

# HAZARDOUS MATERIALS ASSESSMENT

## RICHMOND HIGHWAY (ROUTE 1) CORRIDOR IMPROVEMENTS PROJECT BETWEEN JEFF TODD WAY AND NAPPER ROAD FAIRFAX COUNTY



Prepared in support of the Draft Environmental Assessment



VDOT Project #: 0001-029-205, C501, P101, R201

UPC#: 107187

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## EXECUTIVE SUMMARY

Rummel, Klepper & Kahl, LLP (RK&K), on behalf of the Virginia Department of Transportation (VDOT) and in cooperation with the Federal Highway Administration (FHWA), performed this Hazardous Materials Environmental Assessment (HMA) for the Richmond Highway Corridor Improvements (Route 1) Project located in the unincorporated areas of Mount Vernon, Woodlawn and Hybla Valley in eastern Fairfax County, Virginia. The proposed 2.9-mile long improvement Study Area follows Route 1 from southwest of the intersection with Mt. Vernon Memorial Highway/Jeff Todd Way to northeast of the intersection with Sherwood Hall Lane (the Study Area, see **Figure 1-1**). This HMA investigation area covers parcels within a radius of approximately 1-mile surrounding the Study Area. The proposed corridor improvements include vehicular and pedestrian safety enhancements and modifications to improve traffic flow through the area.

### SYNOPSIS

Publicly available records concerning sites with potential environmental liabilities near the subject Richmond Highway Improvement Study Area in Fairfax County, Virginia were reviewed for this report. The assessment identified potential sites of concern based on a database search of regulatory files for facilities that may have generated, used, stored, or disposed of petroleum products or potentially hazardous materials. Each listed site was assessed for its potential hazardous-material risk to the Study Area based on the nature of the contamination, topographic location relative to the Study Area, proximity to the proposed project limits of disturbance, current or historical site activities and the potential for contaminants or hazardous materials associated with these activities to be mobilized during project construction.

### CONCLUSIONS

Nineteen properties were identified with high or moderate contaminant risks and are listed in **Table 5-1**. These sites represent a risk of potential contaminant impacts that could migrate from the parcel and intersect the project limits of disturbance. Additional sampling investigations are recommended for those locations where subsurface disturbance may intersect soils or groundwater potentially impacted by the identified sites or where full or partial property takes are anticipated.

Due to the number of potential sites of concern identified along Richmond Highway in the Study Area, it is also recommended that the selected contractor prepare and implement Health and Safety plans that comply with OSHA 1910.120 for onsite workers, as the potential exists that volatile organic compounds could accumulate in deeper excavations. Further, VDOT may consider including Special Provisions in the bid documents for the management of contaminated media should it be encountered during construction. These provisions should require the immediate notification of project personnel if such conditions are identified to insure the appropriate safe handling, management, and reporting of impacted material.

## 1. INTRODUCTION

### 1.1 PROJECT DESCRIPTION

The Virginia Department of Transportation (VDOT), in cooperation with the Federal Highway Administration (FHWA), is preparing an Environmental Assessment (EA) for the Richmond Highway (Route 1) Corridor Improvements Project between Jeff Todd Way and Napper Road. Improvements are proposed for an approximate 2.9-mile section of Richmond Highway between Route 235 (Mount Vernon Memorial Highway – South) to 0.07 miles north of Route 235 (Mount Vernon Highway – North) at Napper Road. The environmental Study Area extends a little further north along the Richmond Highway to Sherwood Hall Lane (**Figure 1-1**). The EA is being prepared in accordance with the National Environmental Policy Act (NEPA), FHWA regulations at 23 Code of Federal Regulations (CFR) § 771 and Technical Advisory T 6640.8, and Council on Environmental Quality (CEQ) guidance at 40 CFR § 1500 - 1508.

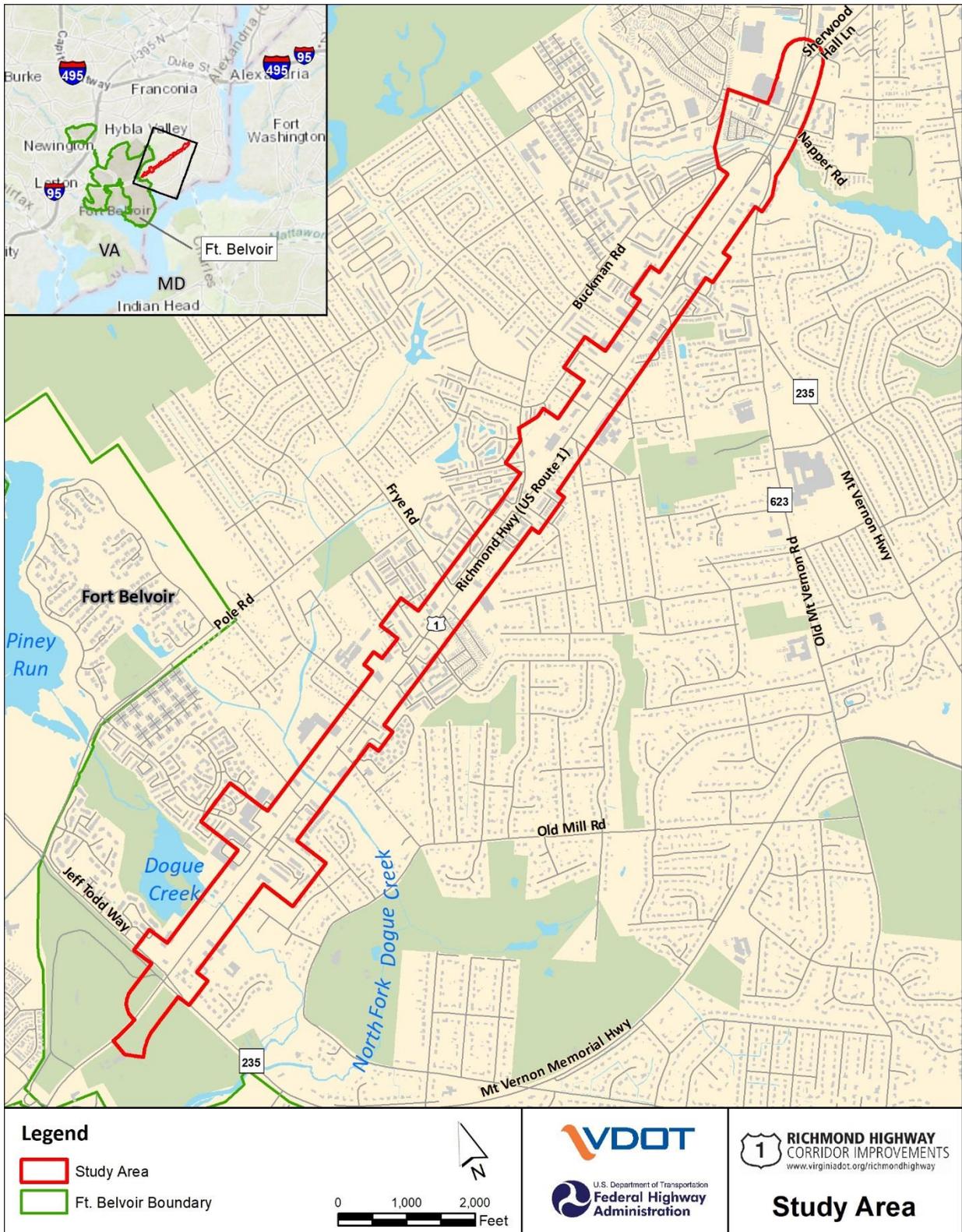
Based on historical connections to the state capital in Richmond, Route 1 is also known as the "Richmond Highway". Richmond Highway is the principal north-south route for local traffic in eastern Fairfax County for shopping and other general-purpose trips, and serves as a major commuter route and an alternate north-south route for nearby Interstate 95 (I-95). The section of Richmond Highway evaluated in the EA is in the southeast portion of Fairfax County between Hybla Valley to the north and Fort Belvoir to the south.

Richmond Highway on either side of the Study Area has six general purpose lanes (**Figure 1-2**). Beginning at the southwest end of the current Study Area at the Mount Vernon Memorial Highway (VA 235)/Jeff Todd Way intersection, a construction project is underway that widens Richmond Highway to six lanes, extending 3.68 miles south through Fort Belvoir and ending at Telegraph Road. Richmond Highway has also been previously widened to six lanes northbound from approximately the Ladson Lane intersection in the Northern Study Area, north to I-95/I-495.

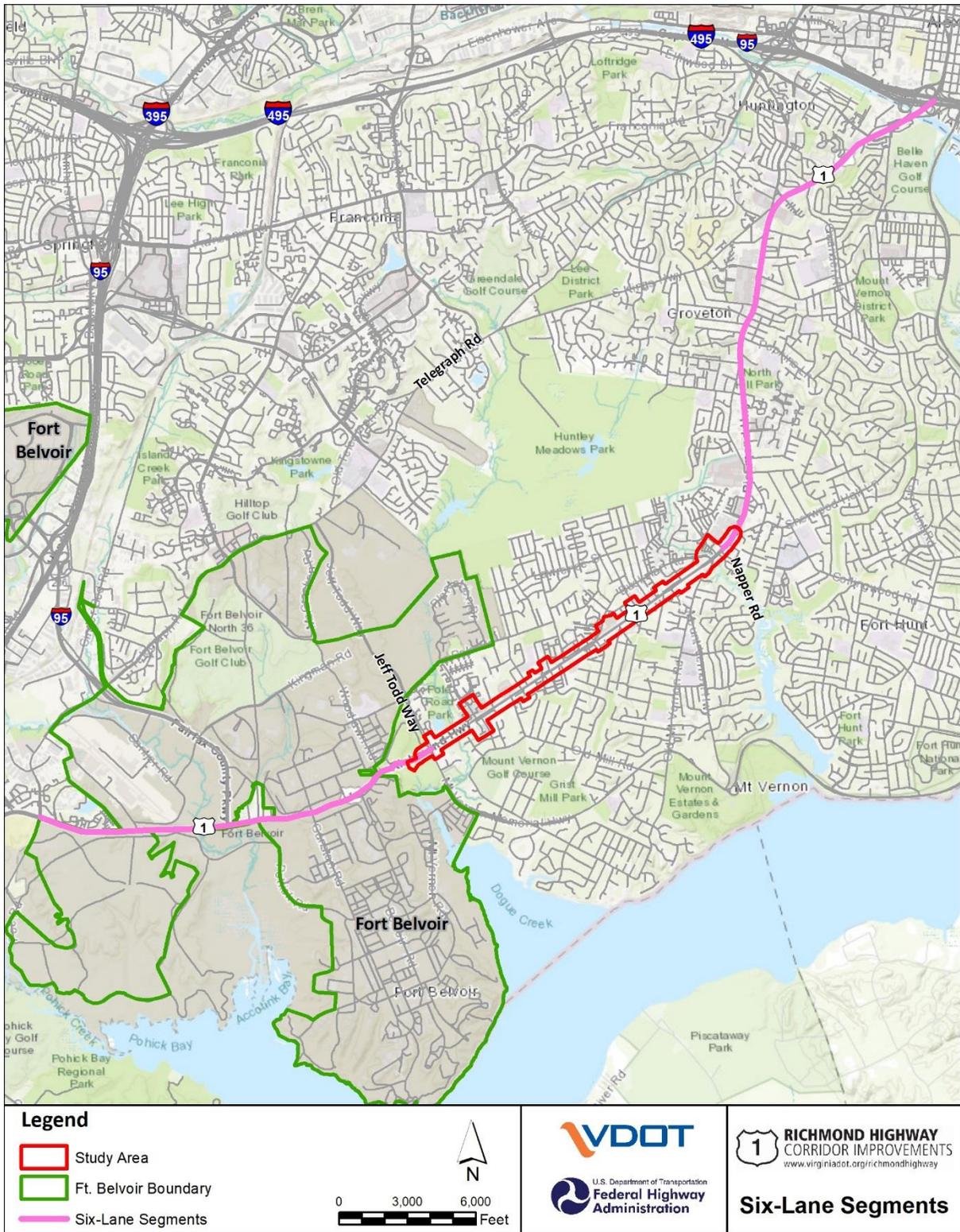
The hazardous materials portion of the EA evaluates current and historical environmental concerns from contaminants or hazardous materials that could be mobilized during construction of the corridor improvements. The Hazardous Materials Assessment (HMA) excludes any determination of the source or extents of impact within the Study Area due to the release of contaminants into the soil, air or groundwater. The HMA includes a review of readily accessible records concerning properties within 1-mile of the approximately 2.9-mile long Study Area.

The HMA was performed in accordance with the requirements of the Council on Environmental Quality (CEQ) regulation Section 1508.9, Environmental Assessment, as required by NEPA. The HMA also evaluated current site conditions, with respect to potential soil or groundwater impacts from petroleum products or other hazardous substances. Business environmental risk evaluations and intrusive exploratory work, such as soil or groundwater sampling and laboratory analysis, are not included within the scope of a NEPA assessment. The HMA examines the historical and current uses of properties within and surrounding the Study Area to determine if implementation of the Build Alternative risks potentially mobilizing contamination and expose workers and/or the public to additional risk.

**Figure 1-1: Richmond Highway Study Area**



**Figure 1-2: Richmond Highway Six-Lane Segments Adjacent to Study Area**



## 1.2 PURPOSE AND NEED

The Richmond Highway Corridor Improvements EA will address the following purpose and needs:

- Accommodate Travel Demand – better accommodate existing and future travel demand at peak travel hours, reducing congestion and increasing corridor accessibility and mobility (including Bus Rapid Transit (BRT) implementation based on the Department of Rail and Public Transportation (DRPT) Multimodal Study and Fairfax County Board of Supervisors Resolution)
- Improve Safety - implement access control; provide adequately spaced signalized intersections; provide turn lanes where needed; improve structures at natural stream crossings; and enhance pedestrian and bicycle facilities

## 1.3 ALTERNATIVES

### 1.3.1 No-Build Alternative

The No-Build Alternative includes continued road maintenance and repairs of existing transportation infrastructure within the Study Area. The Metropolitan Washington Council of Governments (MWCOC) Transportation Improvement Program does not have any planned improvement projects listed for Richmond Highway within the Study Area. The MWCOC Constrained Long-Range Plan includes the current study for widening Richmond Highway, and the separate study of future BRT in the Richmond Highway median from the Huntington Metro Station approximately 3.5 miles north of the Study Area, continuing approximately 8 miles south to the Woodbridge Virginia Railway Express Station, consistent with the DRPT Multimodal Study / Fairfax County Board of Supervisors Resolution. For the purposes of this study, the No-Build Alternative does not include either proposed project. The No-Build Alternative serves as the baseline against which the potential environmental effects of the Build Alternative are compared.

### 1.3.2 Build Alternative

The Build Alternative is generated from the 2015 *US Route 1 Multimodal Alternatives Analysis* Locally Preferred Alternative (Alternative 4 BRT / Metrorail Hybrid) selected by Fairfax County and the Department of Rail and Public Transportation (DRPT). The identified Build Alternative is to widen Richmond Highway from a four-lane undivided roadway to divided six-lane facility with bicycle and pedestrian accommodations, and a median wide enough to accommodate BRT as called for in the DRPT Multimodal Study / Fairfax County Board of Supervisors Resolution. The median would be maintained as a grass strip until the implementation of the BRT.

## 1.4 DETAILED SCOPE OF SERVICES

Both federal and state environmental databases were reviewed for potential concerns within a 1-mile radius of the Richmond Highway in the Study Area. Investigation activities included searches of:

- An Environmental Data Resources, Inc. (EDR) Corridor Report of publicly listed facilities of environmental significance (see **Appendix F**);
- The US Environmental Protection Agency (USEPA) internet-based databases, Envirofacts and NEPAassist, listing:
  - Superfund sites;
  - Brownfields and Assessment, Cleanup and Redevelopment Exchange System (ACRES) sites;
  - Hazardous waste operators and generators;

- Toxic compound releases/transfers; and
- Resource Conservation and Recovery Act (RCRA) corrective action sites.
- The Virginia Department of Environmental Quality (VDEQ) internet-based database, Virginia Environmental Geographic Information Systems (VEGIS), listing:
  - Petroleum releases;
  - Petroleum facilities;
  - Virginia Pollutant Discharge Elimination System (VPDES) sites;
  - RCRA Corrective Action sites; and
  - Solid waste facilities.

### 1.5 SIGNIFICANT ASSUMPTIONS

This HMA was prepared using information obtained from and/or provided by the following sources:

- Regulatory database searches,
- Visual inspection of the Study Area,
- Available published information,
- Local and state government officials.

For purposes of this report, the information obtained through the listed methods is assumed valid and accurate as provided. The completeness or accuracy of the information provided by others has not been verified by this study. Changes at the subject site over time, the manifestation of latent conditions or changes to existing codes and regulations may alter the conclusions and recommendations of this report. If additional information becomes available that may affect these conclusions and recommendations, such information will be reviewed the report modified accordingly.

Due to the generally flat topography within the Study Area and limited foundation requirements for the installation of corridor improvements, subsurface excavations are not anticipated to intersect the groundwater table. The full construction design of the corridor improvements or anticipated depths of excavation are unknown at the time of this assessment.

### 1.6 LIMITATIONS AND EXCEPTIONS

Based upon the scope-of-services, the HMA did not include subsurface or other invasive assessments, business environmental risk evaluations, or other services not identified. Information obtained for the HMA was received from sources that were believed to be reliable; nonetheless, the authenticity or reliability of these sources cannot be warranted.

Including the limitations inherent in various sections of the NEPA Assessment protocol, the completeness and accuracy of this HMA report is specifically limited by the following:

- The interior of any structures on the investigated properties were not inspected;
- All site reconnaissance was performed from public rights-of-way; and
- Interviews with personnel knowledgeable of the site conditions or site history were not performed.

### 1.7 SPECIAL TERMS AND CONDITIONS

The assessment was conducted in accordance with generally accepted environmental standards. No other warranty, expressed or implied, is made.

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## 2. SITE DESCRIPTION AND PHYSICAL SETTING

### 2.1 LOCATION AND LEGAL DESCRIPTION

The Study Area consists of lands surrounding the proposed project improvements, including both parcels directly adjacent to Richmond Highway and the intersecting roadways, as well as parcels within 1-mile of the Study Area to ensure the potential for off-site contaminant migration plumes are included in the assessment.

This section of Richmond Highway is generally urbanized by business/retail use with some residential use. Adjacent and nearby land uses include former and/or existing petroleum retail facilities and dry cleaners, and the resulting potential for soil or groundwater contamination. Three stream crossing locations intersect the Study Area, including, Little Hunting Creek, Dogue Creek and the North Fork of Dogue Creek.

### 2.2 PHYSICAL SETTING

The Study Area is in the transition zone between the northern and southern climate zones of the United States. In this zone, average winter temperatures recorded as degrees' Fahrenheit range from the 20s to the 40s, and average summer temperatures range from the low 60s to the upper 80s. October usually brings the first frost, and the last freezing temperatures occur during April.

Average annual precipitation is 37-inches, with most rainfall occurring during the summer months when low-pressure systems move up the East Coast of the United States. Snowfalls of 3-inches or more occur approximately two to three times per year. The prevailing winds in the area come from the southwest during the summer and the northwest during the winter but in the immediate vicinity of the Study Area the winds typically come from the north/northwest.

#### 2.2.1 Topography

Most of the general area in the Mount Vernon vicinity is flat to gently rolling, with steep slopes bordering the Potomac River and forming the valley sides of the short streams that flow into Dogue Creek, Little Hunting Creek, and the Potomac River. Local topographic high points include a ridge line northeast of the Study Area past Woodley Hills and a smaller rise south of the Study Area around Woodley Hills Park. The northeastern portion of the Study Area drains toward the topographic low of Little Hunting Creek, with a slight topographic divide at the intersection of Richmond Highway and Shannons Green Way. Southwest of Shannons Green Way, topography generally decreases to the southwest in the direction of the North Fork and primary channel of Dogue Creek. The southern portion of the Study Area is relatively flat, while the northern portion can be characterized by gently rolling hills.

#### 2.2.2 Geology

The Study Area lies on the Atlantic Coastal Plain in Fairfax County, Virginia, which consists of a wedge of unconsolidated sediments containing lenticular deposits of inter-bedded sand, silt, clay and gravel of non-marine, fluvial origin. A northeast trendline, roughly paralleling I-95, is the physiographic boundary separating the Piedmont province to the west from the Atlantic Coastal Plain province. Foliated metamorphic and igneous rocks of Precambrian and early Paleozoic strata dip to the southeast from the trendline at an approximate 2 percent slope. Saprolite, usually a residual clay-rich material derived by the chemical weathering of the crystalline bedrock and retaining the structure and fabric of the bedrock, is typically about 16 to 32-feet thick below the Coastal Plain sediments.

Unconsolidated and poorly consolidated sediments of the Coastal Plain are part of a sedimentary wedge that thickens eastward from the trendline to more than 656-feet thick at the Potomac River. There is little evidence of structural disturbance (i.e., no important folds, faults, or joint systems) near the Study Area. The area is in Seismic Zone I, which is a zone of low seismic activity (USDA, 1963).

### 2.2.3 Soils

Per the USDA Web Soil Survey (see **Appendix A**), soils within the Study Area are composed of a mix of Urban land, Grist Mill-Mattapan complex, and Kingsville-Beltsville complex. The US Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) describes the soils as the following (USDA, 1963):

The soil directly under the Study Area is mapped as Urban Land. Urban land occurs in industrial and residential areas. Most areas are on uplands, but some are on terraces and flood plains. Urban structures and works obscure the land, and identification of the soils is not practical. In many places the activities of man have destroyed the original soil profile, but in many scattered areas the soils remain intact.

The Grist Mill-Mattapex series consists of deep, moderately well drained, medium-textured soils of the lower Coastal Plain. The texture of the surface layer is silt loam, loam, and very fine sandy loam; that of the subsoil is heavy sandy clay loam, clay loam, heavy clay loam, and silty clay loam. The parent material consists of strata of sand, silt, and clay, mostly sandy loam, clay loam, and silty clay loam with sand in some areas. The color of the subsoil ranges from yellowish brown to olive brown. It is very strongly to strongly acid throughout. Runoff is medium to slow; internal drainage is slow. The surface layer is rapidly permeable; the subsoil, moderately slowly to slowly permeable. Workability and productivity are good; conservability is very good.

The Kingsville-Beltsville complex consists of light-colored, somewhat poorly drained to moderately well drained soils that have developed from Coastal Plain sand, silt, and clay. The subsoil is strong-brown silty clay loam and has a fragipan at a depth ranging from 16 to 28-inches. The soils have very gently undulating slopes, and they are mostly on wide Coastal Plain terraces. Some are on ridges of the northern Piedmont Upland. The texture of the surface soil ranges from heavy silt loam to very fine sandy loam. The subsoil to this depth is light silty clay loam to light silty clay. It is very strongly to strongly acid and is low in supplies of organic matter and natural plant nutrients. The surface layer is moderately rapidly permeable; the subsoil moderately permeable. Runoff is medium to slow; internal drainage is very slow. The fragipan, however, is very nearly impermeable, and in wet seasons the soil above the pan soon becomes filled with water, which stays in the soil for long periods after heavy rains.

## 2.3 SITE AND VICINITY GENERAL CHARACTERISTICS

The Study Area is a northeast-to-southwest commercial artery in Fairfax County, Virginia, with numerous adjacent retail and commercial buildings along either side of the right-of-way. At the northeast end of the Study Area, Richmond Highway curves to the north. The Study Area primarily crosses through Atlantic coastal highlands, and three streams: Little Hunting Creek, the North Fork of Dogue Creek and Dogue Creek. Numerous residential streets branch off Richmond Highway, with major traffic light controlled intersections at Sherwood Hall Lane, Ladson Lane, Buckman Road/Mount Vernon Highway, Janna Lee Avenue, Reddick Avenue/Russell Road, Mohawk Lane, Buckman Road, Frye Road, Lukens Lane, Sacramento Drive and Jeff Todd Way/Mount Vernon Highway. The side streets typically lead to residential areas.

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### 3. RECORDS REVIEW

#### 3.1 STANDARD ENVIRONMENTAL RECORD SOURCES

The results of the federal and state regulatory database listing review for contaminated and hazardous waste, including handling, storage, disposal or release sites within 1-mile of the Study Area; were compiled and evaluated for the potential for additional mobilization or exposure due to project construction. Based on the available information, the sites were ranked from low to high priority using the following prioritization criteria:

Not Included:

- Site is >0.5 miles from the alignment; or
- Site has no history of contamination or spills; and
- Site is down or cross gradient and >500 feet from the alignment.

Low Priority:

- Site has no history of contamination or spills; and
- Virginia Department of Environmental Quality (VDEQ) cases are closed with good information on cleanup; and
- Site is down or cross gradient and >250 feet but <500 feet from the alignment; or
- Site is a low quantity generator; or
- Site has single heating oil or <550-gallon historical or operable Underground Storage Tank (UST) installed after 1980 with no history of release; or
- Site has undergone significant redevelopment as a non-petroleum/hazardous waste handling site.

Moderate Priority:

- Site has history of contamination, dumping and/or spills; and
- VDEQ cases are closed with insufficient information regarding resolution; and
- Site is >500 feet up gradient of the alignment; or
- Site is down or cross gradient and >100 feet but <250 feet from the alignment; or
- Site is only listed as historical dry cleaner or gasoline/auto station; or
- Site is a large quantity generator; or
- Site has multiple historical or operable USTs; or
- Hazardous waste disposal or storage onsite; or
- Violation notices.

High Priority:

- Site has history of contamination, dumping and/or spills; and
- VDEQ cases are open; and
- Site is <500 feet up gradient of the alignment; or
- Site is down or cross gradient and <100 feet from the alignment; or
- Site has multiple historical or operable USTs; or
- Voluntary Cleanup Fund (VCP) or Superfund site.

Using these criteria, the sites of concern were identified, detailed in the following tables. The locations of the identified sites of concern are presented in **Figures 3-1** through **3-3** included in **Appendix B**.

### 3.1.1 Regulatory Databases

Federal and state environmental databases and records were reviewed to evaluate potential environmental incidents impacting the subject property and identify properties with environmental liabilities in the Study Area. The federal and state regulatory databases have been researched and reported in accordance with the search radii specified by ASTM Standard E 1527-13. A detailed summary of the federal and state database search is presented in the following sections.

Standard and additional federal regulatory databases reviewed included:

**Table 3-1: Databases With Identified Search Results:**

Database	Definition
RCRA-LQG	Resource Conservation and Recovery Act – Large Quantity Generators
RCRA-SQG	RCRA – Small Quantity Generator
RCRA-CESQG	RCRA – Conditionally Exempt Small Quantity Generators
RCRA-NonGen	RCRA – Non Generators
ERNS	Emergency Response Notification System
DOD	Department of Defense Sites
ICIS	Integrated Compliance Information System
FINDS	The Facility Index System
ECHO	Enforcement and Compliance History Online
US AIRS	Aerometric Information Retrieval System Facility Subsystem
VA LUST	The Virginia Leaking Underground Storage Tank database
VA LTANKS	The Virginia Leaking Tanks database
VA UST	The Virginia registered Underground Storage Tank database
NJ MANIFEST	Hazardous waste manifest information
PA MANIFEST	Hazardous waste manifest information
VA SPILLS	The Pollution Response Program database of air, water and waste pollution incidents
VA ENG CONTROLS	Sites with engineering controls in place
VA VCP	The Virginia Voluntary Remediation Program database
VA DRYCLEANERS	EDR listing of registered drycleaners
VA TIER 2	Facilities that store or manufacture hazardous materials
EDR Hist Auto	Business directory search for potential historical gas and service station sites
EDR Hist Cleaner	Business directory search for potential historical drycleaners
VA RGA LUST	EDR listing of recovered LUST incidents

**Table 3-2: Databases With No Identified Search Results, Federal:**

<b>Database</b>	<b>Definition</b>
NPL	National Priority List
Proposed NPL	Proposed National Priority List Sites
Delisted NPL	National Priority List Deletions
NPL LIENS	Federal Superfund Liens
SEMS	Superfund Enterprise Management System
SEMS-ARCHIVE	Superfund Enterprise Management System Archive
LIENS 2	CERCLA Lien Information
CORRACTS	Corrective Action Report
RCRA-TSDF	RCRA – Treatment, Storage and Disposal
US ENG CONTROLS	Engineering Controls Sites List
US INST CONTROL	Sites with Institutional Controls
HMIRS	Hazardous Materials Information Reporting System
DOT OPS	Incident and Accident Data
US CDL	National Clandestine Laboratory Register
US BROWNFIELDS	A Listing of Brownfields Sites
FUDS	Formerly Used Defense Sites
LUCIS	Land Use Control Information System
CONSENT	Superfund (CERCLA) Consent Decrees
ROD	Records Of Decision
UMTRA	Uranium Mill Tailings Sites
DEBRIS REGION 9	Torres Martinez Reservation Illegal Dump Site Locations
ODI	Open Dump Inventory
US MINES	Mines Master Index File
TRIS	Toxic Chemical Release Inventory System
TSCA	Toxic Substances Control Act
FTTS	FIFRA/TSCA Tracking System – FIFRA (Federal Insecticide, Fungicide & Rodenticide Act)/ TSCA (Toxic Substances Control Act)
HIST FTTS	FIFRA/TSCA Tracking System Administrative Case Listing
SSTS	Section 7 Tracking Systems
PADS	PCB Activity Database System
MLTS	Material Licensing Tracking System
RADINFO	Radiation Information Database
RAATS	RCRA Administrative Action Tracking System
RMP	Risk Management Plans
COAL ASH DOE	Steam-Electric Plant Operation Data
UXO	Unexploded Ordnance Sites
FUSRAP	Formerly Utilized Sites Remedial Action Program
DOCKET HWC	Hazardous Waste Compliance Docket Listing
FUELS PROGRAM	EPA Fuels Program Registered Listing
FEMA UST	Underground Storage Tank Listing
FEDERAL FACILITY	Federal Facility Site Information listing

Database	Definition
LEAD SMELTERS	Lead Smelter Sites
2020 COR ACTION	2020 Corrective Action Program List
PRP	Potentially Responsible Parties
EPA WATCH LIST	EPA WATCH LIST
US FIN ASSUR	Financial Assurance Information
PCB TRANSFORMER	PCB Transformer Registration Database
COAL ASH EPA	Coal Combustion Residues Surface Impoundments List
US HIST CDL	Delisted National Clandestine Laboratory Register
SCRD DRYCLEANERS	State Coalition for Remediation of Drycleaners Listing

### 3.1.2 Adjacent Property Potential Environmental Concerns

Based on a review of the 644 property parcels within or adjacent to the proposed Build Alternative's limits of disturbance, the following 61 sites were given a priority ranking associated with the potential risk for mobilizing hazardous or contaminated substances during and after project construction.

**Table 3-3: Adjacent Property Potential Environmental Concerns**

Address	Site Listing	Records of Concern	Hazmat Ranking
7930 Audubon Avenue	Audubon Estates Mobile Home Park	VA SPILLS, VA UST, VA LTANKS	Low
7910 Richmond Highway	Walmart	RCRA-SQG	None
7940 Richmond Highway	Costco Wholesale	VA LTANKS, RCRA-LQG	None
7945 Richmond Highway	Natural Gas Accident	VA SPILLS	None
8000 Richmond Highway	Mr. Klean Carwash / former BP Service Station #7464	VA LTANKS, VA SPILLS	Moderate
8010 Richmond Highway	7-Eleven	VA SPILLS	None
8018 Richmond Highway	Harmony Place Trailer Park / Route 1 Auto Service & Towing	VA LUST	None
3420-3608 Buckman Road	Community Management Corp.	VA UST	None
8100 Richmond Highway	Kaplan Property	VA LTANKS, VA LUST, VA RGA LUST	Low
8158 Mount Vernon Highway	Mt Vernon Citgo/GT Automotive	Site Reconnaissance	Moderate
8130 Richmond Highway	M&B Automotive Service/Custom Transmission Service	VA UST	Low
8135 Richmond Highway	C&M Auto Machine Shop/White & Ramsey Auto Transmissions	EDR	Low
8143 Richmond Highway	Auto Driveaway, Inc.	EDR	Low
8145 Richmond Highway	Bargain Rent-A-Car	SPILLS, EDR	Moderate
8149 Richmond Highway	Mount Vernon Car Wash & Detailing	Site Reconnaissance	Low
8150 Richmond Highway	Action Automotive	VA LUST, VA LTANKS, EDR, RCRA-CESQG	Moderate

Address	Site Listing	Records of Concern	Hazmat Ranking
8153 Richmond Highway	Potomac Motors Auto Body Repair	EDR, RCRA-SQG, ECHO, US AIRS-Minor	Low
8156 Richmond Highway	Mobil / Citgo / Crown / Fast Fare	VA LUST, VA LTANKS, RCRA-SQG, SPILLS, EDR	High
8164B Richmond Highway	Meineke Discount Mufflers / Precision Tune	ERNS, VA SPILLS, FINDS, ECHO, RCRA Non-Gen	Low
8168 Richmond Highway	Barkley's Autobody & Paint Service	FINDS, ECHO	None
8173 Richmond Highway	Former Mount Vernon (Mt. Vee) Hotel	VA LUST, VA LTANKS, VA RGA LUST	Low
8228 Richmond Highway	Former Barnes Furniture	VA SPILLS (Tires)	None
8238 Richmond Highway	Former Davids Auto Repair	EDR	None
8244-8254 Richmond Highway	Rite Aid / Former Family Cleaner	RCRA-CESQG, EDR	None
8249 Richmond Highway	Former Mt. Vernon Radiator	RCRA-SQG	None
8263 Richmond Highway	BP / MJ United Auto / Mt. Vernon Amoco	VA LTANKS, VA TANKS, RCRA-SQG	High
8300 Richmond Highway	Mt Vernon Mobil / Sunoco / Conoco / Tosco	VA LUST, VA LTANKS, VA SPILLS, EDR, RGA LUST, RCRA-SGQ	High
8312 Richmond Highway	Former Engleside Car Care	FINDS, ECHO	None
8243 Gregory Drive	State Police Barracks	VA LUST	Low
8333 Richmond Highway	Islamic Saudi Academy	VA LTANKS, VA LUST, SPILLS	Moderate
8334 Richmond Highway	Mount Vernon Auto Clinic / Ponces Auto Repair / Autotek Services	EDR, SPILLS	Low
8350 Richmond Highway	South County Government Center / Verizon Wireless	RCRA-CESQG, FINDS,	None
8351 Richmond Highway	Former Mount Vernon NAPA Auto Parts	EDR	None
8365 Richmond Highway	Former Ploutis Painting Company	EDR	None
8453 Richmond Highway	Holly, Woods & Vines / former Apple House	VA LTANKS, VA LUST	Low
8457 Richmond Highway	Former DAM Garage / Manns Automotive, Inc.	EDR, RCRA NonGen	None
8500 Richmond Highway	Shell Station	VA LUST, VA LTANKS, RCRA NonGen, EDR	High
8510-8524 Richmond Highway	Crown Coin Op / Belvoir Auto / Snow White Cleaners	VA LUST, VA LTANKS, VA ENG CONTROLS, VA INST CONTROL, VA VCP (LUST), RCRA-NonGen	High

Address	Site Listing	Records of Concern	Hazmat Ranking
8539 Richmond Highway	Parking / Homes Oil Station 7	VA LTANKS	Low
8540 Richmond Highway	Jiffy Lube / Shell Service Station / Exxon / Superflo	VA LUST, VA LTANKS, EDR	Moderate
8541 Richmond Highway	Engleside Car Care / former Doran's Automotive	VA LTANKS, EDR	Moderate
8601 Richmond Highway	Griffon Plumbing & Heating, Inc.	VA UST	None
8620 Richmond Highway	Cyprus Heating & Air	VA SPILLS	Moderate
8623 Richmond Highway	Former Copelands Laundry & Dry Cleaners	EDR	Low
8628 Richmond Highway	Village Cleaners	EDR, RCRA-SQG	Low
8655 Richmond Highway	Route 1 Auto Body / Best Cleaners	US AIRS, EDR, RCRA-CESQG, FINDS; EDR	Low
8656 Richmond Highway	International Auto Body	EDR, RCRA-CESQG	None
8670 Richmond Highway	Ourisman Dodge	RCRA-NonGen	None
8689 Richmond Highway	Woodlawn Chevron / Charlie's Citgo	VA LUST, VA LTANKS	High
8727B Cooper Road	A OK Cleaners / Wing Stop	SPILLS, RCRA-NonGen	Low
8700 Richmond Highway	Super Cleaners / Sparkle Cleaners / Woodlawn Cleaners	VA VCP, VA INST CONTROL, RCRA-SQG, EDR	High
8796K Sacramento Drive	Sacramento Cleaners / Family Laundromat	FINDS, ECHO	Low
8806-8810 Pear Tree Village Court	Presto Valet / Pear Tree Village Center	VA Drycleaners, RCRA-CESQG, EDR, VRP, VA VCP	Moderate
8753 Richmond Highway	Former Esso Station	VA LTANKS	Low
8851 Richmond Highway	Woodlawn Shell / Texaco	VA LUST, VA LTANKS, VA RGA LUST, RCRA-NonGen	High
8853 Richmond Highway	Former Mt Vernon Auto Repair & Transmissions	EDR, RCRA-NonGen	Low
8856 Richmond Highway	USCIS Application Support Center / IMP Building	VA UST	None
8861 Richmond Highway	Exxon #2-5374	VA LUST, VA LTANKS, SPILLS, RCRA-SQG	High
5640 Mount Vernon Memorial Highway	Mt. Vernon Cleaners	EDR	Low
5630 Mount Vernon Memorial Highway	Crown / Woodlawn Auto Center	VA LUST, VA LTANKS, EDR	Moderate
8907 Richmond Highway	Fort Belvoir Undeveloped Parcel	VA SPILLS	Low

Source and notes: EDR, 2016; VDEQ petroleum registry; VDEQ RCRA sites. Green = Low Priority; Yellow= Moderate Priority; Red = High Priority sites.

### 3.1.3 Up-Gradient Property Potential Environmental Concerns

The following ten sites were identified as hydraulically up-gradient of the Build Alternative's impact limits.

**Table 3-4: Up-gradient Property Potential Environmental Concerns**

Address	Site Listing	Records of Concern	Hazmat Priority
7644 Richmond Highway	Mount Vernon Shopping Center	VA INST CONTROL, VA VCP	High
7800 Richmond Highway	Hybla Valley Center / Pep Boys Automotive / Cycle Sport	VA LTANKS, VA LUST, EDR, RCRA-CESQG	Low
7849 Richmond Highway	Former President Valley / Gum Springs Cleaners	RCRA-NonGen	None
7800 Belford Drive	Murraygate Village	VA LUST	Low
7866 Richmond Highway	Former Marshalls Cleaners & Coin-Op Laundry	EDR	None
3801 Buckman Road	Emmanuel Baptist Church	VA LTANKS	Low
7913 Martha Washington Street	Martha Washington Street Property	VA LTANKS	None
4301 Aspen Drive	Claudio Aguerriberry Residence	VA LUST, VA LTANKS	Low
8505 Highland Lane	Woodlawn Elementary School	VA LUST, VA LTANKS	Low
9910 Tracy Loop	Fort Belvoir	DOD	Low

Source and notes: EDR, 2016; VDEQ petroleum registry; VDEQ RCRA sites. Green = Low Priority; Red = High Priority sites.

### 3.1.4 Downgradient Property Potential Environmental Concerns

The following ten sites were identified as hydraulically downgradient of the Build Alternative's impact area.

**Table 3-5: Downgradient Property Potential Environmental Concerns**

Address	Site Listing	Records of Concern	Hazmat Priority
2920 Douglas Street	Emmett Cox & Mildred Copeland Residence	VA LTANKS	None
2814 Bass Court	Saunders Residence	VA LUST, VA LTANKS	None
3434 Little Hunting Creek Drive	Jose & Leah Tenorio Residence	VA LTANKS, VA LUST	None
8410 Old Mount Vernon Road	Riverside Elementary School	VA LTANKS	None
4306 Laurel Road	Christian Relief Services of Virginia	VA LTANKS	None
4324 Jackson Place	Patricia Bonner Residence	LTANKS	None
8813 Oak Leaf Drive	John Stevens Residence	VA LTANKS	None

Address	Site Listing	Records of Concern	Hazmat Priority
8708 Lea Lane	Candice Murray Residence	LTANKS	None
8701 Lukens Lane	EMTA Fire Station Co No. 24	VA LUST, VA LTANKS, VA UST	Low
5111 Old Mill Road	Mount Vernon Country Club	VA LTANKS	None

Source and notes: EDR, 2016; VDEQ petroleum registry; VDEQ RCRA sites. Green = Low Priority.

## 3.2 SUPPLEMENTAL ENVIRONMENTAL RECORD SOURCES

### 3.2.1 Federal Records

A review of the EPA online database Envirofacts yielded 42 sites within ¼-mile of the Study Area with environmental records. The database was last updated on October 18, 2016 at the time of the review.

**Table 3-6: Envirofacts Records**

Address	Site Listing	Records of Concern	Hazmat Priority
8164A Richmond Highway	Precision Tune	RCRA – SQG	Low
8861 Richmond Highway	Exxon #25374	RCRA – SQG	High
8853 Richmond Highway	Mount Vernon Auto Repair	RCRA	None
8851 Richmond Highway	Star Enterprise	RCRA	None
8727B Cooper Road	A-OK Cleaners	Air Facility System	Low
8796K Sacramento Drive	Sacramento Cleaners	Air Facility System	Low
8746 Richmond Highway	Woodlawn Cleaners	RCRA – SQG, Air Facility System	High
8670 Richmond Highway	Ourisman Suzuki	RCRA	None
8655 Richmond Highway	BDWJ Inc., Best Cleaners	Air Facility System	Low
8656 Richmond Highway	International Auto Service	RCRA – CESQG, Air Facility System	None
8655 Richmond Highway	NVD Enterprises, Inc.	Air Facility System	Low
8655 Richmond Highway	Route 1 Auto Body Paint	RCRA – CESQG, Air Facility System	Low
8646 Richmond Highway	Safeway 1283	RCRA – CESQG	None
8630 Richmond Highway	Village Cleaners	RCRA – SQG, Air Facility System	Low
8628 Richmond Highway	CVS Pharmacy	RCRA – LQG	None
8524 Richmond Highway	Crown Coin Op Laundry	RCRA	High
8524 Richmond Highway	Snow White Cleaners	RCRA, Air Facility System	High
8457 Richmond Highway	D A M Garage	RCRA	Low
8500 Richmond Highway	Shell Oil Co.	RCRA	High
8361 Richmond Highway	Kolas Painting Inc.	RCRA – SQG	None
8365 Richmond Highway	Ploutis Painting Company	RCRA – SQG	None
8350 Richmond Highway	South County Government Center	RCRA – CESQG	None
8333 Richmond Highway	Islamic Saudi Academy	Air Facility System	Moderate
8263 Richmond Highway	Amoco 84707	RCRA – SQG	High
8254 Richmond Highway	Family Cleaner	RCRA – SQG, Air Facility System	None
8300 Richmond Highway	Mobil Oil Corp.	RCRA – SQG	High

Address	Site Listing	Records of Concern	Hazmat Priority
8249 Richmond Highway	Mt Vernon Radiator AC Service	RCRA – CESQG	None
8244 Richmond Highway	Rite Aid 3660	RCRA – CESQG	None
8168 Richmond Highway	Barkley’s Service	Air Facility System	None
8164D Richmond Highway	Meineke Discount Mufflers	RCRA	Low
8150 Richmond Highway	Action Automotive	RCRA – CESQG	Moderate
8156-8158 Richmond Highway	Fast Fare Inc. T/A Crown	RCRA – SQG	High
8153 Richmond Highway	Potomac Motors Inc.	RCRA – SQG, Air Facility System	None
8130 Richmond Highway	Custom Transmission Service, Inc.	RCRA – CESQG	Low
7940 Richmond Highway	Costco Wholesale #1115	RCRA – LQG	None
7849C Richmond Highway	Gum Springs Cleaners	RCRA, Air Facility System	None
7866 Richmond Highway	Marshalls Cleaners Coinop Laundry	RCRA – SQG	None
7849C Richmond Highway	President Valet Cleaners	Air Facility System	None
7910 Richmond Highway	Walmart Store 2258	RCRA – SQG	None
7812 Richmond Highway	The Pep Boys	RCRA – CESQG	Low
7800 Richmond Highway	Cycle Sport	RCRA – SQG	None
7770 Richmond Highway	Hechinger Store	RCRA	None

Source and notes: Envirofacts. Green = Low Priority; Yellow= Moderate Priority; Red = High Priority sites.

A review of the EPA online database NEPassist yielded 34 sites within ¼-mile of the Study Area with environmental records. These records were previously listed in the Envirofacts RCRA database. The low, moderate and high priority sites of concern are mapped in **Figures 3-1** through **3-3** in **Appendix B**.

### 3.2.2 State Records

VDEQ provided a database review of potential sites of environmental concern that is included as **Appendix C**. The identified sites were included within the EDR property search identified in **Table 3-3** through **Table 3-5**. In addition, a review of the VDEQ petroleum registry, VDEQ petroleum release site database and VDEQ RCRA sites identified locations previously listed in the Envirofacts RCRA database or the EDR report.

### 3.3 PHYSICAL SETTING SOURCES

Aerial photographs were obtained by EDR for the vicinity of the subject area for the dates: February 12, 1960; April 2, 1963; March 26, 1972; March 24, 1977; March 24, 1982; March 24, 2000; and April 7, 2002. The historical aerial photographs covered too wide an area to identify additional historical potential environmental concerns, but are included for reference as **Appendix D**.

EDR performed a search for Sanborn Fire Insurance Maps of the project area. Sanborn maps of the area were not available for any time period.

Soil maps were obtained from the on-line Web Soil Survey (WSS) provided by the United States Department of Agriculture, Natural Resources Conservation Service (USDA NRCS). Descriptions of the soils are listed in “Soil Survey, Fairfax County, Virginia” issued in May 1963 by the USDA Soil Conservation Service (SCS), the predecessor agency to the NRCS), (see **Appendix A**).

## 4. SITE RECONNAISSANCE

### 4.1 METHODOLOGY AND LIMITING CONDITIONS

A site reconnaissance by qualified personnel was performed to review current site conditions in the Study Area and the adjacent properties on December 21, 2016. Observations were undertaken for properties previously identified as High or Moderate priority sites. Additional observations were made as considered necessary in the field. Only external visual observations of the properties were made. Buildings were not entered and onsite personnel were not interviewed during the reconnaissance.

### 4.2 GENERAL SITE SETTING

The site reconnaissance was conducted on a partly cloudy, cool day, with temperatures above freezing. Access to the adjacent properties was limited by perimeter fences and gates, and other security measures. Photographs were taken at all identified high and moderate priority properties from publicly accessible areas and included as **Appendix E**.

### 4.3 EXTERIOR OBSERVATIONS

#### 4.3.1 Planned Reconnaissance

The following sites were observed from publicly accessible areas, with additional indications of environmental conditions noted. Identified environmental conditions sighted during the site reconnaissance are mapped in **Figures 4-1 and 4-2 in Appendix B**.

**Table 4-1: Site Reconnaissance Findings**

Address	Property Name	Additional Hazmat Sites of Concern
7644 Richmond Highway	Mount Vernon Shopping Center	None
7714 Richmond Highway	South Valley Shopping Center	None
7800 Richmond Highway	Hybla Valley Center	Disturbed ground surface
7800 Belford Drive	Murraygate Village	None
7940 Richmond Highway	Costco Wholesale	None
3419 Buckman Road	Community Management Corp.	None
8018 Richmond Highway	Harmony Place	Exterior equipment storage
8000 Richmond Highway	Mr. Klean Carwash	Wastewater surface discharge
8158 Mount Vernon Highway	Mount Vernon Citgo / GT Automotive	Fuel USTs
8150 Richmond Highway	Action Automotive	None
8158 Richmond Highway	Mobil / Mount Vernon Citgo / GT Automotive	Fuel USTs
8164B Richmond Highway	X-Treme Tire Sales & Detailing	None
8173 Richmond Highway	Mount Vernon (Mt. Vee) Hotel	None
8243 Gregory Drive	State Police Barracks	None

Address	Property Name	Additional Hazmat Sites of Concern
8263 Richmond Highway	BP / MJ United Auto / Mt Vernon Amoco	Fuel USTs
8300 Richmond Highway	Sunoco / Mt Vernon Mobil / Conoco / Tosco	Fuel USTs
8333 Richmond Highway	Islamic Saudi Academy	None
8453 Richmond Highway	Holly, Woods & Vines / former Apple House	None
8500 Richmond Highway	Shell	Fuel USTs
8524 Richmond Highway	Blue Laundromat	None
8529 Richmond Highway	Parking / former Homes Oil Station 7	None
8540 Richmond Highway	Jiffy Lube / Shell Service Station / Exxon / Superflo Fast Lube	None
8541 Richmond Highway	Forest Laundromat / Engleside Car Care / former Doran's Automotive	None
8689 Richmond Highway	Gulf / Woodlawn Chevron / Charlie's Citgo	Fuel USTs
8700 Richmond Highway	Super Saver Cleaners / Sparkle Cleaners / Woodlawn Cleaners	None
8737 Richmond Highway	Presto Valet / Pear Tree Village Center	None
8800 Cooper Road	Pear Tree Village Center	None
8753 Richmond Highway	Former Esso Station	None
8851 Richmond Highway	Woodlawn Shell / Texaco	Fuel USTs
8861 Richmond Highway	Exxon #2-5374	Fuel USTs
5634 Mount Vernon Highway	Crown Woodlawn Auto Center	Fuel USTs
8907 Richmond Highway	Fort Belvoir undeveloped parcel	None

#### 4.3.2 Additional Reconnaissance

The following six sites were observed from publicly accessible areas. They are sites noted in the field as having Potential Environmental Concerns, even though they were not listed in the reviewed public records.

**Table 4-2: Site Reconnaissance Additional Sites of Concern**

<b>Address</b>	<b>Property Name</b>	<b>Noted Hazmat Sites of Concern</b>
8130 Richmond Highway	M&B Automotive Service	Exterior equipment storage; Former fuel dispenser area
8135 Richmond Highway	C&M Auto Machine Shop, Inc.	AST
8149 Richmond Highway	Mount Vernon Car Wash & Detailing	Wastewater surface discharge
8334 Richmond Highway	Mount Vernon Auto Clinic	Former fuel dispenser area
8655 Richmond Highway	Route 1 Auto Body	Exterior equipment storage
8656 Richmond Highway	International Auto Body	Exterior equipment storage

## 5. SUMMARY AND CONCLUSIONS

### 5.1 POTENTIAL ENVIRONMENTAL CONCERNS

Based on an evaluation of the regulatory database review and site reconnaissance, potential environmental concerns were identified in the vicinity of the Study Area. The sites were given priority rankings based on the criteria outlined in Section 3.1. The rankings provide a risk based evaluation of sites with the potential for mobilizing contaminants or hazardous materials during excavation or significant subsurface construction in close proximity to the area. The evaluation is based on a desktop evaluation of governmental records and site reconnaissance that identifies potential contaminant impacts associated with each site. Sites of potential environmental concerns are presented in **Figures 3-1** through **3-3**, in **Appendix B**.

### 5.2 CONCLUSIONS AND RECOMMENDATIONS

Due to a history of release, incomplete remediation records, ongoing remediation activity and/or locations adjacent to the Study Area, the following sites (**Table 5-1**) are identified as representing a high or moderate potential for environmental impacts that may be mobilized should corridor improvement construction proceed near the identified property. For the listed sites, a Phase II environmental site assessment is recommended to define whether specific impacts to the proposed construction design exists.

**Table 5-1: Sites of Potential Concern**

Address	Property Name	Noted Hazmat Sites of Concern	Risk Priority
7644 Richmond Highway	Mount Vernon Shopping Center	VCP; dry cleaner PCE, TCE, cis-1,2 DCE, trans-1,2 DCE groundwater contamination; small portion of site restricted; 2007 review found cleanup not completed	High
7714 Richmond Highway	South Valley Shopping Center	VRP dry cleaner 2006-2014 GW Treatment, Sub Slab Depressurization, Institutional Controls	High
8000 Richmond Highway	Mr. Klean Carwash / BP Service Station #7464	Closed LTANKS 1978, 1988; four 6,000-gal fiberglass gasoline USTs and one 1,000-gal steel waste oil UST from 1972 removed; 1994 discharge into stormwater sewer	Moderate
8150 Richmond Highway	Action Automotive	Historical Auto Station 1996-2009; 1,000-gal steel used oil UST, three 6,000-gal steel gasoline USTs removed; 500-gal Used oil Closed LUST 1999; LTANKS Closed 1999	Moderate

Address	Property Name	Noted Hazmat Sites of Concern	Risk Priority
8156 - 8158 Richmond Highway	Mobil / Citgo / Crown / Fast Fare	RCRA-SQG Benzene; 2002 nozzle vacuum not operating; Historical Auto Station 2004-2009; 4,000-gal kerosene, 10,000-gal diesel, two 8,000-gal gasoline, 12,000-gal fiberglass gasoline UST in use since 1991; three 12,000-gal, two 6,000-gal gasoline cathodic protected steel UST from 1969 removed; Closed LUST 1998	High
8263 Richmond Highway	BP / MJ United Auto / Mt Vernon Amoco	Historical service station 1999-2012; LTANKS closed 2007; 500-gal, two 4,000-gal, 5,000-gal, two 6,000-gal steel USTs closed in place; 550-used oil UST, four 10,000-gal cathodic protected steel gasoline UST install 1989 currently in use; 550-gal used oil, 8,000-gal, two 6,000-gal steel gasoline UST removed since install in 1969; SQG - benzene	High
8300 Richmond Highway	Mt Vernon Mobil / Sunoco / Conoco / Tosco	Historical Auto Station 2000-2012; Closed gasoline LUST 2000; Closed LTANKS 2004; petroleum release 2009 from leaking dispenser nozzle for >1 month; 1,000-gal used oil, 6,000-gal, 10,000-gal, 12,000-gal fiberglass gasoline UST in use since 1985	High
8333 Richmond Highway	Islamic Saudi Academy	Open 20,000-gal heating oil LUST since 2000; Closed LTANKS 2000; 2 unconscious children inside and outside facility in 2001	Moderate
8500 Richmond Highway	Shell Station	LUST 1995, 1997; Closed LUST 1996; 1,000-gal used oil, three 12,000-gal fiberglass gasoline UST in use since 1990; 550-gal steel used oil UST in use since 1966 closed in ground; 6,000-gal, two 8,000-gal steel gasoline UST in use since 1986; Historical Auto Station 2008	High
8510-8524 Richmond Highway	Crown Coin Op / Belvoir Auto Parts, Skyview Park North / Snow White Cleaners / Blue Laundromat	Closed 550-gal heating oil LUST 1997, 2001; Historical Cleaner 2007; GW use restriction, PCE/TCE vapor mitigation system; PERC and petroleum contamination; 1997 VRP, terminated from program due to inactivity in 2012, former LQG – halogenated solvents, PCE, TCE	High

Address	Property Name	Noted Hazmat Sites of Concern	Risk Priority
8540 Richmond Highway	Jiffy Lube / Shell Service Station / Exxon / Superflo Fast Lube	Historical Auto Station 2002-2012; Closed 4,000-gal gasoline LUST 1998; 550-gal heating oil, 550-gal used oil, five 4,000-gal steel gasoline USTs removed from ground in use since 1967	Moderate
8541 Richmond Highway	Engleside Car Care / former Doran's Automotive	Historical Auto Station 2005-2012; Closed LTANKS 2003; two 1,000-gal, two 2,000-gal, 4,000-gal gasoline USTs removed from ground in use since 1949	Moderate
8620 Richmond Highway	Cyprus Heating & Air	1999 oil dumping; 2004 275-gal heating oil AST release during removal, 15.43 tons of soil removed	Moderate
8689 Richmond Highway	Woodlawn Chevron / Charlie's Citgo	1995, 1997, 2001 LUST; Historical Auto Station 1999-2012; Closed LUST 1993; 1,000-gal used oil, 8,000-gal diesel, three 10,000-gal fiberglass gasoline UST currently in use since 1986	High
8700-8746 Richmond Highway	Super Saver Cleaners / Sparkle Cleaners / Woodlawn Cleaners	RCRA-SQG – halogenated solvents; VCP 2007 GW use restriction; Historical Cleaners 2010-2012; 2007 VRP Site	High
8806 Pear Tree Village Court/8800 Cooper Road	Presto Valet / Pear Tree Village Center	RCRA-CESQG – halogenated solvents; Historical Cleaners 2005-2012; 2009 VRP; 2015 vapor intrusion investigation	Moderate
8851 Richmond Highway	Woodlawn Shell / Texaco	10,000-gal diesel, three 10,000-gal composite gasoline UST in use since 2003; 550-gal used oil, 10,000-gal diesel, three 10,000-gal fiberglass gasoline UST removed from ground in use since 1982; Closed LUST 1993; Closed LTANKS 2003; RCRA-NonGen – benzene, LUST 1995, 1997, 2001; Historical Auto Station 1999-2005; potential release onto Fort Belvoir undeveloped property parcel	High
8861 Richmond Highway	Exxon #2-5374	LUST 1995, 1997; Historical Auto Station 1999-2012; Closed LUST 1996; three 12,000-gal fiberglass gasoline UST in use since 1994; 1,000-gal steel used oil, 4,000-gal, 8,000-gal, 10,000-gal cathodically protected steel gasoline UST removed from ground in use since 1970; 1-gal spill reported 1994; RCRA-SQG - benzene	High

Address	Property Name	Noted Hazmat Sites of Concern	Risk Priority
5634 Mount Vernon Memorial Highway	Crown / Woodlawn Auto Center	Historical Auto Stations 2001-2012; Closed LUST 1994; Closed LTANKS 1986; two 4,000-gal, 6,000-gal cathodically protected steel gasoline UST in use since 1989	Moderate

Although the 19 properties listed above represent an increased risk of potential contamination impact that could migrate from the sites and into the Build Alternative’s limits of disturbance, additional sampling investigations are recommended for those locations where subsurface disturbance may intersect soils or groundwater potentially impacted by the identified sites or where full or partial property takes are anticipated.

Due to the number of potential sites of concern identified along Richmond Highway in the Study Area, it is also recommended that the selected contractor prepare and implement Health and Safety plans that comply with OSHA 1910.120 for onsite workers, as the potential exists that volatile organic compounds could accumulate in deeper excavations. Further, VDOT may consider including Special Provisions in the bid documents for the management of contaminated media should it be encountered during construction. These provisions should require the immediate notification of project personnel if such conditions are identified to insure the appropriate safe handling, management, and reporting of impacted material.

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## 6. ACRONYM AND ABBREVIATION LIST

ACRES	Assessment, Cleanup and Redevelopment Exchange System
APE	Area of Potential Effect
BGS	Below Ground Surface
BRT	Bus Rapid Transit
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980
CLRP	Constrained Long Range Plan
CO	Carbon Monoxide
DHR	Virginia Department of Historic Resources
DRPT	Department of Rail and Public Transportation
EA	Environmental Assessment
EDR	Environmental Data Resources, Inc.
EPA	US Environmental Protection Agency
FCDOT	Fairfax County Department of Transportation
FEMA	Federal Emergency Management Agency
FHWA	US Federal Highway Administration
FTA	US Federal Transit Administration
GIS	Geographic Information Systems
LOD	Limit of Disturbance
LPA	Locally Preferred Alternative
MWCOG	Metropolitan Washington Council of Governments
MSL	Mean Sea Level
NEPA	National Environmental Policy Act
NRHP	National Register of Historic Places
O <sub>3</sub>	Ozone
OSHA	Occupational Safety & Health Administration
PM <sub>2.5</sub>	Particulate matter with a diameter less than 2.5 microns
RCRA	Resource Conservation and Recovery Act
RPA	Resource Protection Areas
Section 106	Section 106 of the National Historic Preservation Act of 1966

Section 4(f)	Section 4(f) of the US Department of Transportation Act of 1966
TSM	Transportation System Management
USACE	US Army Corps of Engineers
USDOT	US Department of Transportation
USFWS	US Fish and Wildlife Service
VDACS	Virginia Department of Agriculture and Consumer Services
VDCR	Virginia Department of Conservation and Recreation
VDCR-DNH	Virginia Department of Conservation and Recreation Division of Natural Heritage
VDEM	Virginia Department of Emergency Management
VDEQ	Virginia Department of Environmental Quality
VDGIF	Virginia Department of Game and Inland Fisheries
VDH	Virginia Department of Health
VDOF	Virginia Department of Forestry
VDOT	Virginia Department of Transportation
VEGIS	Virginia Environmental Geographic Information Systems
WOUS	Waters of the US

## 7. REFERENCES

VDOT, 2016. "Road and Bridge Standards", Virginia Department of Transportation; July 2016.

USDA, 1963. "Soil Survey, Fairfax County, Virginia", US Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS), Soil Conservation Service; May 1963.



**Appendix A: USDA WEB Soil Survey**



**Appendix B: Priority Sites & Site Reconnaissance Maps**



**Appendix C: VDEQ Memorandum**



**Appendix D: Aerial Photographs**



**Appendix E: Photo-Log**



**Appendix F: EDR Report**