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U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
and
VIRGINIA DEPARTMENT OF TRANSPORTATION

REEVALUATION OF ENVIRONMENTAL ASSESSMENT

Route 1 Improvements - Project A
Prince William County, Virginia
State Project: 0001-212-249, P101; UPC: 90339
Federal Project: STP-5A01(228)
From: 0.1 miles south of Bradys Hill Road
To: 0.2 miles north of Dumfries Road (Route 234)

Submitted Pursuant to 42 U.S.C. 4332(2) (C)

Approved for Public Availability:

7/2/19

Date

John Dinkins

Federal Highway Administration

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1.0 INTRODUCTION

The Virginia Department of Transportation (VDOT), in cooperation with the Federal Highway Administration (FHWA), is proposing to widen approximately 2.1 miles of Route 1 (Fraley Boulevard) primarily through the Town of Dumfries located in Prince William County, Virginia (Figure 1). The project limits are from approximately 0.10 mile south of Bradys Hill Road to approximately 0.20 mile north of Route 234 (Dumfries Road). Currently, northbound (NB) Route 1 traffic is routed along the existing two-lane Fraley Boulevard while southbound (SB) Route 1 traffic is routed along Main Street through the Town of Dumfries. The intent of this project is to widen Route 1 NB from a 2 lane, one-way roadway to a 6 lane divided roadway so both NB / SB traffic would be on the same alignment. Main Street would be restriped to accommodate two way local traffic. From Possum Point Road to Route 234 - Dumfries Road, the Route 1 NB / SB lanes are on the same alignment and the roadway would be widened from a 4 lane undivided roadway to a 6 lane divided roadway.

In accordance with the National Environmental Policy Act (NEPA) and 23 CFR 771, an Environmental Assessment was prepared for the Route 1 Improvements - Project A Location Study. A Location Study Alignment Alternative was selected by the Commonwealth Transportation Board (CTB) in 2004 and a Finding of No Significant Impact (FONSI) was issued by the Federal Highway Administration (FHWA) in 2007. Since a considerable amount of time has passed, this reevaluation of the approved 2007 EA is being prepared to determine what effects changes to the project's concept, to the affected environment, or to applicable environmental laws/regulations might have on the validity of the 2007 FONSI.

2.0 BACKGROUND AND HISTORY

Improvements to Route 1 have been planned for a number of years. In response to concerns about increased travel demand in the corridor and a need to ensure coordinated revitalization efforts in Prince William and Fairfax Counties, the Virginia General Assembly (GA) passed a resolution in 1994 directing VDOT to perform a complete and comprehensive Route 1 Corridor Study. A Route 1 Steering Committee was also established to ensure VDOT was responsive to the needs and concerns of citizens along the corridor. Subsequent resolutions by the GA in 1998 directed VDOT to conduct a Centerline Design Study of the Route 1 corridor from the Stafford County line to the Capital Beltway, and to make recommendations for prioritization and funding for improvements. The study began in 1999 with the 27-mile corridor being divided into three separate location study segments: Project A (Stafford County line to Route 123), Project B (Route 123 to Armistead Road), and Project C (Belvoir Woods Parkway to the Capital Beltway). A Location Study, while still relatively preliminary in design, includes alternative alignments, an environmental document, delineation of proposed right of way, order of magnitude cost estimates, public participation, a formal public hearing and culminates with approval by the CTB. In accordance with the National Environmental Policy Act (NEPA) and FHWA regulations for implementing NEPA (23 CFR 771), separate Environmental Assessment (EA) documents were prepared and separate Location Public Hearings were held for each project.

The EA for Project A evaluated widening approximately 11.4 miles of Route 1 from a four lane undivided highway to a six-lane divided highway from the Stafford County Line to the Route 123 interchange in Woodbridge. The purpose and need was to improve the flow of traffic, increase traffic volume capacity, provide economic and aesthetic revitalization, improve intermodal relationships, enhance safety, and support state, regional, and county plans. The EA was approved for public availability by FHWA on February 20, 2003 and presented for review and comment at a Location Public Hearing on March 25, 2003. The CTB selected a Centerline Location Study Alignment for Project A along with Locust Shade Option 1, Brady's Hill Option 1, Dumfries Option 1, Possum Point Option 2 and Dale Boulevard Option 2 on July 15, 2004. FHWA issued a FONSI on March 19, 2007 based on the approved EA and supporting documentation.

Phases of the 11.4 mile Project A study are being constructed as funding becomes available. Due to the time that has elapsed since the FONSI was issued, each project phase (including the current project) has been subject to an EA Reevaluation. The purpose of a reevaluation is to determine what changes have occurred in the study area including changes in the design or scope of a project, new or modified laws and regulations, circumstances or project area changes or new information in general. The finding or conclusion of the reevaluation is whether the 2007 FONSI is valid.

3.0 PROJECT DESCRIPTION

The proposed project is generally similar to the Centerline Design Study Alignment described in the Project A EA. Fraley Boulevard would be widened from two lanes to six lanes with raised median between Bradys Hill Road and Possum Point Road and from four to six lanes with raised median between Possum Point Road and Dumfries Road. The project would include a 10 foot shared use path along the new Fraley Boulevard SB alignment, a 5-foot sidewalk along Fraley Boulevard NB and traffic signal modifications at three intersections. The bridge over Quantico Creek would also be reconstructed to minimize flooding and increase capacity. The proposed typical section consists of three through lanes of 14, 11, and 12 feet (inside lane to outside lane), respectively, in each direction and appropriate turn lanes. The outermost lane in each direction would accommodate bicycles. The proposed design would provide a 16 foot raised median tapering to a 4-foot width where left turn lanes are needed. Side slopes would be 3:1 or flatter, where feasible. Fraley Boulevard is classified as an Urban Principal Arterial and the design would follow the GS-5 (Urban Principal Arterial) standard at 45 mph design speed, as outlined in the Road Design Manual. The typical section would include CG-7 curbing and standard green space/buffer space adjacent to pedestrian facilities. The roadway super elevation would be based on urban low speed (TC-5.11 ULS) design standards. Main Street would revert to a two-way road for local traffic and the proposed design would include mill and overlay adjustments, along with signing and markings, to complete the conversion. The south end of Main Street near Quantico Gateway would be changed into a cul-de-sac and the north end of Main Street at Canal Road would be realigned with Possum Point Road.

The proposed project is needed to correct deficiencies along existing Route 1, including sight distance issues, lack of medians to separate opposing traffic, inadequate turn lanes, improperly spaced and inconsistent access points, and limited accommodations for pedestrians, bicyclists, and transit users. The project is intended to solve access issues to residences and businesses due to one-directional traffic patterns and to alleviate congestion during peak periods. Route 1 averages up to 28,000 vehicles a day within the project limits and the current level of service (LOS) during the morning peak period is E/F,

while the afternoon peak is D. Under current traffic congestion and roadway conditions, intersection and/or spot improvement projects would not be sufficient to meet intermediate or future traffic needs. The project is also needed due to a lack of capacity for projected traffic volumes. Figures 2 and 3 identify existing (2015) average daily traffic (ADT) volumes and projected ADT volumes for the design year 2042. At two intersections in the project corridor, current Levels of Service (LOS) are deficient and are projected to decline with increased future traffic volumes

The proposed project is in the Town of Dumfries 2014 Comprehensive Plan, the Prince William County 2008 Comprehensive Plan (with an update in progress) and the VDOT 2019-2024 Six Year Improvement Program. The project is also in the financially constrained element of the approved Visualize 2045 long-range transportation plan and the FY 2019-2023 Transportation Improvement Program (TIP) for the National Capital Region as well as the approved FY18-21 Statewide Transportation Program (STIP). Right of way funding is being provided by the Northern Virginia Transportation Authority (NVTA).

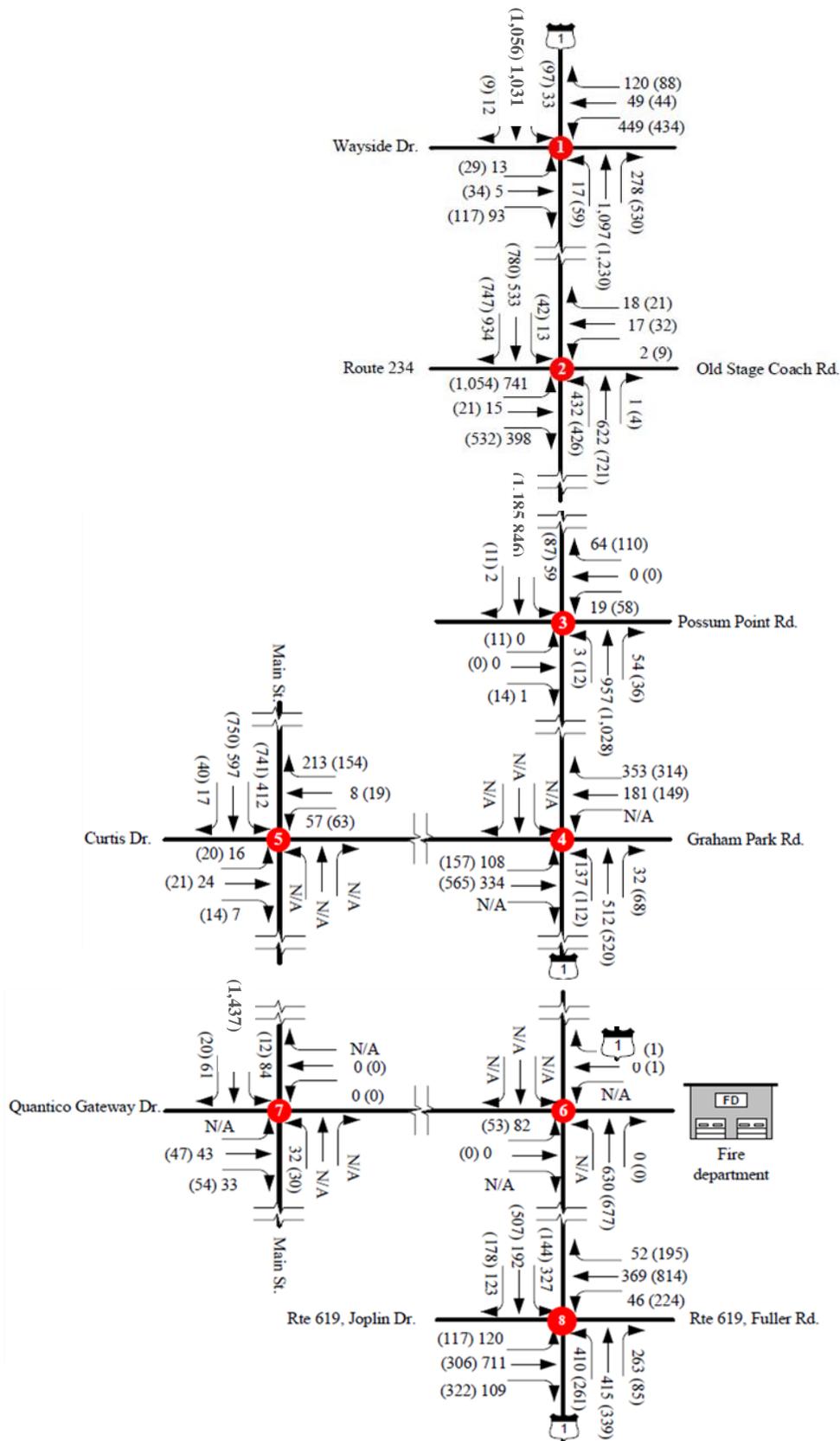


Figure 2 – Existing 2015 Peak Hour Traffic Volume

US Route 1 – Fraley Blvd. Widening, UPC 90339



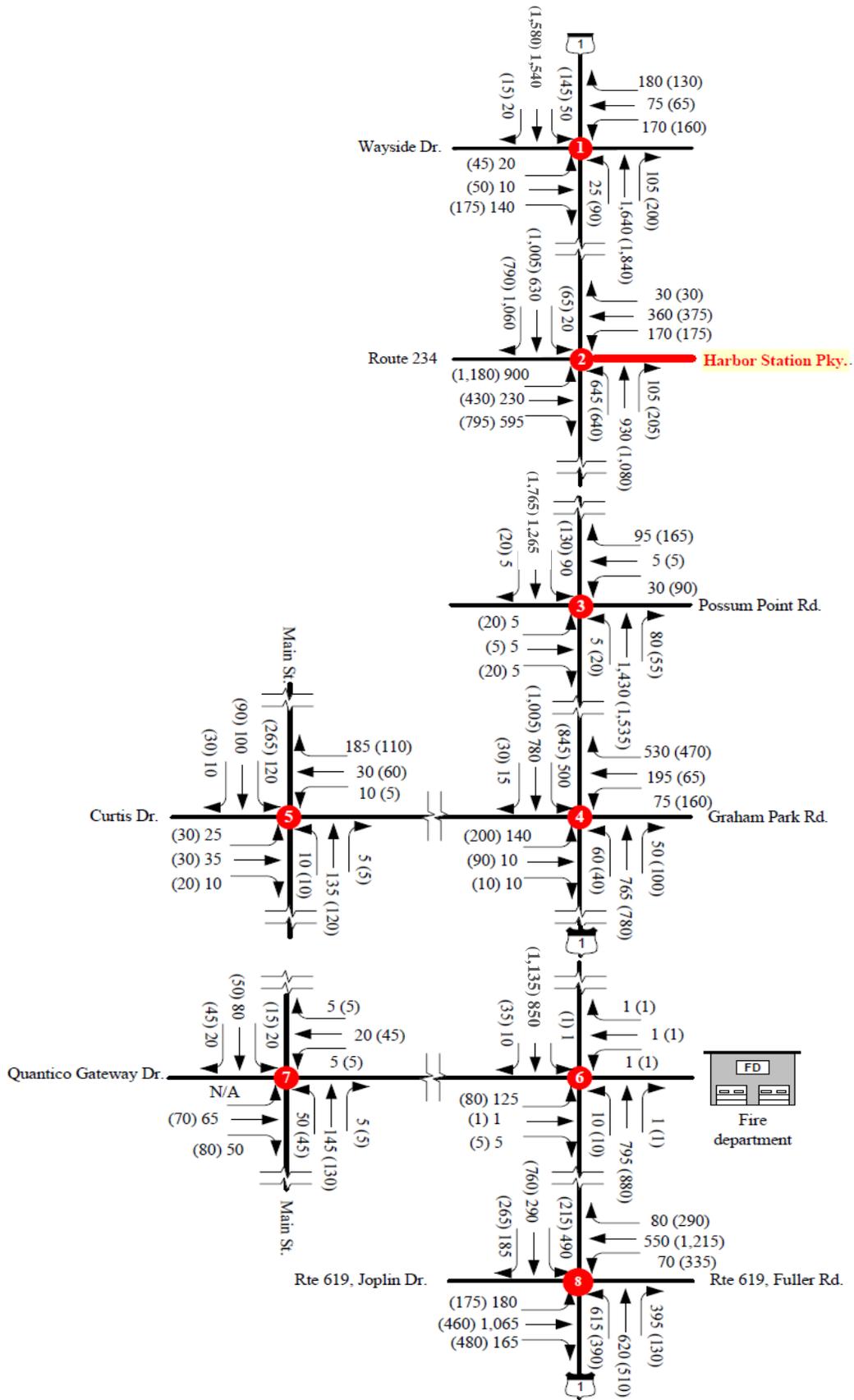


Figure 3 – Design Year 2042 Forecasted Peak Hour Traffic Volume

US Route 1 – Fraley Blvd. Widening, UPC 90339



4.0 ENVIRONMENTAL SUMMARY

Transportation projects have the potential to affect social, economic, physical, and natural resources; therefore, it is essential that the existing environmental conditions and potential project related impacts are identified and understood. The purpose of the following section is to inventory and analyze updates to the regulatory setting, existing conditions, and potential environmental consequences of the proposed project. Table 1 identifies the environmental conditions within the study area. Additional details regarding many of the environmental resources are provided following the summary table below.

Table 1: Summary of Environmental Conditions

Environmental Resource	Resource Summary	Changes since 2003 EA?
Land Use	Land use has remained fairly consistent from when the EA was prepared until now. Some development has occurred near the southern terminus, which has made one of the supported alignment shift options impracticable. There are additional changes/modifications to the Route 1 corridor through the Town of Dumfries that have either occurred or are proposed under the current project. These are not significant changes but rather are modifications to elements of the design supported by the Commonwealth Transportation Board (CTB) in the EA. Please see Section 4.1 for further information.	Yes
ROW and Relocations	Due to the shortened corridor length associated with the current project, ROW and relocation impacts would be reduced. The EA for the Location Study Alignment included acquisition of 67.8 acres of ROW and the displacement of 73 homes, 129 businesses, and one non-profit. Under the current project, approximately 15 acres of land would be acquired for right of way and approximately 9 acres would be encumbered as permanent easements. Three homes and 21 businesses would require relocation. Compensation, at fair market value, would be provided for ROW impacts. Please see Section 4.2 for further information.	Yes (reduction in ROW and relocations)

Community Facilities	The 2003 EA identified two public parks within the study corridor. One of these, Cecil W. Garrison Park, is located within the current study. Please see Section 4.3 for further information.	No
Socioeconomics	The EA provided a discussion of socioeconomic impacts indirectly attributed to the Route 1 Improvements – Project A. The main points raised are as follows: (1) The proposed project corridor is mostly developed, with areas already disturbed. (2) Businesses within the corridor struggle to keep tenants and retain trade. (3) Prince William County and the Town of Dumfries have been planning the redevelopment of the Route 1 corridor for years and have mapped much of their planning efforts into their comprehensive plans. These points continue to have merit today as they pertain to this reevaluation.	No
Environmental Justice	This project has been evaluated in accordance with Title VI of the Civil Rights Act of 1964, as amended; Executive Order 12898, <i>Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations</i> ; and the U.S. Department of Transportation (USDOT) Order 6610.2(a). Minority populations have been identified within the project study area, but are not expected to experience disproportionately high and adverse effects as a result of the proposed project. Please see Section 4.4 for further information.	No
Traffic	The traffic data submitted 10/20/15 for the proposed widening of Route 1 (Fraley Boulevard) through Dumfries references an existing (2015) ADT of 31,000 and a design year (2042) ADT of 49,000 for Route 1 north of Tripoli Boulevard and located within the Town of Dumfries. These numbers are slightly different than those found in the EA, which reported this same area of Route 1 near Tripoli Boulevard with an existing (2000)	Yes

	ADT of 27,000 and a design year (2025) ADT of 58,300.	
Access	<p>Within the limits of the proposed project, the Potomac and Rappahannock Transportation Commission (PRTC) provides bus service along the Route 1 corridor for individuals commuting out of the Town of Dumfries (OmniRide and Metro Direct) and for those requiring transportation within the Town of Dumfries and local area (OmniLink and Cross County Connector). PRTC also offers OmniMatch, a free ridesharing service. Based on this information, it appears that the Route 1 corridor within the proposed project limits is adequately served by public transportation. It's unclear whether PRTC was providing this level of service when the EA was prepared because service was described as being limited to high traffic commuter destinations (Pentagon and DC core area) with inadequate stop conditions. The corridor within the proposed Route 1 widening project now appears to be adequately served by public transportation.</p>	Yes
Prime Farmland and Soils	<p>The location of the proposed project is within an area designated by Prince William County as "Development Area". Soils within the project corridor have been impacted by the construction and maintenance of Route 1, as well as by utility installation, and urban development adjacent to the roadway. Thus, the land is committed to urban use, and as such is excluded from the Farmland Protection Policy Act of 1981 (7 USC § 4201, et seq.).</p>	No
Open-Space Easements/Agricultural and Forestal Districts	<p>The proposed project is located along a developed corridor of Route 1. Prince William County's Rural Area Prime Agricultural Soils and Wooded Areas Map designates the area along the project corridor as either "Development Area" or</p>	No

	located within a city or town (i.e., Town of Dumfries). There are no open-space easements or Agricultural and Forestal Districts, protected under state law, present or affected by the proposed project.	
Historic Properties	64 architectural resources were identified in the current project. Only one, The Williams Ordinary, is eligible for listing in the National Register for Historic Places (NRHP) and Virginia Landmarks Register (VLR). In addition, an archaeological resource was identified within the current project limits. The design team was able to avoid and minimize impacts to both these resources. Please see Section 4.5 for further information.	Yes. Historic properties of both architectural and archaeological significance were identified during this reevaluation that were not included in the EA.
Section 6(f)	No Section 6(f) properties are located within the study area. Please see Section 4.6 for further information.	No
Section 4(f)	The Cecil W. Garrison Park described above is the only public park within the study area that was considered for Section 4(f) applicability. The historic properties discussed in section 4.6 did not meet Section 4(f) resource criteria. Please see Section 4.6 for further information.	Yes. This reevaluation identified a Section 4(f) use of the Cecil W. Garrison Park that was not in the EA. A Programmatic Section 4(f) Evaluation was coordinated in the EA for Locust Shade Park. However, Locust Shade park is located south of the proposed project corridor.

Air Quality	<p>The proposed improvements were assessed for potential air quality impacts and conformity consistent with all applicable air quality regulations and requirements, with specific analyses or reviews for carbon monoxide, particulate matter, mobile source air toxics, and indirect effects and cumulative impacts. The assessment indicates that the proposed project would meet all applicable air quality requirements of NEPA as well as federal and state transportation conformity regulations. As such, the project is not expected to cause or contribute to a new violation, increase the frequency or severity of any violation, or delay timely attainment of the applicable National Ambient Air Quality Standards. Please see Section 4.7 for further information.</p>	No
Noise	<p>The noise analysis did not predict any noise impact from the proposed project at any of the noise-sensitive land uses in the study area. Therefore, no noise abatement measures were considered. Please see Section 4.8 for further information.</p>	No
Wetlands and Streams	<p>Wetlands and streams are found within the current project limits. The greatest potential to impact wetlands are associated with Quantico Creek. Avoidance and minimization measures are currently being evaluated. Please see Section 4.9 for further information.</p>	<p>Yes. The proposed project has potential to impact an extensive wetland floodplain system associated with Quantico Creek, which may not have been captured in the EA.</p>
Wildlife and Habitat	<p>Wildlife found within the current project limits are suited to survive in an urban/suburban environment. Quantico Creek provides habitat for organisms utilizing the aquatic environment as well as for terrestrial organisms utilizing the vegetated buffer and floodplain. Please see Section 4.9 for further information.</p>	No

<p>Threatened and Endangered Species</p>	<p>The USFWS database search identified the northern long-eared bat (<i>Myotis septentrionalis</i>) and harperella (<i>Ptilimnium nodosum</i>) as two federally protected species whose habitat requirements should be assessed within the current project. In addition, the VDGIF database search identified bald eagle (<i>Haliaeetus Leucocephalus</i>), anadromous fishes, and the brook floater (<i>Alasmidonta varicosa</i>) as protected resources that should be addressed through follow up coordination and/or studies. Please see Section 4.9 for further information.</p>	<p>Yes. The northern long-eared bat received federal protection (threatened) under the Endangered Species Act on April 2, 2015, which is after the EA was drafted and the FONSI signed. A survey was conducted for the federally listed small whorled pogonia (threatened) during coordination efforts for the EA but was not identified during the due diligence conducted for this Reevaluation.</p>
<p>Floodplains</p>	<p>The only floodplain within the proposed project is associated with Quantico Creek. Raising the road profile would have the potential to increase backwater unless additional capacity is provided in the bridge waterway to compensate for the lost roadway overtopping flow capacity. Please see Section 4.10 for further information.</p>	<p>Yes. The bridge design associated with the proposed project has potential to impact a floodplain at the crossing of Quantico Creek. Measures to minimize floodplain impacts are being considered. The EA did not discuss potential floodplain impacts.</p>
<p>Hazardous Materials</p>	<p>Twelve recognized environmental conditions (RECs) were identified in the Phase I Environmental Site Assessment (ESA). Based on follow-up testing and analysis associated with the Phase II ESA, the 12 RECS were organized into three groups based on risk. Please see Section 4.11 for further information.</p>	<p>No</p>

<p>Indirect Impacts or Cumulative Effects</p>	<p>The EA provided a discussion of socioeconomic impacts indirectly attributed to the Route 1 Improvements – Project A. The main points raised are as follows: (1) The proposed project corridor is mostly developed, with areas already disturbed. (2) Businesses within the corridor struggle to keep tenants and retain trade. (3) Prince William County and the Town of Dumfries have been planning the redevelopment of the Route 1 corridor for years and have mapped much of their planning efforts into their comprehensive plans. These points continue to have merit today as they pertain to this Reevaluation.</p> <p>Cumulative impacts were assessed in the EA by reviewing what additional VDOT, federal, county, and private projects were planned within the same corridor as the Route 1 widening project and what effect they might have on surface waters, wetlands, cultural resources, parks and recreation areas, etc. The EA determined that “...the intensity of the incremental impacts of the project on natural resources, when viewed in the context of other past, present, and reasonably foreseeable future impacts from other sources, would be relatively small and are not expected to rise to a level that would cause significant cumulative impacts.” The same conclusion holds true today.</p>	<p>No</p>
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4.1 Existing Conditions and Land Uses

An approximately 14 acre undeveloped forested area between Main St. and C St. located at the southern terminus of the proposed project was developed after the EA was made available to the public and prior to 2005. Quantico Gateway Dr. was part of this development and is oriented parallel to C St. on its north side. Quantico Gateway Dr. bisects Main St. and intersects Fraley Boulevard (Route 1). Under the proposed project, Main St would terminate in a cul-de-sac on the north side of Quantico Gateway Dr. This is slightly different than the Bradys Hill Option 1 identified in the EA and supported by the Commonwealth Transportation Board (CTB) at the time, which realigned Main St for a perpendicular crossing of Fraley Boulevard.

In addition to the Bradys Hill Option 1 identified above, there are additional changes/modifications to the Route 1 corridor through the Town of Dumfries that have either occurred or are proposed as part of the project. These are not significant changes but they are modifications to elements of the design supported by the CTB in the EA. These changes are as follows:

- Dumfries Option 1 - The purpose of this design element was to flatten a curve in Route 1 for approximately 1,400 feet to reduce project impacts to the Triangle Shopping Center. Upon a more detailed review, the design team determined that flattening the Route 1 curve would result in impacts to a transmission tower and a Bank of America. Moving the tower would be a multi-million dollar project cost. The design team balanced the widening alignment between the transmission tower and the shopping center property, adding a retaining wall along the shopping center side to reduce parking lot impacts, while avoiding the tower. It also allows for reduced impacts to Bank of America.
- Graham Park Road/Curtis Drive - The purpose of this design element was to reduce the typical cross section for these limits, provide a median break between Main Street and Dr. David Cline Lane via Acts Lane, and restrict through trucks on Main Street. The proposed project would partially implement this recommendation. The typical section was reduced throughout the project limits per the Value Engineering study. However, the median break cannot be accommodated due to current access management standards - the median break violates the minimum distance from the signalized intersection at Graham Park Rd. These access management standards did not exist at the time of the location study. Truck restrictions are not a design element and would be subject to Town enforcement along their Main St.
- Possum Point Option 2 - The purpose of this design element was to reduce impact to businesses, particularly those located at the Liberty Village Shopping Center and historic homes. Initially, the design team was not able to accommodate this design element due to geometric, operational and safety issues resulting from the offset and skew of the Possum Point Road/Main Street intersection. However, when archaeological resources were discovered adjacent to Graham Street the intersection was reanalyzed. The design team was able to configure an acceptable intersection that worked with the offset and skew while minimizing impacts to the cultural resources.

4.2 Right of Way and Relocations

The EA identified the displacement of 73 residences within the Route 1 Project A location study alignment from the Stafford County line to Route 123 interchange in Woodbridge. The displacements were concentrated in three areas but the lack of available raw data from the original study makes it uncertain whether any were within the Town of Dumfries. The Stage I Relocation Assistance Report identifies 3 residences and 21 businesses that would potentially be displaced by the current project. Based on the Stage 1 Relocation Assistance Report there is a possibility that some of the affected properties are occupied by members of a minority group; more definitive information will be known during final design.

4.3 Community Facilities

Two public parks were discussed in the EA. One of them, Cecil W. Garrison Park, is located in the floodplain of Quantico Creek on the west side of northbound RTE 1 and within the limits of the proposed project while the other, Locust Shade Park, is located outside of the project limits to the south. According to the EA, “the project would not encroach on the property and would cause no noise, visual, or other proximity effects that could be construed as constructive use of the recreational fields located in the park.” Under the proposed project, there is a minor encroachment to the southeastern corner of Cecil W. Garrison Park property. This corner of the park is located along the northern bank of Quantico Creek and extends mid-way to the center of the channel. A new and wider bridge would be constructed overhead, which would overlap with the park property. The Town of Dumfries concurred with VDOT in October 2018 that the permanent fee simple acquisition would not adversely affect the park (see 4.6 Section 4(f) below).

4.4 Environmental Justice

This project has been developed in accordance with Title VI of the Civil Rights Act of 1964 as amended in 1968, and with Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations (1994). As stated in Section 4.2, this project would potentially require relocation of 3 residences and 21 businesses.

FHWA Order 6640.23, FHWA Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, defines a "low-income" individual as "a person whose household income is at or below the Department of Health and Human Services (DHHS) poverty guidelines." The 2017 guidelines state that a family of four is considered at poverty level if the median household income is \$24,600 or below. Median household income data for the Town of Dumfries and the census block groups included within the environmental justice study area exceed the 2017 DHHS Poverty Guidelines threshold; therefore no-low income population is considered to be present.

Persons in the following racial or ethnic groups are classified as minorities: American Indian or Alaska Native, Asian American, Black or African American, Hispanic or Latino, and Native Hawaiian or Other Pacific Islander. Prince William County has experienced an increase in minority populations from the 2000 US Census data (34.9%) reported in the EA compared to the 2010-2014 American Community Survey (ACS) data (37.94%) reviewed for preparation of this Reevaluation. This represents a gain of 3.04 percentage points for minority members in Prince William County. Although the EA did not specify population data for the Town of Dumfries, it is relevant to do so for purposes of this Reevaluation. The

2000 US Census data reported the minority population for the Town of Dumfries was 47.09%, which is considerably higher than Prince William County. The 2010-2014 ACS data for the Town of Dumfries reported the minority population was 47.17%, which is a 0.08% increase.

Minority Populations

Table 2 identifies the minority composition for ten census block groups within or adjoining the project alignment. To serve as a measure of comparison, census data on minority populations was extracted for the Town of Dumfries and Virginia as a whole. Although some of the proposed project is located within Prince William County, most of the project footprint is within the Town of Dumfries.

Table 2: Minority Populations by Census Tract, 2010 – 2014 Census Data

Location		Demographic Total	Total Minority	Percent Minority
Virginia		8,001,024	2,514,172	31.4%
Town of Dumfries		4961	2223	44.8%
Census Tract 9009.01	Block Group 1	1,845	1313	71.2%
Census Tract 9009.01	Block Group 2	1,344	988	73.5%
Census Tract 9009.01	Block Group 3	17475	1208	69.1%
Census Tract 9009.01	Block Group 4	695	299	43.0%
Census Tract 9009.05	Block Group 1	3,536	2,006	56.7%
Census Tract 9009.05	Block Group 2	1,428	819	57.4%
Census Tract 9010.01	Block Group 1	1,024	381	37.2%
Census Tract 9010.01	Block Group 2	1,530	795	52.0%
Census Tract 9010.01	Block Group 3	1,751	1,100	62.8%
Census Tract 9010.01	Block Group 4	1,923	881	45.8%

As guided by the Council on Environmental Quality’s (CEQ) Guidance Under the National Environmental Policy Act, and in accordance with the terms of Executive Order 12898, a minority population is found to exist where either (a) the minority population of the affected area exceeds 50% of the total population; or (b) the minority population percentage of the affected area is "meaningfully greater" than the minority population percentage in the general population or other appropriate unit of geographical analysis (CEQ, 1997). For the purposes of this study, the Town of Dumfries serves as the appropriate unit of geographical analysis, which has an average minority population percentage of 44.8 percent. Minority populations within eight of the ten census block groups found within the study area exceed the Town of Dumfries threshold, with the exception of Census Tract 9009.01, Block Group 4, and Census Tract 9010.01, Block Group 1. With the existing conditions, the northbound (NB) Route 1 traffic is routed along the existing two-lane Fraley Boulevard while southbound (SB) Route 1 traffic is routed along Main Street through the Town of Dumfries. By relocating the southbound (SB) lanes closer the northbound (NB) lanes a more uniform travel way would be created. Currently there are communities on both sides of the existing Route 1 corridor, who would be impacted equally, by the construction, and temporary detours. The majority of the potentially affected structures are businesses within the corridor. Although most of the proposed project corridor contains minority populations, there is not one specific

area that would be disproportionately impacted. The project would not cause disproportionately high and adverse effects on a minority population.

4.5 Cultural Resources

A Phase I architectural reconnaissance survey of the proposed project area of potential effect (APE) was prepared in October 2018 and identified 64 historic structures. The APE extends 300-feet on either side of Route 1 and 150-feet on either side of intersecting connector roads. There are twenty-three previously identified architectural resources within the project's APE. One of these is the Williams Ordinary (VDHR #212-0001), which was identified in the EA and is listed on the National Register of Historic Places (NRHP)/Virginia Landmarks Register (VLR). The Virginia Department of Historic Resources (VDHR) determined that the remaining twenty-two previously identified resources are not eligible for listing in the NRHP/VLR. An additional forty-one architectural resources built prior to 1970 were identified during the survey. All have lost integrity of materials and/or design and have a lack of architectural significance. The VDOT recommended and DHR concurred, these resources were not eligible for listing in the NRHP/VLR.

The APE vicinity was also evaluated for a potential historic district. Most of the buildings are mid- and late twentieth century residential and commercial buildings. Much of the eighteenth, nineteenth, and early twentieth century building fabric within the APE is no longer extant, and commercial development of the APE since 1970 has altered the feeling and setting of the area. The remaining architectural resources lack historic or stylistic linkages. The VDOT concluded that there is no historic district in the APE to which any of these resources could contribute.

A Phase I archaeological survey of the proposed project revisited and assessed eligibility for three previously recorded sites in addition to identifying a new site. Two of the three previously recorded sites are mostly destroyed by commercial and industrial construction, and no further work was recommended. The third site is the Williams Ordinary, no further archaeological testing was recommended due to disturbance from roadside utilities. The newly identified archaeological site is described as "...multi-component prehistoric, eighteenth, and early nineteenth-century site containing potential intact building remains." According to the report the site "is one of the few remaining areas within Dumfries that has not been altered by significant commercial, industrial, and residential development, and therefore is one of the few remaining archaeological sites associated with the eighteenth-century town occupants". VDOT recommended this site as eligible for the NRHP based on Criteria D and proceeded with data recovery (i.e., Phase II).

The VDOT design team was able to avoid and minimize impacts to the two eligible properties. On April 25, 2019, VDHR concurred that the proposed project would have No Effect on the Williams Ordinary and No Adverse Effect on the newly identified archaeological site.

4.6 Section 4(f)/6(f)

Two public parks were identified in the 2003 EA as resources protected under Section 4(f) of the Department of Transportation (DOT) Act. Locust Shade Park is located to the south and outside of the proposed project limits. It was originally acquired by Prince William County from the federal government

under the Federal Lands to Parks program. Portions of the park land were developed for recreational uses with Land and Water Conservation funds (Section 6(f), Land and Water Conservation Fund Act). Cecil W. Garrison Park is the other park identified in the EA and located within the limits of the proposed project. The EA did not discuss Section 4(f) in the context of impacts to historical resources, only public parks.

The widening and construction of a new bridge over Quantico Creek requires encroachment into Cecil W. Garrison Park property. However, the encroachment is associated with an unusable section of the park due to the orientation of Quantico Creek. As a result, VDOT received preliminary concurrence for a Section 4(f) *de minimis* impact from the Town of Dumfries in October, 2018. After the public has a chance to review and provide comments on this reevaluation, VDOT intends to request a final concurrence from the Town of Dumfries and coordinate with FHWA for a Section 4(f) *de minimis* impact finding.

The historical properties identified above (see 4.5 – Cultural Resources) did not require coordination under Section 4(f). The design team was able to avoid impacts to the Williams Ordinary thus; there is no Section 4(f) use. The newly discovered archaeological site was determined to have minimal value for preservation in place and was not considered a Section 4(f) resource.

4.7 Air Quality

The EA stated that the project was not supposed to be a major source of air pollution and it was determined that a detailed technical analysis was unnecessary. Instead, a simplified procedure was used to estimate carbon monoxide (CO) concentrations at selected sites along the project corridor. CO is the predominant pollutant emitted from gasoline powered cars traveling along highways and roadways. The results found peak one hour and average eight-hour CO concentrations well below the National Ambient Air Quality Standards (NAQS) for all situations analyzed.

Other air pollutants (e.g., ozone and nitrogen oxides) are mentioned in the EA as being reviewed and evaluated on a regional scale through the State Implementation Plan (SIP) and conformity processes. The project is located in a designated nonattainment area for ozone. The project was included in the conformity analysis for The National Capital Region Transportation Planning Board's *2002 Update on the Financially Constrained Long-Range Transportation Plan for the National Capital Region* (CLRP), and the FY 2003-2008 Transportation Improvement Program (TIP), which were found to conform to the SIP on October 30, 2002.

The proposed project continues to be of minimal impact on air quality. The project was included in the MWCOG Visualize 2045 long range transportation plan for the National Capital Region and FY 2019-2024 TIP approved by FHWA on October 17, 2018. A summary of the relevant air pollutants is as follows:

- Carbon Monoxide - This project is located in a CO attainment area. The design year 24 hour forecasted traffic for Route 1 of 49,000 vehicles per day does not exceed the thresholds contained in VDOT's Project Level Carbon Monoxide Air Quality Studies Agreement with FHWA, dated February 27, 2009, and therefore does not require a project level CO air quality analysis.

- Ozone - This project is located in an 8-hour ozone nonattainment area and a Volatile Organic Compounds (VOCs) and Nitrogen Oxide (NO_x) Emission Control Area. All reasonable precautions should be taken to limit VOCs and NO_x emissions. Restrictions and prohibitions may apply to open burning, fugitive dust, and the use of cutback asphalt, particularly during the months of April through October.
- Particulate Matter (PM_{2.5}) - This project is located within a PM_{2.5} maintenance area. No further analysis of PM_{2.5} is required to assess whether the project would cause or contribute to any new localized PM_{2.5} violations, increase the frequency or severity of any existing violations, or delay attainment of the PM_{2.5} National Ambient Air Quality Standards, as it was not found to be a “project of air quality concern” under 40 CFR 91.123(b)(1).
- Mobile Source Air Toxics (MSAT) - While it is possible that localized increases in MSAT emissions may occur as a result of this project, emissions would likely be lower than present levels in the design year of this project as a result of EPA's national control programs that are projected to reduce annual MSAT emissions by over 80 percent between 2010 and 2050. Although local conditions may differ from these national projections in terms of fleet mix and turnover, VMT growth rates, and local control measures, the magnitude of the EPA projected reductions is so great (even after accounting for VMT growth) that MSAT emissions in the study area are likely to be lower in the future in nearly all cases.

4.8 Noise Impacts

The EA identified several noise sensitive areas (NSA) along the project corridor in Dumfries. Noise receivers in NSA F, G, and H would not be impacted by the project. However, one receiver representing a single family home in NSA I would be impacted by the project. A noise barrier was considered for this location, but was eliminated from further evaluation because it would block access to Route 1.

Land uses evaluated for noise impact associated with the proposed project included single- and multi-family residential areas, recreation areas associated with a school and a church, and the school and church interiors. Traffic noise projections are preliminary and will be reevaluated during the final design noise analysis. Noise abatement is considered to be warranted for all receptors where future build case noise impact has been predicted. However, no noise impact is predicted at sensitive receptors in the design year 2043 Build condition. Therefore, no noise abatement measures have been considered or evaluated.

4.9 Natural Resources

Federal and State wildlife agencies, US Fish and Wildlife Service (USFWS) and Virginia Department of Game and Inland Fisheries (VDGIF) respectively, were coordinated with during preparation of the EA to determine whether the Route 1 Improvements – Project A would have any effect on protected wildlife. A survey was conducted for the federally protected small whorled pogonia (*Isotria medioloides*) but none were found. Both the USFWS and VDGIF determined there is no potential for occurrences of federally listed species or their critical habitat. The Virginia Department of Conservation and Recreation's (VDCR) Virginia Division of Natural Heritage (VDNH) requested that all stream corridors within the

Route 1 Improvements – Project A footprint be surveyed for the state protected wood turtle (*Clemmys insculpta*); none were observed.

A review of the USFWS and VDGIF databases for protected resources did not identify either the small whorled pogonia or the wood turtle as species that might occur in or adjacent to the proposed project. The USFWS database search identified the northern long-eared bat (*Myotis septentrionalis*) and harperella (*Ptilimnium nodosum*) as two federally protected species whose habitat requirements should be assessed within the proposed project limits. In addition, the VDGIF database search identified bald eagle (*Haliaeetus Leucocephalus*), anadromous fishes, and the brook floater (*Alasmidonta varicosa*) as protected resources that should be addressed. The bald eagle nests and concentration area are located far enough outside the project footprint that they should not be a concern. However, the largest stream crossing within the project is Quantico Creek, which may support anadromous fishes and brook floater. These two resources will be further evaluated and coordinated as the design progresses and impacts to Quantico Creek are better defined. A survey for brook floater may be necessary to determine whether any time of year restrictions (TOYR) for in stream construction activities should be imposed.

Fish were not specifically addressed in the EA. However, a review of VDOT's GIS Integrator, which contains data from the VDGIF indicated that Quantico Creek is utilized by anadromous fishes: alewife (*Alosa pseudoharengus*), blueback herring (*A. aestivalis*), American shad (*A. sapidissima*), hickory shad (*A. mediocris*), striped bass (*Morone americana*), and some populations of yellow perch (*Perca flavescens*). The area designated as anadromous fish use extends from the Potomac River up Quantico Creek and west of I-95. A time of year restriction (TOYR) for in stream work may be imposed by the regulatory agencies. This will be addressed during the permit coordination and acquisition phase.

Five named streams were identified in the EA. Only one (Quantico Creek) and associated tributaries are found within the proposed project limits. Avoidance and minimization of construction related impacts to all streams within the proposed project footprint are currently being evaluated. However, total avoidance of impacts is unlikely with this being a widening project along an existing and established road corridor. A conservative estimate is approximately 1,400 linear feet of stream impact associated with the project compared to the 5,065 to 5,925 linear feet identified in the EA.

Palustrine forested (PFO), palustrine emergent (PEM), and palustrine scrub-shrub (PSS) wetlands are discussed in the EA, which identifies wetland impacts ranging from 2.39 to 3.76 acres. As discussed above, avoidance and minimization of impacts to streams and wetlands are being evaluated. A conservative estimate of wetland impacts associated with the proposed project is approximately 3 acres. This estimate of wetland impacts falls within the range of impacts identified in the EA. The crossing with the greatest potential to impact wetlands is Quantico Creek where a substantial wetland system runs along the toe of the western embankment for the northbound lane. This wetland system alone could potentially account for over 1 acre of wetland impacts.

Submerged Aquatic Vegetation (SAV) was not mentioned in the EA but does not appear to be a concern for the proposed project. The VDOT GIS Integrator indicates that the lower end of Quantico Creek, near the Potomac River, may support SAV. However, this area is located approximately 1.25 river miles downstream of the RTE 1 Quantico Creek Bridge.

4.10 Floodplains

A number of floodplains are crossed by Route 1 within the 11.4 mile corridor investigated in the EA. The EA determined that "...no significant effects on natural and beneficial floodplain values are expected to result from the proposed improvements. The project would not measurably increase flood levels or the risks of flooding, and would not introduce incompatible floodplain development."

The only floodplain within the proposed project is associated with Quantico Creek. The FEMA FIRM Map shows that a significant amount of overtopping occurs on the bridge and northern road/left overbank area and extends up to 1000 ft. from the left abutment. Therefore, the associated weir flow is an important component of the overall hydraulic capacity of the existing crossing. In such a case, raising the road profile would have the potential to increase backwater unless additional capacity is provided in the bridge waterway to compensate for the lost roadway overtopping flow capacity.

Hydraulic analyses were conducted using the advanced SRH-2D model with the Surface-Water Modeling System (SMS) graphical interface to simulate flows around the existing and proposed bridge structure. The two-dimensional model is capable of providing more realistic hydraulic results and avoids many of the assumptions required by one-dimensional models such as HEC-RAS. The 2D model was determined appropriate for the proposed project because of the complex flow pattern upstream, road geometry and overtopping.

4.11 Hazardous Materials

Specific locations of hazardous materials were not described in the EA. Instead, the EA mentioned the corridor contained sites potentially containing hazardous materials such as gas stations. The EA determined there were no Superfund or National Priority List hazardous waste sites within the project corridor, as well as no open cases of leaking underground storage tanks (LUST) identified in the Virginia Department of Environmental Quality's database.

A Phase I Environmental Site Assessment (ESA) was conducted for the proposed project, which identified 12 recognized environmental conditions (RECs). A Phase II ESA was conducted with the findings organizing the 12 RECs into 3 groups based on their level of risk for right of way acquisition. Group 1 had six properties, Group 2 had three properties and Group 3, which contains the highest risk, had three properties. Of the three properties associated with Group 3, two (Parcel #005-Triangle Service Center and Parcel #080-Cropper Auto Care) contain concentrations of total petroleum hydrocarbon (TPH) in the soil above the Commonwealth of Virginia Regulatory Limit. The State of Virginia Regulatory Limit for TPH at an underground storage tank site is 100 milligram per kilogram (mg/kg). It is common practice for the Virginia Department of Environmental (DEQ) to impose additional compliance investigations (e.g. site characterizations) and/or site cleanup. Similarly, dissolved TPH concentration of 1 milligram per liter (mg/l) in groundwater at an underground storage tank (UST) site must also be reported to VA DEQ. Of the two properties over the 100 mg/kg threshold, only one (Parcel #080) would be impacted by project construction. Additional coordination with the property owners and DEQ is required before VDOT has completed its hazardous materials due diligence. However, this is all a fairly routine process that typically occurs during the right of way and construction phases.

5. PUBLIC INVOLVEMENT AND COORDINATION

A Design Public Hearing (DPH) was held on October 18, 2018 at Dumfries Elementary School, 3990 Cameron Street, Dumfries, VA 22026. Approximately 135 members of the public attended the hearing. The meeting presentation included highlights of current status of this EA Reevaluation and stated the public will have the opportunity to review and comment when the document is approved for public availability by FHWA; the meeting presentation was also posted onto the project's website.

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APPENDIX A
ENVIRONMENTAL ASSESSMENT

APPENDIX B
FINDING OF NO SIGNIFICANT IMPACT

APPENDIX C
CULTURAL RESOURCES COORDINATION

APPENDIX D
SECTION 4(f) COORDINATION

APPENDIX E
AIR QUALITY ANALYSIS

**APPENDIX F
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APPENDIX G
HAZARDOUS MATERIALS INVESTIGATION REPORTS

APPENDIX H
NATURAL RESOURCES COORDINATION