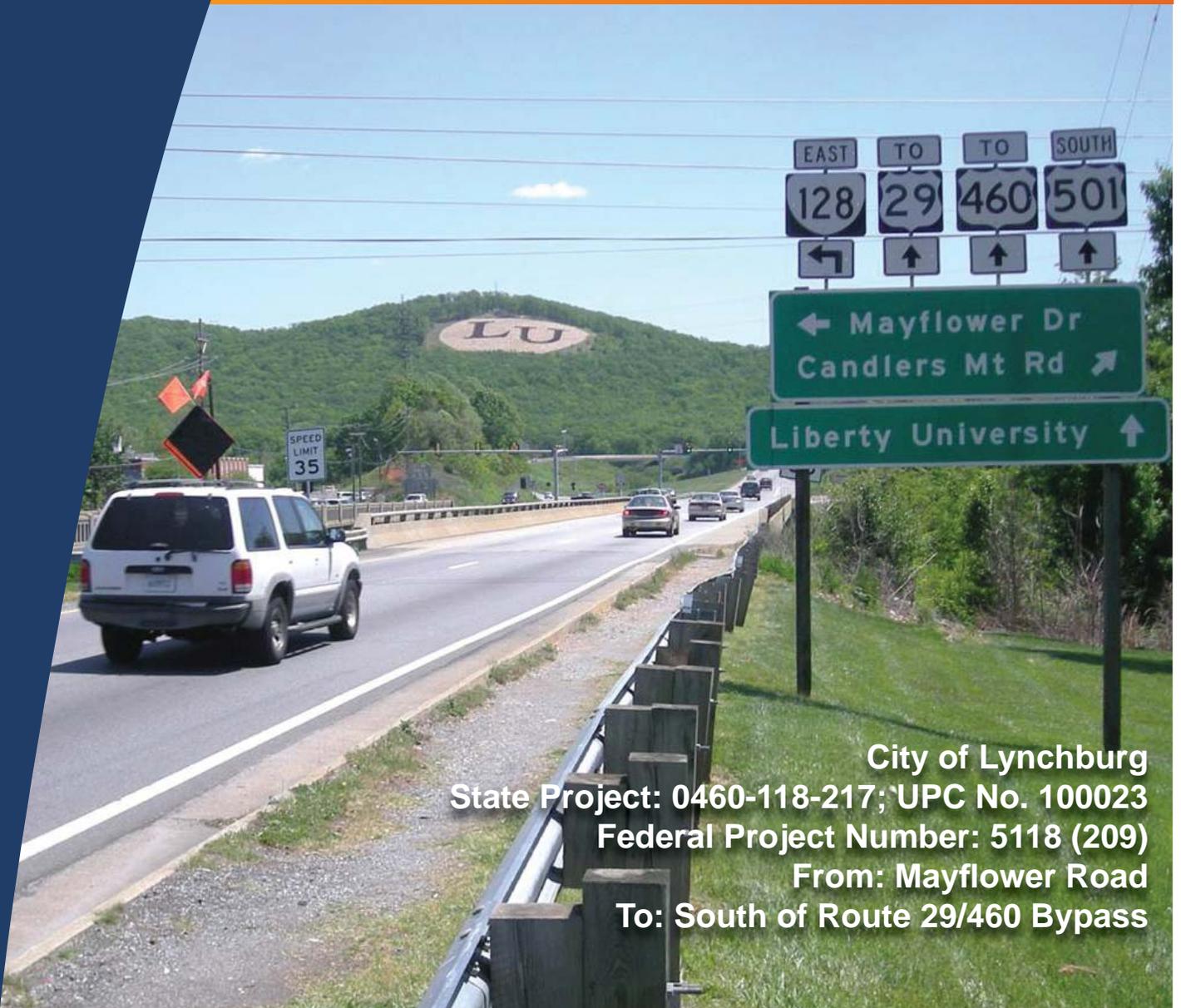




DECEMBER 2012

ENVIRONMENTAL ASSESSMENT

NEW INTERCHANGE EXTENDING
ODD FELLOWS ROAD OVER ROUTE 29/460



City of Lynchburg
State Project: 0460-118-217; UPC No. 100023
Federal Project Number: 5118 (209)
From: Mayflower Road
To: South of Route 29/460 Bypass

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

ENVIRONMENTAL ASSESSMENT

New Interchange Extending Odd Fellows Road over Route 29/460

City of Lynchburg

Project Number: 0460-118-217, C501, P101, R201; UPC No.100023

Federal Project Number: 5118(209)

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

Approved for Public Availability:

12/11/2012

Date


for For Division Administrator
Federal Highway Administration

Table of Contents

| | | |
|-------------|---|-----------|
| I. | Purpose and Need | 1 |
| | Description of the Study Area..... | 1 |
| | History..... | 1 |
| | Needs – Existing Conditions..... | 1 |
| | Needs – Future Conditions | 5 |
| | Summary / Purpose of Project..... | 6 |
| II. | Alternatives | 6 |
| | Introduction | 6 |
| | No-Build Alternative | 6 |
| | Preferred Alternative | 6 |
| III. | Environmental Consequences | 9 |
| | 1. Relocations..... | 17 |
| | 2. Economic Conditions | 17 |
| | 3. Environmental Justice..... | 17 |
| | 4. Community Impacts..... | 18 |
| | 5. Streams and Water Quality..... | 18 |
| | 6. Wetlands..... | 19 |
| | 7. Noise | 19 |
| | 8. Hazardous Materials | 20 |
| | 9. Indirect Impacts | 21 |
| | 10. Cumulative Impacts | 22 |
| IV. | Coordination and Comments | 23 |
| | Agency Coordination..... | 23 |
| | Public Involvement | 24 |

FIGURES

Figure 1: Project Vicinity 2
Figure 2: Preferred Alternative 8
Figure 3: Social Environment Features 14
Figure 4: Natural Environment Features 15
Figure 5: Hazardous Material Sites of Potential Concern 16

TABLES

Table 1: Average Daily Traffic Volumes 4
Table 2: Intersection Levels of Service..... 6
Table 3: Preferred Alternative Design Criteria..... 7
Table 4: Environmental Issues 9
Table 5: Summary of Resources and Estimated Direct Impacts in the Study Area 13

I. PURPOSE AND NEED

DESCRIPTION OF THE STUDY AREA

The Virginia Department of Transportation (VDOT), in cooperation with the Federal Highway Administration (FHWA), is evaluating construction of a new interchange on the Route 460 Bypass in the southeastern portion of the City of Lynchburg, Virginia. The project's study area includes an approximately two-mile long corridor along the Route 460 Bypass (Route 29 and 460), extending from the Campbell Avenue (Route 460 Business) interchange to the Candler's Mountain Road (US Route 501) interchange (see **Figure 1**). The study area also includes an approximately 0.75-mile long corridor along Odd Fellows Road, from its current terminus near the Route 460 Bypass to its intersection with Mayflower Drive (State Route 128), and approximately 1000 feet to the south of the Route 460 Bypass across from Odd Fellows Road. The study area south of the Route 460 Bypass is primarily characterized by the wooded slopes of Candler's Mountain, and is accessed by Top Ridge Road (State Route 837). North of the Route 460 Bypass the study area consists primarily of industrial and commercial properties, some of which are undeveloped.

HISTORY

The proposed improvement was first identified in a VDOT planning report in early 2001. The Central Virginia Metropolitan Planning Organization's 2010 Long-Range Transportation Plan, which establishes a blueprint for the growth and management of central Virginia's transportation system through the year 2035, lists the project as a top-priority Tier 1 Transportation Vision Plan Project. The project is also listed as a Primary Project in the Central Virginia Transportation Improvement Program (2011). The project is listed and fully funded for construction in VDOT's Six-Year Improvement Program (2013), which details priority projects recommended for funding. The City of Lynchburg Department of Community Planning & Development identifies the project in its *Comprehensive Plan 2002-2020* (2002).

NEEDS – EXISTING CONDITIONS

Existing access, congestion, and safety needs would be addressed by this project. The study area is located within the First Lynchburg Industrial Park Employment Area, a large industrial and commercial area of Lynchburg that serves as an employment center identified in the latest *Comprehensive Plan*. The Route 460 Bypass, a limited access highway classified as an Urban Principal Arterial, passes southwest to northeast through the study area. Odd Fellows Road and Mayflower Drive, both considered Urban Minor Arterials, provide access to properties north of the Route 460 Bypass. Top Ridge Road, also in the study area, is a partially paved road located on the south side of the Route 460 Bypass.

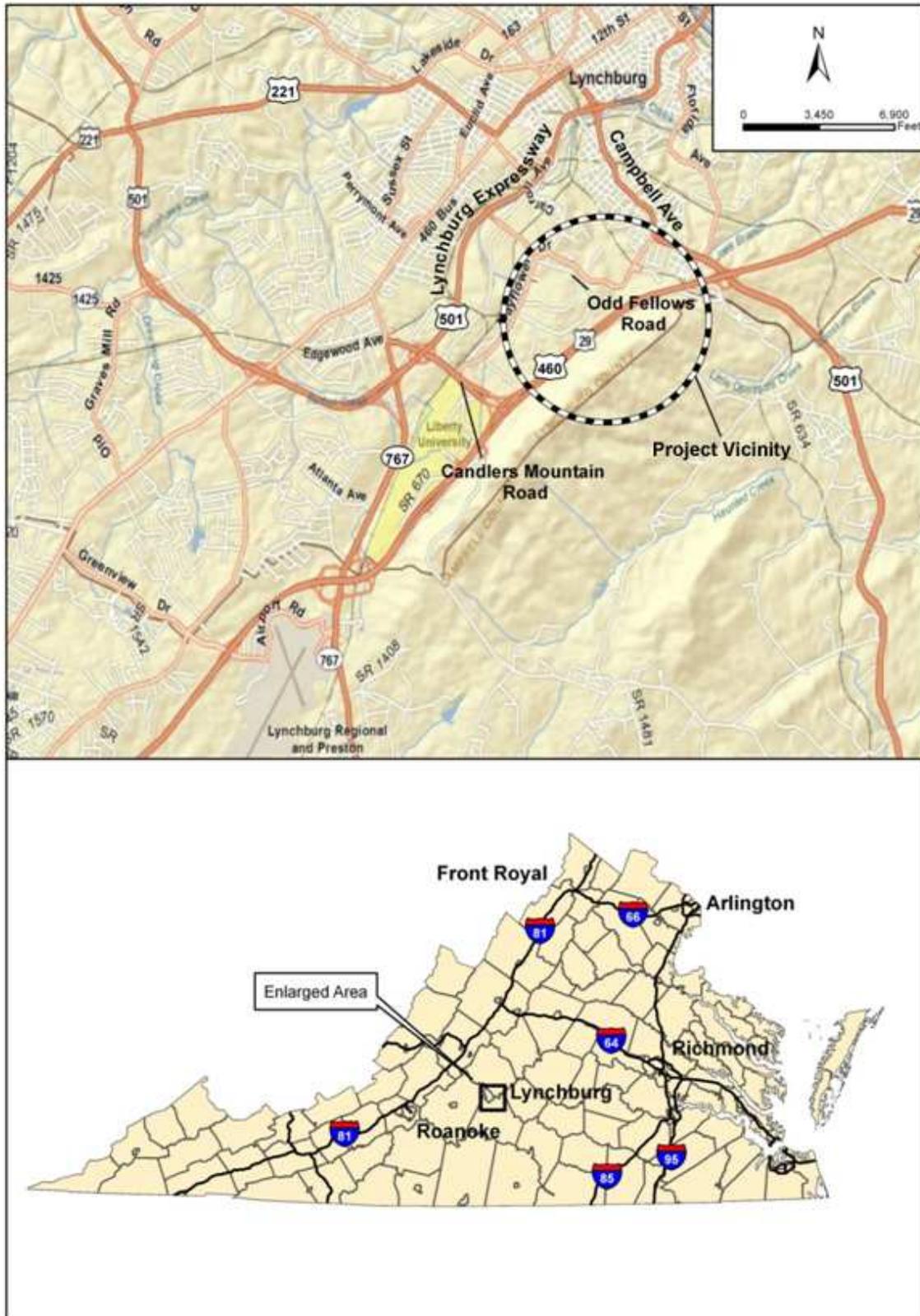


Figure 1: Project Vicinity

Currently, an industrial park and multiple commercial trucking and delivery firms are located along or near Odd Fellows Road. Businesses are also located along Mayflower Drive, which intersects and parallels Odd Fellows Road. Liberty University, located immediately southwest of the study area, is a key generator of economic activity in the region. Candler's Mountain Road, which is an important transportation artery into Lynchburg from the Route 460 Bypass, serves commercial centers including Liberty University, River Ridge Mall, and Candler's Station Shopping Center. There are numerous undeveloped parcels totaling approximately 300 acres in the First Lynchburg Industrial Park Employment Area. These parcels are currently zoned for industrial use.

Access

Access to the industrial and commercial properties in the study area is problematic under existing conditions. Odd Fellows Road serves as an entrance to an industrial park and as the sole access point to over twenty commercial properties. Because there is no direct access from the Route 460 Bypass to Odd Fellows Road or Mayflower Drive commercial trucks travel a circuitous route to and from the industrial and commercial properties along these roads. Much of the traffic accessing the study area from Route 460 Bypass eastbound uses the Candler's Mountain Road interchange west of the study area. Conversely, traffic seeking access to the Route 460 Bypass from the study area uses Candler's Mountain Road via Mayflower Drive.

Currently, Candler's Mountain Road provides the most direct access from the Route 460 Bypass to the Odd Fellows Road vicinity. Substandard horizontal and vertical geometry of Mayflower Drive northeast of Odd Fellows Road (particularly at the railroad crossing near Campbell Avenue) hinders truck access to the study area from westbound Route 460 Bypass. This results in disproportionate use of Candler's Mountain Road rather than a more balanced use of Candler's Mountain Road and Campbell Avenue from the Route 460 Bypass. This also causes truck traffic moving to and from study area industrial sites to mix with traffic moving to and from the Candler's Mountain Road commercial areas.

Congestion

As shown in **Table 1**, and based on the report entitled *Existing Traffic Conditions Summary Memo*, the Average Daily Traffic (ADT) is 36,300 vehicles per day (VPD) (8% trucks) along the Route 460 Bypass between the Campbell Avenue and Candler's Mountain Road interchanges. Candler's Mountain Road also bears heavy traffic in the study area, with 36,000 VPD (4% trucks). The Lynchburg Expressway, which ties into Odd Fellows Road to the north, has an ADT of 39,000 VPD (2% trucks). Odd Fellows Road has an ADT of 8,700 VPD (14% trucks) north of Mayflower Drive and 1,550 VPD (26 % trucks) south of Mayflower Drive. This traffic is generated in part from establishments located on Odd Fellows Road and Mayflower Drive.

| Table 1: Average Daily Traffic Volumes (ADT) | | | |
|---|--------------------------------|--------------------------------------|---------------------------------------|
| Intersection | ADT (vehicles per day) | | |
| | Existing (2011) | Design Year 2035 No-Build | Design Year 2035 Build |
| Odd Fellows Road, South of Mayflower Drive. | 1,550 | 1,850 | 8,500 |
| Odd Fellows Road, North of Mayflower Drive | 8,700 | 10,353 | 12,500 |
| Route 29 (Lynchburg Expressway) | 39,000 | 44,070 | 53,000 |
| Candlers Mountain Road | 36,000 | 45,720 | 39,000 |
| Route 460 Bypass between Candlers Mountain Road and Campbell Ave. | 36,300 | 51,909 | 52,500 |

Turning movement counts collected during peak hours at the Candlers Mountain Road/ Mayflower Drive intersection (November 2011) indicated that a substantial amount of the traffic traveling in and out of the First Lynchburg Industrial Park Employment Area is comprised of trucks affiliated with the industrial/commercial nature of the study area. For example, during the AM peak on Mayflower Drive, trucks account for 11% of all approaching traffic. However, trucks account for 18% of all left turns onto Candlers Mountain Road. On Candlers Mountain Road northbound during the PM peak, trucks account for 3% of all approaching traffic, but account for 9% of all right turns onto Mayflower Drive. These data show that truck traffic associated with the First Lynchburg Industrial Park uses Candlers Mountain Road to reach the Route 460 Bypass.

Safety

Recent crash data were reviewed to determine whether the area experiences a higher than average number of crashes. Intersection crash data from the *Existing Traffic Conditions Summary Memo* reveals that between November 2008 and October 2011 there were 256 crashes on Candlers Mountain Road between the Route 460 Bypass and the Lynchburg Expressway interchange. Thirty-six of these crashes resulted in injuries, with no fatalities. Also during that time, there were 15 crashes on Odd Fellows Road. Four of these crashes resulted in injuries, and one in a fatality. The calculated crash rate for Candlers Mountain Road is approximately eight times higher than the average statewide rate for similar roads, while the crash rate for Odd Fellows Road is about three and a half times higher than the average statewide rate for similar roads.

NEEDS – FUTURE CONDITIONS

Continued growth is expected in the study area. Based on the planned land use classifications described in Lynchburg's most recent *Comprehensive Plan*, industrial development is expected along Odd Fellows Road and Mayflower Road. Liberty University has adopted preliminary expansion plans which propose additional university facilities along Top Ridge Road south of the Route 460 Bypass. These developments and others necessitate transportation infrastructure to serve the area. Furthermore, the future economic potential of the study area is not supported by the existing transportation infrastructure because of a lack of efficient access to the industrial/commercial sites along Odd Fellows Road and Mayflower Drive; thus, areas along these roads that are designated for growth may not reach their full development capacity. Lynchburg's most recent *Comprehensive Plan* references vacant lands that can accommodate future development within the study area, and links the project to future economic development.

In the future, access to the study area would continue to be hindered as a result of increased economic development and the resulting increase in traffic on surrounding roadways. Most trucks would continue to access the study area (and access the Route 460 Bypass from the study area) via Candler's Mountain Road.

As discussed in the *No Build Traffic Forecasts and Operational Analysis*, traffic volumes are expected to rise in the future with an assumed growth rate of between 19% and 43% through 2035. Because future land use in the study area is expected to continue to be industrial, based on the most recent Lynchburg *Comprehensive Plan*, increased truck traffic is also expected. As illustrated in **Table 2**, traffic is expected to increase at the Mayflower Drive intersections with Candler's Mountain Road and Odd Fellows Road, resulting in a declining level of service at these intersections. Under the 2035 No-Build condition, the time required to move through these intersections would be approximately 47 and 41 seconds at the Mayflower Drive/Odd Fellows Road intersection (AM and PM peak periods, respectively). At the Mayflower Drive/Candler's Mountain Road intersection, the time required would be 138 seconds in the AM peak period and 218 seconds in the PM peak period. Comparatively, the time currently required to move through these intersections is 27 to 28 seconds at the Mayflower Drive/Odd Fellows Road intersection and 39 to 45 seconds at the Mayflower Drive/Candler's Mountain Road intersection (AM and PM peak periods, respectively). It is also expected that crash rates in the study area would rise as traffic increases.

| Table 2: Intersection Levels of Service | | | | |
|--|---|-----------|----------------------|-----------|
| Intersection | Level of Service (delay seconds) | | | |
| | Existing (2011) | | 2035 No-Build | |
| | AM | PM | AM | PM |
| Mayflower Dr./Odd Fellows Rd. | C (27) | C (28) | D (47) | D (41) |
| Mayflower Dr./Candlers Mountain Rd. | D (39) | D (45) | F (138) | F (218) |

SUMMARY/PURPOSE OF PROJECT

The purpose of the New Interchange Extending Odd Fellows Road over Route 29/460 project is to provide an alternate, direct access to the existing and future employment areas located along Odd Fellows Road and Mayflower Drive from the Route 460 Bypass, which could:

- Support existing and future economic development;
- Reduce future traffic congestion; and
- Improve safety.

II. ALTERNATIVES

INTRODUCTION

This section discusses the alternatives under consideration. Two alternatives, the No-Build Alternative and the Preferred Alternative are being considered.

NO-BUILD ALTERNATIVE

The No-Build Alternative includes all currently adopted and planned transportation improvements, such as those projects listed in VDOT’s Six-Year Improvement Program. Under the No-Build Alternative, no improvements to the Route 460 Bypass or to Odd Fellows Road would be undertaken. Routine maintenance of Odd Fellows Road and the Route 460 Bypass would continue.

The No-Build Alternative would not satisfy the identified needs of the project. It would not support economic development by improving access nor improve safety by reducing congestion at area intersections. The No-Build Alternative has been carried forward as a benchmark for assessing the transportation benefits and environmental impacts of the Preferred Alternative.

PREFERRED ALTERNATIVE

The Preferred Alternative is based on the proposed improvement concept identified by VDOT in the *Odd Fellows Road Extension* report (2001) and by the City of Lynchburg’s most recent *Comprehensive Plan*. Since this alternative is endorsed by both VDOT and the City of Lynchburg and it addresses the stated transportation needs, it is being advanced in this Environmental

Assessment (EA) and is the only build alternative under consideration. Additionally, the study area of the Preferred Alternative is sufficiently large to accommodate any interchange configuration developed during the design process.

The Preferred Alternative entails constructing a new interchange on the Route 460 Bypass connecting with Odd Fellows Road, reconstructing Odd Fellows Road near the new interchange at the Route 460 Bypass, and improving the Odd Fellows Road/Mayflower Drive intersection.

Figure 2 shows the approximate study limits of the Preferred Alternative.

The new interchange proposed under the Preferred Alternative would consist of extending Odd Fellows Road over the Route 460 Bypass to connect with direct access ramps between Odd Fellows Road and the Route 460 Bypass. This would accommodate all eastbound and westbound movements.

The Preferred Alternative also entails the reconstruction of a limited portion of Odd Fellows Road (approximately 600 linear feet) near the new interchange, in order to raise the road profile to meet the proposed bridge over Route 460 Bypass. The Odd Fellows Road intersection with Mayflower Drive would also be improved to accommodate the anticipated increase in traffic. The Preferred Alternative does not include the construction of additional through travel lanes along existing Odd Fellows Road or the Route 460 Bypass. Top Ridge Road would be terminated east of the interchange because the residential properties it served will be relocated and therefore access is no longer needed. The interchange is designed to accommodate the future relocation of Top Ridge Road.

All road reconstruction and improvements would be in accordance with current VDOT and American Association of State Highway and Transportation Officials design criteria standards. The Odd Fellows Road overpass would have a roadway grade and vertical clearance over the Route 460 Bypass which also meets these design standards. The design criteria for the Preferred Alternative are listed in **Table 3**.

| Roadway | Design Speed | Maximum Grade | Number of Lanes (width) | Shoulder Width (Paved) | Bridge Width |
|-------------------|---------------------|----------------------|--------------------------------|-------------------------------|---------------------|
| Odd Fellows Road | 35 mph | 6% | 2 (12 ft) | none (L); 8 ft (R) | 40 ft |
| Interchange Ramps | 35 mph minimum | 4-6% | 1 (16 ft minimum) | 4 ft (L); 8 ft (R) | NA |
| Route 460 Bypass | 70 mph | 4% | 4 (12 ft) | 3 ft (L); 12 ft (R) | NA |



Figure 2: Preferred Alternative

The total estimated preliminary engineering and construction cost of the Preferred Alternative is \$31.7 million. Year 2014 Advertisement was assumed for the construction estimate. The estimated right-of-way and utility relocation cost is \$6.0 million (Year 2014).

The benefits of the Preferred Alternative include improved access, congestion management, and safety. Constructing a new interchange on the Route 460 Bypass provides direct access to the Industrial Park and surrounding commercial areas, strengthening economic development in this area of the city, and reducing congestion. The Preferred Alternative may improve safety at the Mayflower Drive/Candlers Mountain Road intersection by providing an alternate route to the Route 460 Bypass, particularly for commercial traffic generated within the Industrial Park.

III. ENVIRONMENTAL CONSEQUENCES

Table 4 details environmental issues and their relevance to the project. Quantities provided in the table are the maximum potential impacts of the Preferred Alternative. These anticipated impacts would be further refined in the project's design phase. Unless otherwise noted, the No-Build Alternative would not impact any environmental resources. Key issues requiring further discussion are addressed following the table. The technical documents referenced in the table provide additional information regarding conditions in the study area and impacts of the Preferred Alternative. **Table 5** provides estimated impacts of the No Build and Preferred Alternatives. **Figures 3, 4, and 5** show the features of the social and natural environments in the study area.

| Table 4: Environmental Issues | |
|---------------------------------------|--|
| Resource | Remarks |
| Land Use and Right of Way/Relocations | There are 43 residences, one non-profit facility, and 8 commercial establishments within the study area. There are an estimated total of 293 acres in the study area, but only approximately 26 acres are anticipated to be required for the proposed project. See Sections 1 and 2, Relocations and Economic Conditions , and the <i>Land Use and Socio-Economic Technical Memorandum</i> . |
| Environmental Justice Populations | Using the most current US Census data for the two census tracts that fall within the study area, approximately 20% of the population lived below the poverty level in 1999, and approximately 60% of the population is minority. See Section 3, Environmental Justice . |

| Table 4: Environmental Issues | |
|--|---|
| Resource | Remarks |
| Agriculture, Prime Farmland, and Soils | There is no prime or unique farmland in the study area, and less than 10% of the study area consists of statewide important farmland. There are no agricultural districts in the City of Lynchburg, and no farms within the study area. |
| Federal Properties | The only federal property in the study area is the US Post Office at 3300 Odd Fellows Road. See Section 4, Community Impacts . |
| Community Facilities | There are no schools, cemeteries, or public parks or recreational facilities in the study area. There are two religious congregations in the study area. In addition, there is a post office and a DMV facility in the study area. See Section 4, Community Impacts . |
| Cultural Resources | 27 architectural resources over 50 years of age were identified in the project’s Area of Potential Effect (APE) but none were found to be eligible for listing in the National Register of Historic Places (NRHP). Two archaeological sites were identified in the APE, but neither is eligible for listing in the NRHP. On 25 July 2012, the Virginia Department of Historic Resources issued its concurrence with VDOT’s assessment that the project would have no effect on cultural resources. See the <i>Archaeological Survey</i> and the <i>Architectural Survey</i> . |
| Section 4(f) Properties | Section 4(f) of the U.S. Department of Transportation Act of 1966 protects publicly-owned parks, recreation areas, wildlife and waterfowl refuges, or public or private historic sites in or eligible for the National Register of Historic Places. There are no Section 4(f) properties in the study area; thus there would be no impacts to Section 4(f) properties. |
| Section 6(f) Properties | Section 6(f) of the Land and Water Conservation Fund Act protects recreational resources purchased with Land and Water Conservation Fund monies. There are no 6(f) properties in the study area. |
| Waters of the US, including wetlands | There are 12 jurisdictional wetlands and 14 jurisdictional streams in the study area. See Sections 5 and 6, Streams and Water Quality and Wetlands , and the <i>Water Resources and Wetlands Technical Memorandum</i> . |

| Table 4: Environmental Issues | |
|--|---|
| Resource | Remarks |
| Water Quality | The James River, approximately 1.5 miles from the study area, is the nearest water body considered impaired by the Virginia Department of Environmental Quality (DEQ). The project would require water quality permits, a stormwater management plan, and an Erosion and Sediment Control Plan. Adherence to the permit conditions and the plans would minimize impacts to water quality. See Section 5, Streams and Water Quality and the <i>Water Resources and Wetlands Technical Memorandum</i> . |
| Public Water Supplies | The City of Lynchburg operates a public water system but there are no public water supplies in the study area. |
| Floodplains | Based on Federal Emergency Management Agency (FEMA) mapping, there are no floodplains in the study area. |
| Forest Resources | The majority of the study area is forested, with mixed hardwoods and pine. There are approximately 212 acres of forested land in the study area, with 95 acres of mixed pine/hardwoods and 83 acres of oak/hickory forest. Impacts would consist of conversion of forested land to either pavement or maintained herbaceous and shrub land. Impacts within the study area from the Preferred Alternative would be substantially smaller as a result of final design. There are no forestal districts in the City of Lynchburg. See the <i>Wildlife and Habitat Technical Memorandum</i> |
| Terrestrial and Aquatic Habitat and Wildlife | The most valuable terrestrial wildlife habitat in the study area is forested land. As described above, impacts would consist of converting forested land. Aquatic habitat consists of the wetlands and streams in the study area. Since the Clean Water Act dictates that impacts to these resources be minimized to the greatest extent practicable, impacts to aquatic habitat would also be minimized. See the <i>Wildlife and Habitat Technical Memorandum</i> |
| Threatened and Endangered Species | According to resource agency databases, the only federally-listed species with the potential to be in the study area is the smooth coneflower. However, none of these plants are known to occur in the study area, and no suitable habitat was observed during field reconnaissance. Therefore, there would be no impact to threatened or endangered species. See the <i>Wildlife and Habitat Technical Memorandum</i> |
| Wildlife and Waterfowl Refuges | There are no wildlife or waterfowl refuges in the vicinity of the project. |

| Table 4: Environmental Issues | |
|---|---|
| Resource | Remarks |
| Anadromous Fish, Trout Streams, Shellfish | There are no anadromous fish or trout waters or shellfish grounds in the study area. |
| Invasive Species | In accordance with Executive Order 13112, <i>Invasive Species</i> , the potential for the establishment of invasive plant or animal species during construction would be minimized by following provisions in VDOT's <i>Road and Bridge Specifications</i> . |
| Scenic Byways / Scenic Rivers | There are no federal wild and scenic rivers, Virginia Scenic Byways, or Virginia Scenic Rivers in the study area. |
| Open Space Easements | There are no open space easements in the study area. |
| Air Quality | The project is in an attainment area for all of the National Ambient Air Quality Standards; therefore, transportation conformity requirements do not apply. As a result, the project has not been shown to comply because it is not required to. See the <i>Air Quality Analysis Technical Report</i> . |
| Noise | A total of 23 dwelling or recreational units (receptors) receive noise impacts in the existing condition. Under the Preferred Alternative, the number of receptors impacted would increase to 33, primarily due to the future increase in traffic volume, and not as a result of the new facility. See the <i>Noise Analysis Technical Report</i> . |
| Hazardous Materials | Seventeen potential hazardous materials sites were identified in or adjacent to the study area. Concerns associated with these sites include health hazards, liability issues, and the potentially high costs of clean up. See Section 8, Hazardous Materials , and the <i>Preliminary Review for Hazardous Materials</i> . |

Table 5: Summary of Resources and Estimated Direct Impacts in the Study Area

| Category | Quantity in Study Area | Estimated Impact of Preferred Alternative | Estimated Impact of No Build Alternative |
|---|------------------------------------|--|---|
| Residences (number) | 43 | 3 | 0 |
| Commercial Establishments (number) | 8 | 1 | 0 |
| Non-profit Organizations (number) | 1 | 0 | 0 |
| Churches (number) | 1 building housing 2 congregations | 0 | 0 |
| Other Community Facilities (rescue squads, police, etc.) (number) | one post office, one DMV office | 0 | 0 |
| Noise (number of receptors impacted) | 102 | 33 | 23* |
| Linear Feet of Streams | 12,378 | 2,000 - 4,000 | 0 |
| Wetlands (acres) | 2.9 | 0.5 - 1.0 | 0 |
| Forest Land (acres) | 212 | 90 - 212 | 0 |
| Prime, Unique, or Statewide-important Farmland (acres) | 20 | <20 | 0 |
| Potential Hazardous Materials Sites (number) | 17 | 5 | 0 |

* The future No Build condition was not modeled. This number represents the current conditions. Future No Build conditions would likely have greater number of receptors impacted due to growth in traffic volumes on Route 460 Bypass.

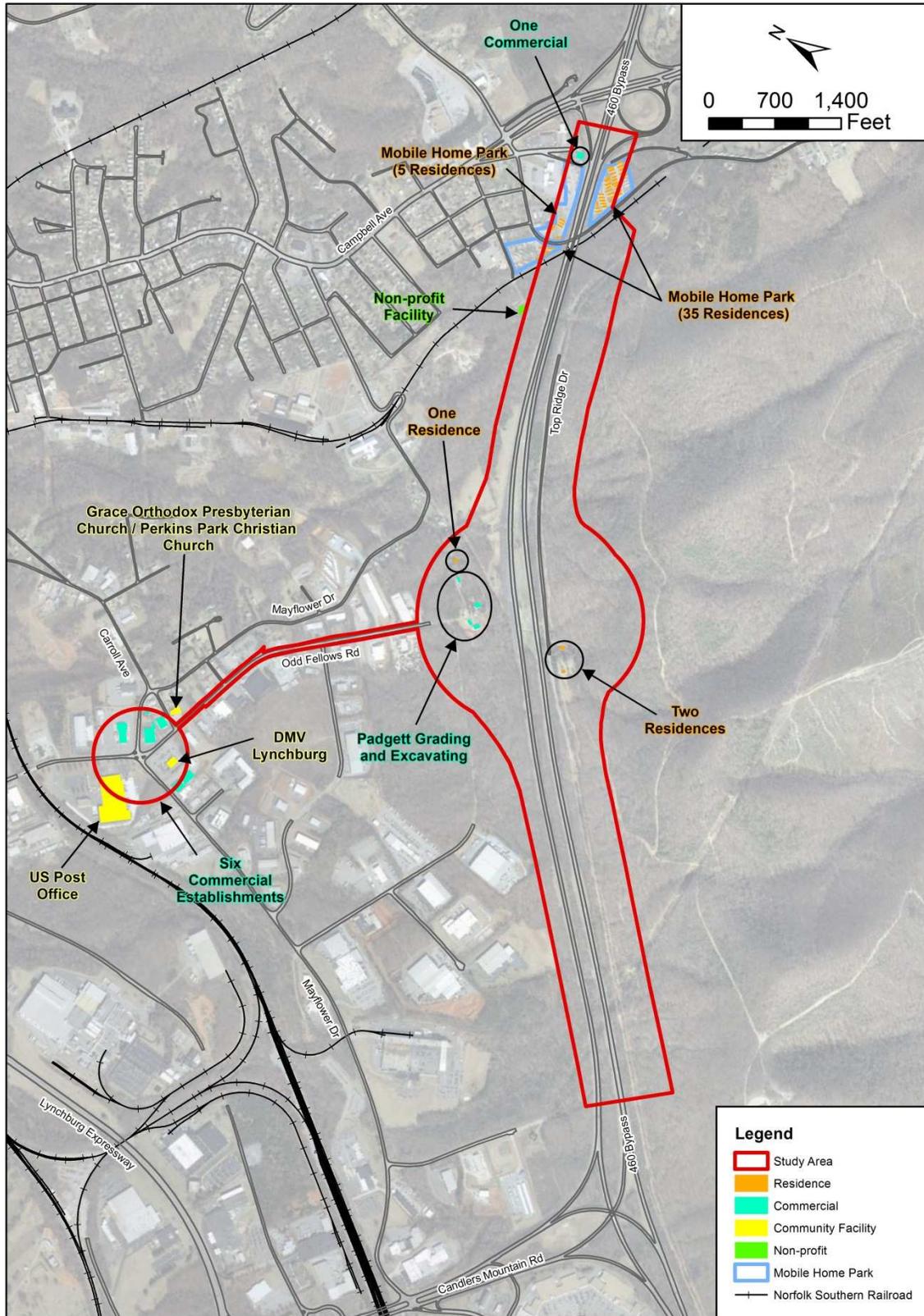


Figure 3: Social Environment Features

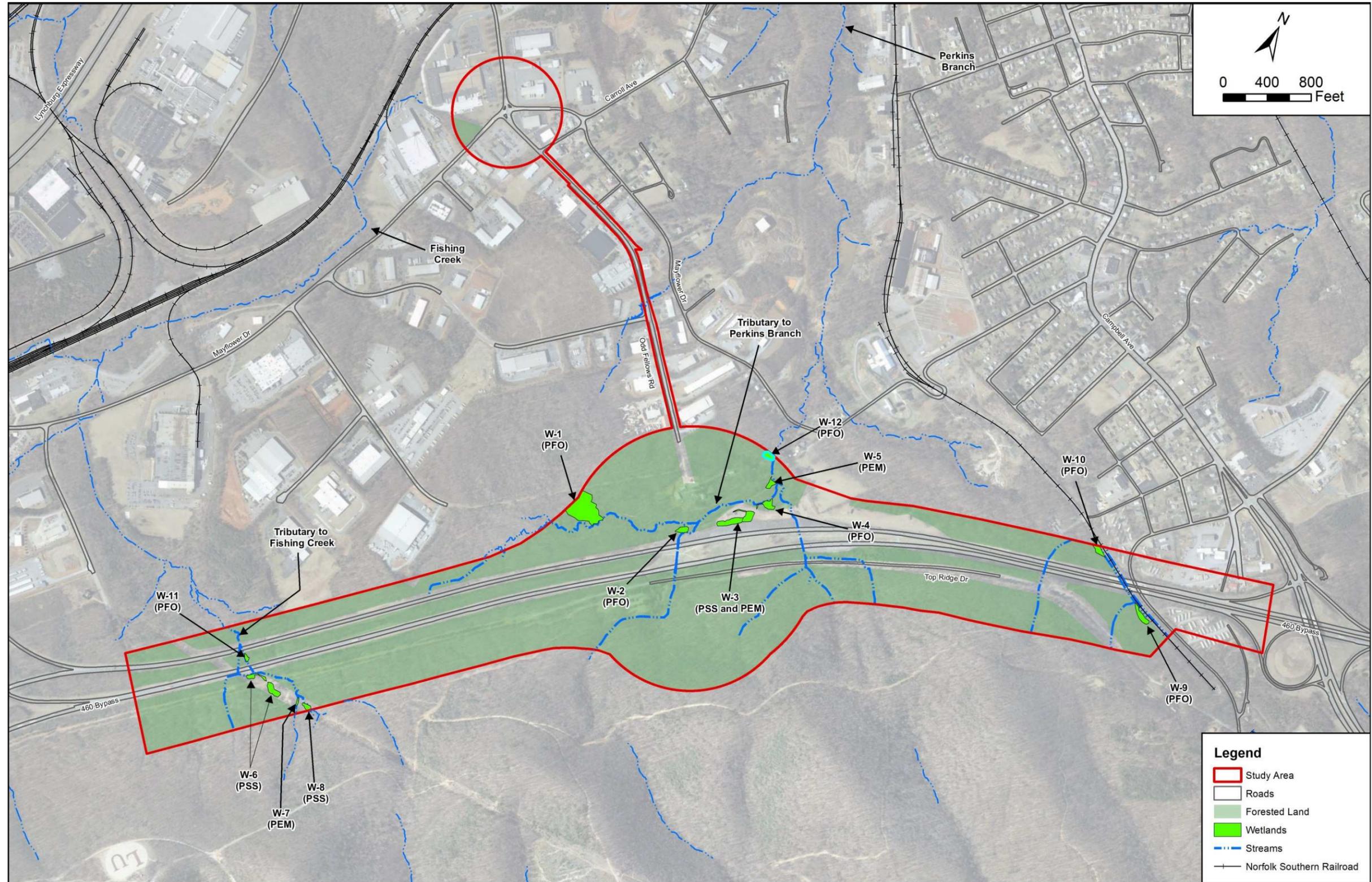


Figure 4: Natural Environment Features

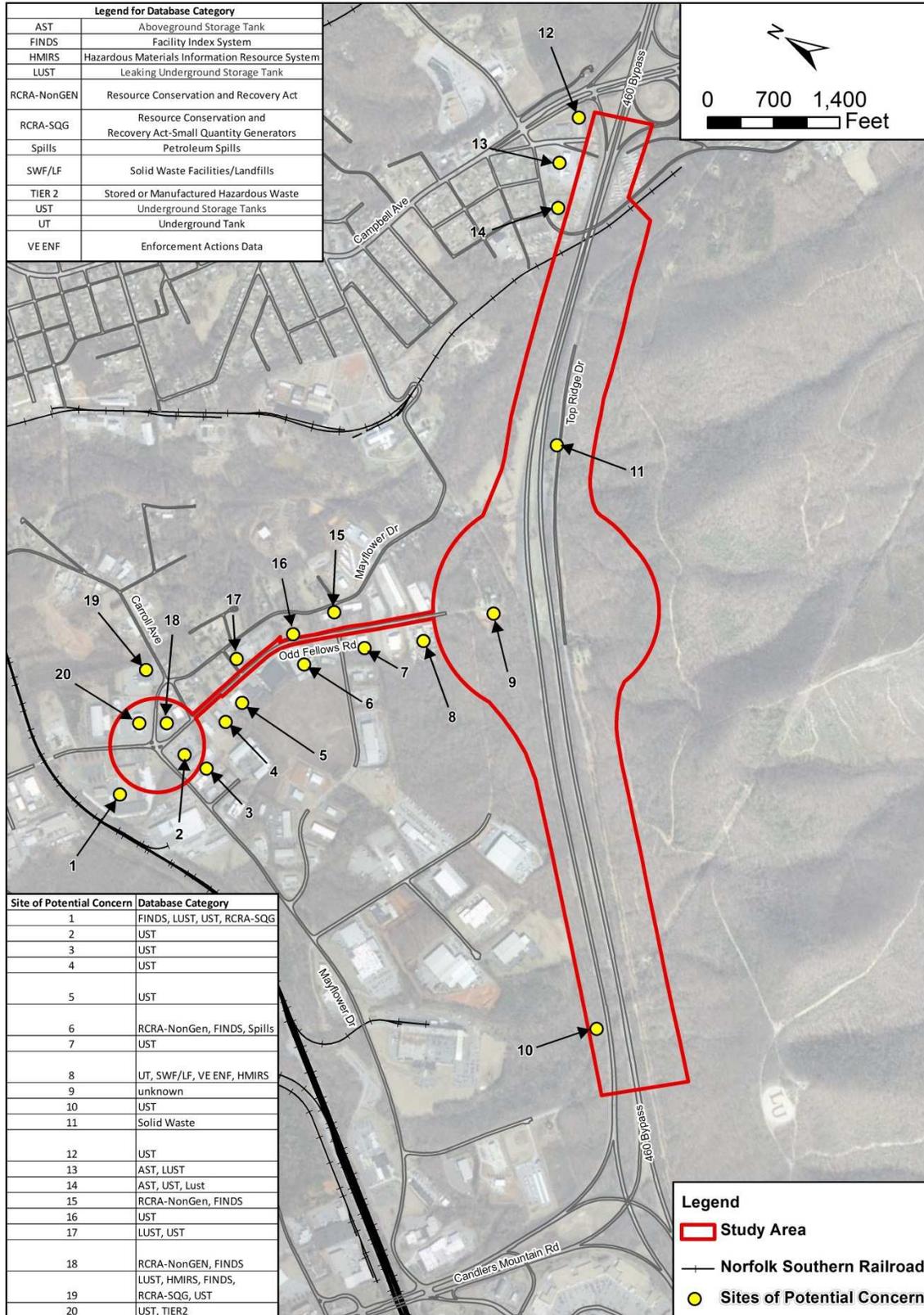


Figure 5: Hazardous Material Sites of Potential Concern

1. RELOCATIONS

A total of 53 structures in the study area were reviewed for potential direct impacts from the project. Only those structures within the immediate vicinity of the proposed extension of Odd Fellows Road and the Interchange with the Route 460 Bypass would potentially be directly impacted. These structures include three residences and one complex of commercial buildings. One abandoned residence would not result in a relocation.

If the Preferred Alternative is selected, VDOT would develop a detailed relocation plan for all displaced residents and commercial enterprises during the final design stage of the project. The acquisition of property and any necessary relocations would be conducted in accordance with all applicable Federal laws, regulations and requirements, including but not limited to, 23 CFR Part 710, the *Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970*, as amended and its implementing regulations found in 49 CFR Part 24.

2. ECONOMIC CONDITIONS

Implementation of the Preferred Alternative would have no negative impact on economic conditions. Instead, the Preferred Alternative would offer an economic benefit by providing access to the Lynchburg Industrial Park directly from the Route 460 Bypass. As the City's *Comprehensive Plan* states, "improved access provided by the planned extension of Odd Fellows Road and its interchange with US Route 460 will increase the attractiveness of this [Employment] area for investment." Access to and from the study area would be maintained during construction, and trucks and commuters would not incur costly and/or onerous detours.

3. ENVIRONMENTAL JUSTICE

This project has been developed in accordance with Title VI of the Civil Rights Act of 1964 as amended in 1968, and Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*. Executive Order 12898 directs Federal agencies to identify and address disproportionately high and adverse human health or environmental effects that its programs, policies, and activities may have on minority and low-income populations. The VDOT definition of Environmental Justice states "Environmental Justice assures that services and benefits allow for meaningful participation and are fairly distributed to avoid discrimination."

According to DOT Order 6640.23, *FHWA Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, minority and/low-income populations are defined as "any readily identifiable groups of minority and/or low-income persons who live in geographic proximity..." (FHWA, 1998). There are no readily available socioeconomic data for the study area; therefore, for this report, US Census Tract data were used to describe the study area.

There are two US Census Tracts in the study area, Lynchburg City tracts 14 and 19. According to 2010 US Census data, the tracts have minority populations of 19.1% and 69.1%, respectively. The most current statistically-valid poverty data come from the 2000 US Census. Based on these data, 19.8% of Census Tract 14 and 22.1% of Census Tract 19 were in poverty in 1999.

There are 40 mobile homes in three trailer parks and three other single family residences in the study area. The mobile homes are located near the Campbell Avenue interchange with Route 460 Bypass. The other three residences are located near the proposed interchange at Odd Fellows Road. Based on the census data, these homes and residences are likely to be minority and/or low income populations. It is unlikely that the mobile homes would be impacted by the development of an interchange at Odd Fellows Road and US Route 460. However, the three single family residences are located near the proposed interchange and would potentially be relocated due to impacts of the Preferred Alternative. Since this project involves an extension of an existing road, there are few options for the location of the project, and completely avoiding these populations may not be possible. Because the study area's social and demographic characteristics are representative of the surrounding area, the project would not have disproportionately high and adverse effects on minority or low-income populations as defined by Executive Order 12898. VDOT would conduct all required public outreach to give minority or low-income populations the opportunity to comment on the project.

4. COMMUNITY IMPACTS

The following community facilities are located in and adjacent to the study area (see **Figure 3**):

- Grace Orthodox Presbyterian Church
- Perkins Park Christian Church
- United States Post Office
- Virginia Department of Motor Vehicles (DMV)

Grace Orthodox Presbyterian Church and Perkins Park Christian Church share a building adjacent to Odd Fellows Road. Improvements to Odd Fellows Road may impact a small portion of the building's parking lot, but would not impact the building. Improvements at the Mayflower Road/Odd Fellows Road intersection may impact a small area of the US Post Office property and/or the Virginia DMV property but neither building or parking lot would be affected. Until the design of the Preferred Alternative is finalized, the extent of any impacts is unknown.

5. STREAMS AND WATER QUALITY

As shown on **Figure 4**, there are no named surface waters in the study area, but there are 14 unnamed streams, with approximately 12,727 linear feet of natural channel. The streams

contain an additional 1,763 linear feet of man-made channels. Eleven of these tributaries flow to Perkins Branch and three flow to Fishing Creek. None of these water bodies were considered impaired by DEQ in its 2010 water quality report.

Impacts to water quality are the result of pollutants from the existing road surface being washed into streams during precipitation events. Typical transportation-related pollutants include grease, oil, metals, nutrients, nitrogen, deicing salts, roadside vegetation management chemicals, and suspended solids. Under either the No-Build or Preferred Alternative, these impacts are likely to continue. However, because the Preferred Alternative does not increase the study area traffic volumes when compared to the No-Build, no increase in pollutant runoff or impacts to water quality are expected.

Moreover, temporary and permanent stormwater management techniques, including vegetative controls and other measures, would be implemented to minimize the potential degradation of water quality. These measures would reduce discharge volumes and detain the remaining discharges, thereby removing most pollutants. During project design, VDOT, Virginia Department of Conservation and Recreation (DCR), and DEQ guidance would be followed to identify appropriate stormwater management measures.

It is anticipated that the project would require permits from the U.S. Army Corps of Engineers (USACE) and/or DEQ. Project impacts would be quantified with the development of final plans and during the permit application process; the impacts are anticipated to be between 2,000 and 4,000 linear feet. During permitting, the USACE and VDOT will negotiate minimization and mitigation methods as part of the permitting process and in accordance with 23 CFR 777.9

6. WETLANDS

Following the methodology described in the *Water Resources and Wetlands Technical Memorandum* (WRTM), field investigations were conducted in March 2012 to determine whether wetlands are present within the study area. Twelve wetlands, totaling 2.9 acres, were found in the study area (see **Figure 4**). All wetlands are non-tidal, with 2.0 acres of forested wetlands, 0.5 acres of scrub/shrub wetlands, and 0.4 acres of emergent wetlands. See the WRTM for more details. The extent of wetland impacts is estimated to be between 0.5 and 1.0 acres.

7. NOISE

Under existing conditions, 23 dwellings or recreational units are impacted by noise. Based on computer modeling, the number of receptors would increase to 33 receptors under the Preferred Alternative. An assessment of the No-Build alternative was not required, per VDOT

policy, since this project is not associated with an interstate. In general, increases in the number of impacted receptors from the Existing to the Preferred Alternative scenario are due to increases in traffic volumes on the Route 460 Bypass, associated ramps, and Odd Fellows Road. In one case, there is a reduction of one impact from the Existing to the Preferred Alternative. This is the result of a home being taken for construction of the proposed interchange. See the Noise Technical Report for more details.

Using Common Noise Environments (CNE), noise barriers were evaluated for all of the impacted residential units along the Route 460 Bypass. Barriers would be warranted, feasible, and reasonable in two of the three impacted CNE. The total length of the barriers would be approximately 3,900 feet, and the heights would range from 12 to 18 feet. The total cost would be approximately \$2.2 million. The barriers would provide sufficient noise reduction benefit to 32 impacted residences, and they would benefit another 29 residential and recreational units. No other form of mitigation was found to be feasible.

8. HAZARDOUS MATERIALS

A search of Federal and State regulatory agency databases was conducted to identify known potential hazardous materials in the study area and surrounding vicinity (see **Figure 5**). Seventeen potential hazardous materials sites were identified in the database search. The database search was supplemented by field reconnaissance which identified three additional properties with potential hazardous materials. The majority of the sites either currently have or have had underground or aboveground storage tanks for petroleum products, and they have the potential to contain petroleum-impacted soils. However, only the sites of the US Post Office (#1 on **Figure 5**) on Odd Fellows Road, Falwell Corporation (#13) on Campbell Avenue, Mays Electric Company (#17) on Odd Fellows Road, and Lynchburg Oil Company (#14) on Martin Street have documented petroleum releases. These four facilities are the most likely to contain petroleum-contaminated soils.

The Jefferson Lighting Company site (#5), formerly the Hydrate Battery Corporation on Odd Fellows Road is listed in several federal databases, likely due to historic illicit discharges of sulfuric acid into the on-site septic system. Harold Beasely, Inc. (#8) occupies the former Yellow Freight Systems site on Odd Fellows Road. This site appears in numerous federal databases, primarily due to spills of resins/adhesives and sodium hydroxide. The site currently holds an active solid waste processing permit, apparently for recycling operations. Both of these sites historically contained underground storage tanks, although there are no records of petroleum releases at either site. The following summarizes hazardous materials concerns:

- **Interchange and extension of Odd Fellows Road:** There are three existing single family residences, one abandoned single family residence, and one commercial facility with

multiple buildings; all of these may contain heating oil tanks or other materials of concern.

- **Odd Fellows Road Improvements:** The Mays Electric, Jefferson, and Beasely properties are located along Odd Fellows Road and have known hazardous materials concerns. However, any improvements required along Odd Fellows Road would occur within the existing ROW, and would be unlikely to involve issues of hazardous materials.
- **Odd Fellows / Mayflower intersection:** The US Post Office is located at the southwestern corner of this intersection. However, no impacts would occur to features of the post office which would be considered a hazardous materials concern (i.e., fueling areas, etc.)

If the Preferred Alternative is chosen, all solid waste material resulting from clearing and grubbing, demolition, or other construction operations would be removed and disposed of in accordance with applicable regulations and/or the development of special provisions. To date, no Phase I or Phase II activities have been completed for this proposed project. Depending on the final alignment and/or drainage and utility improvements, Phase I and Phase II activities may be necessary to identify and delineate impacted media that could adversely affect the project. The presence of hazardous materials or petroleum-impacted soils on properties to be acquired for the project would be addressed through coordination with existing property owners, regulatory agencies, and/or the development of special provisions for management of hazardous materials during construction. If undocumented hazardous materials are discovered during construction, a plan designed to mitigate the impact of the hazardous materials would be developed and instituted.

9. INDIRECT IMPACTS

The Council on Environmental Quality (CEQ) defines indirect effects as effects that "...are caused by the [proposed] action and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect effects may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems" (40 CFR 1508.8(b)).

The most common indirect effects associated with highway projects are related to induced development, i.e., development and the impacts of such development that would not otherwise occur if the project were not constructed. One of the identified needs of this project is to support existing and future economic development. Consequently, any development that occurs as a result of this project would be consistent with Lynchburg's 2002 *Comprehensive*

Plan, which seeks to enhance economic development opportunities in the City, specifically near the First Lynchburg Industrial Park.

There are approximately 300 undeveloped acres in the First Lynchburg Industrial Park that could be developed under either the No-Build or Preferred Alternative. The improved access to the Industrial Park provided by the Preferred Alternative would most likely result in increased development compared to the No-Build Alternative. In addition, the interchange provides potential access south of Route 460 Bypass to a large parcel of undeveloped land on Candler's Mountain, currently owned by Liberty University. The Preferred Alternative would provide improved access to this property compared to the No-Build Alternative. However, significant additional infrastructure would be required before this property could be developed, including new roadways, utilities and extensive site work. Although there are additional undeveloped lands on the south side of Candler's Mountain, there are no plans to extend Odd Fellows Road over Candler's Mountain into Campbell County. Any development facilitated by the Preferred Alternative would have to be coordinated with city, state and /or federal agencies.

Indirect impacts also include those that are further removed in time or space than direct effects. Such impacts may include water quality (e.g., stormwater runoff) or floodplain effects that result from the construction of the project. Since there are no FEMA-mapped floodplains in the study area, there would be no indirect effects to these resources. As discussed previously, stormwater runoff from the Preferred Alternative will be treated in accordance with VDOT, DCR, and DEQ requirements. Thus, no indirect impacts related to downstream effects are anticipated from the Preferred Alternative.

Other reasonably foreseeable indirect effects would be to community resources and study area populations. These effects are expected to be beneficial, and would include improved mobility and access to community facilities, businesses, and neighborhoods as truck traffic is diverted from Mayflower Drive and Candler's Mountain Road.

10. CUMULATIVE IMPACTS

The CEQ defines cumulative impacts as "...impacts on the environment which result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions" (40 CFR 1508.7). Only those environmental resources that would be directly or indirectly affected by implementation of the Preferred Alternative could incur cumulative effects from the Preferred Alternative in combination with other actions.

Partially due to its steep topography and numerous stream valleys, Lynchburg has a limited amount of available flat, vacant land. Sites for buildings with large footprints or large, flat parking areas are the most limited. There are many more sites available for small businesses. Many sites contain vacant buildings of varying sizes, and Lynchburg's current *Comprehensive Plan* states that the City should look at incentives to encourage businesses to reuse previously developed sites. Emphasizing redevelopment should limit the potential cumulative impacts of this project when combined with future economic development in the study area.

The Preferred Alternative is not expected to substantially contribute to adverse cumulative impacts. When considered along with other development, beneficial cumulative impacts could occur to resources that are directly affected by the Preferred Alternative. This may include improved mobility and access for study area businesses and residents.

IV. COORDINATION AND COMMENTS

AGENCY COORDINATION

In preparing this document, the federal, state, and local agencies listed below were contacted to obtain pertinent information and to identify key issues regarding potential environmental impacts. The private entities listed below were also part of the scoping process.

- Campbell County
- City of Lynchburg
- US Army Corps of Engineers
- US Department of the Interior, Office of Environmental Policy & Compliance
- US Environmental Protection Agency
- US Fish and Wildlife Service
- USDA Natural Resources Conservation Service
- Virginia Department of Agriculture and Consumer Service
- Virginia Department of Conservation and Recreation
- Virginia Department of Environmental Quality
- Virginia Department of Forestry
- Virginia Department of Game and Inland fisheries
- Virginia Department of Health, Office of Drinking Water Programs
- Virginia Department of Historic Resources
- Virginia Department of Mines, Minerals, and Energy
- Virginia Department of Rail and Public Transportation
- Virginia Marine Resources Commission
- Virginia Outdoors Foundation

- Amtrak
- CSX
- Liberty University
- Norfolk Southern

PUBLIC INVOLVEMENT

VDOT will hold a Location and Design Public Hearing to present the preliminary project design and the findings of this Environmental Assessment (EA). The EA will be available for public inspection prior to and at the hearing and there will be a minimum 30-day public comment period following notice of availability of the EA. Any comments received during the public hearing or comment period will be considered.

