may be used in lieu of on-site stormwater management facilities as specified in the Technical Requirements.

**Signing and Pavement Markings**

The Design-Builder shall be responsible for the design and construction of roadway signing for all new signs necessary for the safe operations of the Project NEXT. Design-Builder shall replace, reuse, relocate or modify all existing ground mounted and overhead mounted signs and sign structures that are affected by the Project NEXT. Any signing on adjacent roadways beyond the Project NEXT limits that require relocation, replacement, or modification due to the proposed design shall be the responsibility of Design-Builder.

Existing traffic structures that are impacted by the addition, removal or replacement of sign panels, dynamic message signs, variable message signs, including structures with signage that are outside the Project NEXT limits, shall be identified; any required repairs or upgrades shall be Design-Builder's responsibility. . The signing design shall include a Sign Sequencing Plan and a Sign Unveiling Plan the installation of new or replacement signs.

The Design-Builder shall design and construct all pavement markings, markers, and delineators as described in the Technical Requirements.

**Traffic Management System (TMS) Roadside Equipment**

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The Design-Builder shall design and construct the TMS roadside equipment needed for the operation of Project NEXT. The Design-Builder's scope includes, TMS roadside equipment elements:

- Dynamic message signs (DMS) to provide tolling and driver information;
- Pan-tilt-zoom closed-circuit television (CCTV) and automated incident detection (AID) cameras to provide video surveillance;
- Microwave vehicle detectors (MVDS) to monitor and report real-time traffic volume, lane occupancy and speed data on the Express Lanes and GP lanes;
- Generator sites and telemetry equipment to support roadside equipment;
- A fully redundant fiber optic communication network.;
- TMS roadside equipment cabinets and hub sites;
- A power distribution system with back-up generators and uninterruptible power supplies; and
- Testing and commissioning of the TMS roadside equipment with the existing 495 Express Lanes Tolling and Traffic Management System.

The Design-Builder shall also relocate any existing VDOT ITS roadside equipment located within the Project limits that is affected by construction, including power and communication service to the equipment.

**Systems Integration and Design-Builder Interface**

Integration and commissioning of the TMS devices and equipment into the existing Express Lanes operating systems will be performed by the designated TMS Subcontractor (Transurban (USA) Inc.) The TMS Interface Plan shall identify the responsibilities of the Design-Builder and TMS Subcontractor as they pertain to the Project NEXT TMS and system integration. Generally, the Design-Builder will perform the management, design, procurement, construction, installation, testing and commissioning of all TMS roadside equipment and necessary supporting infrastructure. The TMS Subcontractor will be responsible for systems integration design, testing, and commissioning into the existing Back Office Systems (BOS). The Design-Builder shall effectively and continuously coordinate with the TMS Subcontractor throughout the duration of the project. The TMS Subcontractor scope is more specifically stated below:

**A. ETC/BOS Requirements**

- Incorporate MVDS data from new field devices into Dynamic Pricing System
- Configure BOS to command pricing messages on new DMSs
- Update BOS reports to reflect modifications to road network and pricing zones

**B. TMS Requirements**

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- Integrate Design-Builder provided DMS, MVDS, CCTV, and AID Cameras
- Integrate additional AID camera feeds (if any)
- Communicate over NTCIP Compliant Center-to-Center network to provide motorist advisory and trip pricing information to an external agency
- Create/modify Dynamic Message Sign driver to support an NTCIP Compliant DMS (non-Daktronics)
- Update TMS graphics to reflect modifications to roadway configuration and additional field devices
- Incorporate new Roadside Equipment into TMS
- Update Reports to reflect additional field devices or pricing zones
- Integrate Center-to-Center traffic and incident data from a new external agency
- Coordinate TMS design with approved-for-construction plans from Design-Builder
- Conduct system verification in Test and Training environment prior to cutover to Production
- Conduct Integration Acceptance Testing and support of User Acceptance Testing

**C. Network Requirements**

- Create the Network Architecture for Project NEXT extension
- Create the detailed Level Network Design with IP schema and plan for Project NEXT extension
- Create the Network Security Architecture for Project NEXT extension
- Coordinate with an external agency to evaluate data exchange schemes that are mutually beneficial to sharing tolling and/or traffic data between agencies

**D. MOMS Requirements**

- Implement (configure and enable) monitoring across all new TMS roadside equipment

Additional information on the respective roles, responsibilities, and schedule requirements for TMS elements is provided in the TMS Interface Plan, Attachment 3.16c to the Technical Requirements.

**Lighting**

The Design-Builder shall be responsible for the design and construction of lighting required for Project NEXT and associated ramps. Service panels shall be designed for the new lighting power requirements. Existing service panels may be upgraded as needed to support lighting requirements as approved by the Concessionaire. Separate meters shall be provided for the Project NEXT lighting.

**Traffic Signals**

The Design-Builder shall be responsible for designing, coordinating and constructing traffic signals at the following locations:

- Georgetown Pike Route 193 – intersections with I-495 ramps.
- Lewinsville Road crosswalk (Rectangular Rapid-Flashing Beacons)

**Maintenance of Traffic**

VDOT will develop and administer an overall Transportation Management Plan for Project NEXT corridor that focuses on broader regional strategies and solutions to facilitate mobility and safety during the construction period. The Design-Builder shall be responsible for the preparation and implementation of a Project-wide Maintenance of Traffic Plan and associated construction phase or location-specific maintenance of traffic plans and traffic control plans in accordance with the applicable requirements in Part 2 (NEXT Technical Requirements). The Design-Builder shall maintain traffic and perform its work in accordance with these plans for the duration of the Project

**Environmental**

The Design-Builder shall ensure that the environmental commitments and all conditions of regulatory approvals made in the approved National Environmental Policy Act (NEPA) document(s) are implemented at the appropriate phase of the Project NEXT development. The Design-Builder shall be responsible for compliance with pre-construction, construction-related, and post-construction permit conditions.

The Design-Builder shall also develop and implement a comprehensive Environmental Management Plan and additional project-specific environmental controls (such as a Stormwater Pollution Prevention Plan, Erosion and Sediment Control Plan, and Stormwater Management Plan) and performing the Work in accordance with these approved plans and related specifications and standards.

**Landscaping and Aesthetics**

The Design-Builder shall provide landscaping (including re-vegetation of disturbed areas) and aesthetic treatments of structures in accordance with the Technical Requirements and any Section 4(f) or Section 6(f) mitigation requirements.

**Noise Barriers**

The Design-Builder shall be responsible for the design and construction of required noise barriers along the Project NEXT corridor (and connecting roadways, where applicable) as described in the Technical Requirements. The Design-Builder shall provide permanent noise mitigation and final sound barriers in compliance with the Virginia State Noise Abatement Policy and the Highway



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Traffic Noise Impact Analysis Guidance Manual. The final noise barrier location(s) and dimension(s) at approved locations will be determined by the Design-Builder based on the results of the final Noise Abatement Design Report(s) prepared in accordance with the Technical Requirements.

**Right of Way**

The Design-Builder shall be responsible for all Right of Way acquisition, including dedications and easements (permanent and/or temporary) necessary for the construction and operation of the Project NEXT as described in the Technical Requirements. The Right of Way scope includes all services necessary to acquire the right-of-way. All right of way acquisitions and relocations shall be performed in accordance with VDOT Right of Way Manual and all applicable state and federal laws and regulations. The Design-Builder shall be responsible for right-of-way acquisition services and costs in accordance with the terms of the Design-Build Contract

Project NEXT will require acquisition of additional property rights outside the existing VDOT rights-of-way, as shown in the RFP Conceptual Plans. Should the Project NEXT Technical Requirements or the Design-Builder's final design and construction approach require additional right-of-way and/or easement acquisitions (including for temporary staging and laydown areas) not shown on the RFP Conceptual Plans, the Design-Builder shall also be responsible for any additional approvals required by the Concessionaire and VDOT, including any necessary public hearings.

**Utilities**

The Design-Builder shall be responsible for all Utility work necessary for the construction and operation of the Project NEXT, including the identification avoidance or adjustment (if necessary), and cost responsibility determination of any conflicting utilities as described in the Technical Requirements. Utility work includes all items necessary to provide new services, perform relocation(s) or adjustments and associated coordination with utility owners and/or owner's representatives. The Design-Builder shall be responsible for all costs associated with Utility work.

**Permits**

Other than the initial NEPA and FHWA approvals, and any other permits which are the responsibility of the Concessionaire per the Contract Documents, the Design-Builder shall be responsible for acquiring and maintaining in its name (or the Concessionaire's or VDOT's name, as applicable) all environmental, water quality, and other permits necessary for the construction of Project NEXT as described in the Technical Requirements. In those instances, where the Concessionaire or VDOT must be the permittee, the Design-Builder shall be responsible for preparing all necessary materials to support the issuance of a permit and ensuring compliance with the permit terms during the construction period.

**Coordination with Third Parties**

The Design-Builder shall be responsible for coordination with the affected public and private entities (third parties) and local jurisdictions necessary for the design and construction of the Project NEXT, including but not limited to VDOT, Fairfax County, Metropolitan Washington Airports Authority (MWAA), National Park Service (NPS), Fairfax County Park Authority (FCPA), Maryland Department of Transportation/ (MDOT) and permitting agencies (and authorities), utility owners, community and/or homeowner’s associations, and private property or business owners.

**Public Information and Communication Services**

The Design-Builder shall provide the services of a Public Information Manager and adequate staff to support community outreach and information activities as described in the Technical Requirements. The Design-Builder will have primary responsibility for performing the project-specific day-to-day activities associated with the Design-Build activities.

**Adjacent VDOT Project Coordination and Interface**

Project NEXT will require interface and coordination with the operating 495 Express Lanes and other adjacent projects being delivered by VDOT, MWAA, NPS, Fairfax County, FCPA and/or MDOT projects that may be active in the area concurrently with the construction of Project NEXT. The Design-Builder shall coordinate and interface with the respective entity’s project teams, including and their associated consultants and contractors throughout the duration of project to ensure that the respective activities are properly coordinated and scheduled. Cooperation between all parties is essential for the successful completion of Project NEXT.

**APPENDIX A – RFP CONCEPTUAL PLANS**

- RFP Conceptual Plan Sheets (11” x17”) *dated September 30, 2020*
  - RFP Conceptual Plan Sheets - Revision 1 *dated November 13, 2020, containing:*
    - Roadway and Drainage Plans - Sheets 2A(6), 14
    - Retaining Wall Plans - Sheet 57
    - ITS/TMS Plans - Sheets CC2B, CC2C1, CC5, CC7, CC10, CC11, CC12, CC14, CC(E1), CC(E2), CC(F7), CC(F8), CC(F9), CC(G10), CC(G11), CC(G12), CC(G13)
    - Signing, Lighting and Pavement Marking Plans - Sheets SP(A3), SP(A6)
    - Structure and Bridge Plans - Sheets 2, 4, 6, 8, 10, 12, 14, 16, 17, 18, 19, 21, 23, 24, 25, 26
  - RFP Conceptual Plan Sheets - Revision 2 *dated December 18, 2020 containing:*
    - Roadway and Drainage Plans - Sheets 1C(1), 1C(3), 1G(1), 1G(7), 1G(8), 1G(9), 1G(10), 1G(11), 1G(12), 1G(18), 2A(3), 2A(7), 2A(8), 2A(13), 2A(14), 3, 4, 5,

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- 6, 6RW, 7, 8, 8RW, 9, 9C, 9RW, 10, 10C, 10D, 10E, 10RW, 11, 11C, 11D, 11E, 11G, 11H, 11RW, 12, 12C, 12D, 12G, 12H, 12RW, 13, 14, 15, 19, 22, 22RW, 23, 23A, 23RW, 24RW, 25RW
- Retaining Wall Plans - Sheets 57, 58(3), 58(4), 58(5), 58(6), 63(1), 63(2), 64(2), 65(1), 65(2), 70(1), 70(2), 72(1), 72(2), 72(3), 72(4), 74
  - ITS/TMS Plans - Sheets CC2C1, CC2C2, CC4, CC5, CC6, CC9, CC10, CC11, CC12, CC14, CC26, CC(E1), CC(E2), CC(F7), CC(F8), CC(G10), CC(G11), CC(G12), CC(H1), CC(H3), CC(H4), CC(H5), CC(H6), CC(H10)
  - Signing, Lighting and Pavement Marking Plans - Sheets SP(2A), SP(A1), SP(A2), SP(A5), SP(A6)
  - Traffic Signal Plans - Sheets TS(2), TS(3), TS(4)
  - Structure and Bridge Plans - Sheets 10, 12, 14, 16
- RFP Conceptual Plan Sheets - Revision 3 *dated March 9, 2021 containing:*
    - Roadway and Drainage Plans - Sheets 1, 1C(2), 1C(3), 1G(10), 1G(11), 1G(12), 6, 7, 8, 11, 11A, 11B, 11C, 11D, 12, 12A, 12B, 12C, 12E, 12F, 12H, 12RW, 13, 13A, 13B, 13D, 13E, 13RW, 14, 14B, 15, 15RW, 24, 24RW
    - Retaining Wall Plans - Sheets 61(2), 61(3), 61(4), 72(3), 72(4), 80
    - ITS/TMS Plans – Sheets CC20B, CC(F2)
    - Signing, Lighting and Pavement Marking Plans - Sheets SP(A1), SP(A2), SP(A4)
    - Structure and Bridge Plans - Sheets 12, 16, 18
  - RFP Conceptual Plan Sheets - Revision 4 *dated April 6, 2021*
    - Roadway and Drainage Plans – Sheets 1B(2), 1C(2), 1C(3), 1G(3), 1G(8), 1G(9), 2A(6), 2A(7), 5, 5D, 5RW, 10, 10E, 10RW, 11, 11G, 11RW, 13, 14, 15, 25
    - ITS/TMS Plans – Sheets CC11, CC(E1)
    - Signing, Lighting and Pavement Marking Plans – Sheet SP(A6)
    - Traffic Signal Plans – Sheet TS(5)
    - Structure and Bridge Plans – Sheets 24, 25, 26
  - RFP Conceptual Plan Sheets - Revision 5 *dated April 30, 2021*
    - ITS/TMS Plans – Sheets CC(F1), CC(H10)
- Conceptual Roadway Roll Plots - Revision 4 *dated April 6, 2021*
  - Conceptual Drainage and SWM Roll Plots - Revision 4 *dated April 6, 2021*
  - Conceptual Signing, Lighting and Pavement Marking Roll Plots - Revision 4 *dated April 6, 2021*
  - Conceptual TMS Roll Plots - Revision 4 *dated April 6, 2021*
  - Future Project NEXT Phase 2 Concept Roll Plots - Revision 4 *dated April 6, 2021*
  - Future 2045 Design Year Concept Roll Plots - Revision 4 *dated April 6, 2021*