

WEST DOVER CONNECTOR STUDY

ENVIRONMENTAL ASSESSMENT AND DRAFT SECTION 4(f) EVALUATION

PREPARED BY:



DELAWARE DEPARTMENT OF TRANSPORTATION

PREPARED FOR:



FEDERAL HIGHWAY ADMINISTRATION

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FEDERAL HIGHWAY ADMINISTRATION

DELMAR DIVISION

West Dover Connector Project

Kent County, Delaware

ADMINISTRATIVE ACTION

ENVIRONMENTAL ASSESSMENT / DRAFT SECTION 4(F) EVALUATION

UNITED STATES DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

and

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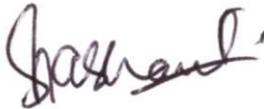
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A. ADMINISTRATIVE ACTION

Federal Highway Administration

- (X) Environmental Assessment
- () Draft Environmental Impact Statement
- () Final Environmental Impact Statement
- () Finding of No Significant Impact
- (X) Draft Section 4(f) Evaluation

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C. SYNOPSIS

This Environmental Assessment (EA) /Draft Section 4(f) Evaluation Report is the next step in implementing the findings and recommendations of the Alternatives Analysis Report completed for the Delaware Department of Transportation's West Dover Connector project and approved by the Federal Highway Administration. The EA documents the need for the proposal, the alternatives considered, and the environmental impacts of the proposed action. The Draft Section 4(f) Evaluation documents the one historic resource that would be used by the proposed project and identifies the alternatives that were evaluated to avoid using other Section 4(f) resources. As such, this document will be made available to the public and provided to agencies involved in the decision-making including Section 4(f) requirements. A 30 day public availability for EA review and a 45 day comment period for Section 4(f) will be established.

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I. PURPOSE AND NEED

This Chapter of the West Dover Connector Environmental Assessment (EA) and Draft Section 4(f) Evaluation provides background information on the West Dover Connector project and current initiatives in the study area and on the federal level. Importantly it also describes the study area and establishes the project's purpose and need.

A. Introduction

1. Project History

Various descriptions of a West Dover Connector (or Saulsbury Road extension) have been part of the City of Dover's comprehensive plans dating back to the 1960s and continuing to the present.

The most recent 2008 City of Dover Comprehensive Plan (adopted February 9, 2009 with final November 23, 2009 amendments) supports the West Dover Connector as a recommendation under the plan's third goal of "Develop and Expand Alternate Modes of Transportation". The Safety Advisory and Transportation Committee of the Dover City Council identified the extension of Saulsbury Road as its number one priority on its list of unfunded transportation projects to be studied in calendar year 2003 and it has remained on this priority list over time. In 2010, the Committee identified the West Dover Connector project on its list of priorities for top transportation projects. The Dover/Kent County Metropolitan Planning Organization's (MPO) Long-Range Transportation Plan (LRTP), adopted in January 28, 2009, identified the West Dover Connector project as a Committed Project with completion by 2020, and the project is contained in the MPO's current 2011 – 2014 Transportation Improvement Program (TIP) adopted May 5, 2010 and is identified as a Committed Project.

2. Study Area

The study area is defined by North Street to the north, State Street and US Route 13 to the east, Route 15 (Southern Boulevard) and Route 10 (Camden-Wyoming Avenue) in Wyoming and Camden to the south and Route 15 (Wyoming Mill Road) to the west. A West Dover Connector (or extension of Saulsbury Road) would be a connector roadway extending south from the intersection of Saulsbury Road and North Street. The study area is shown on **Figure I-1**.

3. Relationship to Eden Hill Farm

The Eden Hill Farm is bounded by North Street to the north, an industrial complex to the west, New Burton Road and West Street to the east, and the spurs of the Delmarva Secondary Railroad to the south. Eden Hill Farm is currently under development according to a Master Plan which calls for mixed use, including residential, office and commercial uses and parklands. These elements of the Eden Hill Farm development are on shown on **Figure I-1**.

The Delaware Department of Transportation (DeIDOT) has been an active participant in the development of the Master Plan. The General Assembly appropriated, through three different Bond bills, funds for planning and the acquisition of 30 acres of the Eden Hill Farm, including the farmstead. On November 22, 2004, DeIDOT completed the purchase of the 30 acres. In addition to the house, buildings and immediately surrounding land, DeIDOT also purchased the two tree-lined allees running north and east from the house and approximately 91 acres located in the southern portion of the property along the north side of Puncheon Run. These actions help preserve the historic and agricultural character and setting of the farmhouse and its viewshed. The farmhouse, buildings and the allees are no longer under threat of direct impact from development. DeIDOT has requested a 150-foot-wide reservation of this land for future transportation purposes (pedestrian, bicycle and vehicular).

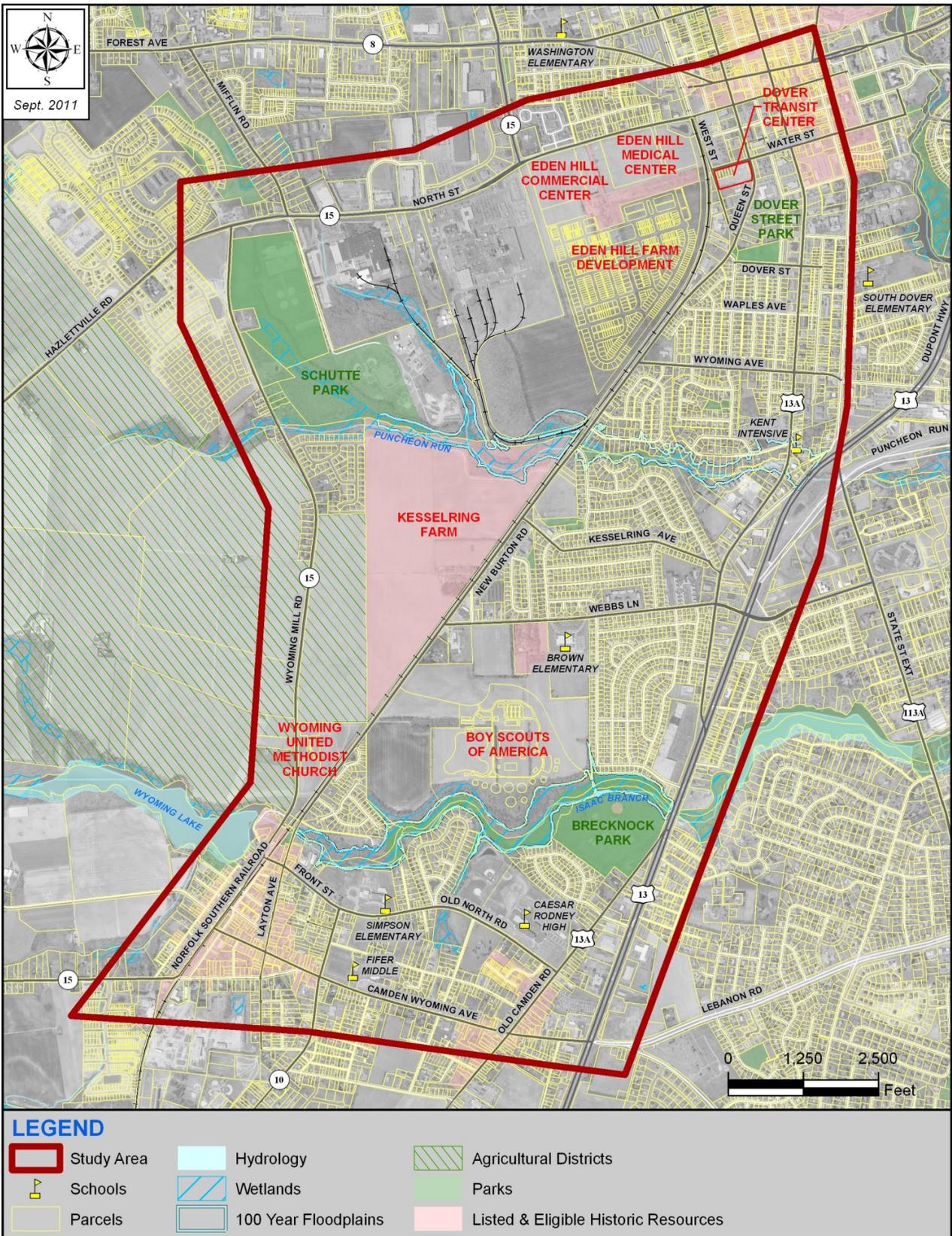


Figure I-1 West Dover Connector Study Area

The demonstration of need for the West Dover Connector has not factored in the development of the Eden Hill Farm; they are two separate initiatives. The purpose and need of the West Dover Connector indicates that it can be advanced independently of the Eden Hill Farm development. The West Dover Connector was initiated concurrently with development planning for the Eden Hill Farm so as not to preclude options for right-of-way for a new transportation corridor.

4. Dover Transit Center

A multi-modal Dover Transit Center is currently being constructed at the intersection of Water and Queen Streets in Dover, in the northeast corner of the West Dover Connector study area as shown on **Figure I-1**. The first phase of the new multi-modal Dover Transit Center was completed December 2010. The Dover Transit Center will create an intermodal hub for transit service in Dover and provide a consolidated facility for DART First State's public transit service and paratransit service as well as private interstate motor coach services, and local taxi services. Phase II will include a 30,000 square office building to include passenger waiting space, ticket sales, and amenities.

DeIDOT, the Dover/Kent County MPO, the City of Dover and the Downtown Dover Partnership expect that the new Dover Transit Center will be a catalyst for the redevelopment of the area surrounding the facility. Charettes were held in September 2010 with businesses and residents to discuss future development and redevelopment opportunities. The Dover Transit Center will enhance multimodal travel in the City of Dover and in the West Dover Connector study area and facilitate the use of alternative modes of transportation thus supporting federal, state and community livability initiatives.

B. Project Purpose

The purpose of the West Dover Connector project, being undertaken by DeIDOT, is to improve mobility across the Norfolk Southern Railroad (NS Railroad) for all travel modes to and from the west side of Dover, reduce congestion at key intersections and locations in the study area, improve connectivity of the roadway network for regional through and local travel, reduce through traffic volume on local streets, and improve safety including emergency service access.

C. Project Need

Existing and future traffic congestion as well as existing and projected growth in the greater Dover area point to a number of deficiencies and needs in the existing transportation system on the west side of Dover. These conditions include deficiencies and needs in the areas of: system linkage and continuity, through traffic impacts on local streets, emergency service accessibility, safety, and consistency with previously established and current planning context. System deficiencies and needs have been identified which impair multimodal mobility in the study area. Each of these elements is described in the following subsections.

1. Existing and Future Traffic Congestion

Traffic counts in the study area were collected in 2011 for development of this EA and Draft Section 4(f) Evaluation. A recent DeIDOT project for the realignment and signalization of Wyoming Mill Road at Hazletville Road (construction began in the Spring of 2011) has been reflected in the 2020 and 2035 No-build traffic analysis scenarios as a completed project (the construction is expected to be completed by November, 2011).

An analysis of 2011 traffic conditions indicates failing movements at many intersections within the study area during the evening peak travel periods. Additionally, long traffic queues (or back-ups) form during peak hours at intersections and include the stop-controlled approaches at Wyoming Mill Road and Hazletville Road/North Street, North Street at West Street, and Queen Street at West Street. An

analysis of future traffic conditions (future year No-build) indicates greatly deteriorated conditions in terms of the level of service (LOS) and delay at study area intersections. In the future year 2020 No-build condition, there are 10 failing (LOS F) or near failing (LOS E) intersections out of a total of 13 intersections. By 2035 No-build, all 13 intersections are either failing or near failing.

Additional details about traffic conditions both in 2011 and projected for 2020 and 2035 can be found in the 2011 *Updated Traffic Report*.

2. Projected Growth

The greater Dover area experienced significant population, household, and employment growth during the 1990s. By 2000, approximately 32 percent of Kent County's total population and households and approximately 50 percent of the total number of jobs were located within the greater Dover area. Growth is expected to continue.

The projected growth in demographic attributes like population, housing, and employment has direct correlation with growth in traffic volumes on the study area roadway network. Roadway segments and intersections in the study area have experienced significant traffic growth in the last two decades and traffic volumes are expected to continue to grow in the next two decades as contained within DeIDOT's statewide travel demand model and the demographic forecasts, developed by the Delaware Population Consortium for the Dover area. From 2000 to 2035, population in the Dover area is forecasted to increase by 25 percent, number of households by 35 percent and employment by 44 percent. The rate of forecasted growth in employment in the greater Dover area will outpace that of Kent County.

Further underscoring the need to accommodate future growth, the West Dover Connector study area lies within the designated Kent County Growth Area. This is the county's primary growth management strategy to direct growth and development to this area, where it can be supported by infrastructure and public services in order to create new and support existing communities. Furthermore, Delaware's *Strategies for State Policies and Spending*, which sets the state's policy framework to coordinate land use decision-making with the provision of infrastructure and services, has placed an overwhelming majority of the land within the West Dover Connector study area at the highest level for state investment and spending.

The greater Dover area, and within that, the West Dover Connector study area, are vital to Kent County's economy, the City of Dover's economy, and the economies of the Towns of Camden and Wyoming. Efficient, effective, and safe transportation infrastructure that provides for through and local travel movements on the west side of the City of Dover is vital for continued growth, economic health, and quality of life. Thus, there is a need to accommodate future growth as it relates to the generation of travel. Further detail on the projected growth in the study area can be found in the 2010 *Alternatives Analysis Report*.

3. System Linkage and Continuity

System linkage and continuity has to do with the configuration of the roadway network and how it is used by travelers to get to and from destinations. The existing roadway system on the west side of the City of Dover, especially west of New Burton Road, lacks the connectivity of a grid system that is essential for effective traffic circulation in an urbanized area. Under existing conditions, the study area roadway system does not efficiently collect and distribute traffic from the local streets to the collector roadways to the regional arterial system.

State Route 15 (Saulsbury Road) is a minor arterial highway of regional significance as it connects surrounding counties, provides truck access to industrial and commercial areas, and provides connection to State Route 1 (SR 1). However, within the study area, Saulsbury Road (State Route 15)

does not provide a through connection; it disperses traffic onto lower classification roadways such as collectors and local streets rather than providing a direct connection to other major roadways such as US Route 13 within the study area, forcing traffic to make circuitous travel movements around Eden Hill Farm or Schutte Park and other local roadways. This circuitous and cut-through traffic problem is verified by the license plate studies done for the West Dover Connector project. More detailed information on the license plate study can be found in the 2010 *Alternatives Analysis Report*.

In addition to roadway connectivity issues, circulation for residents and businesses across the NS Railroad is restricted by the limited number of railroad crossings in and near the study area. The distance between the only two crossings in the study area is approximately 2.9 miles, limiting efficient traffic circulation in the study area across the NS Railroad. This great distance adds travel time and length to trips trying to reach origins or destinations on either side of the railroad.

To summarize, with existing and forecast traffic congestion and the expectation of continued growth in the greater Dover area and in the study area, several transportation needs have been identified to address deficiencies in system linkage and continuity:

- A direct connection to US Route 13 for through traffic;
- Reduced cut-through traffic on lower classification roads;
- Access for traffic generated by future development in the study area; and,
- Improved circulation across the NS Railroad.

4. Emergency Service Accessibility

The lack of travel options across the NS Railroad limits the options available to emergency service personnel, especially in accessing the hospital from points west of the railroad, as the hospital lies to the east of the railroad. The distance between the northernmost and the nearest southern at-grade crossings in the study area is approximately 2.9 miles. As a result, time and distance for some emergency service trips (fire, police, and rescue trips to the hospital) are lengthened. These conditions indicate a need to improve emergency service accessibility across the NS Railroad.

5. Safety

Rail Crossings

Of the total at-grade railroad crossings in Kent County (28), four of the at-grade crossings in the study area are ranked high in terms of Federal Railroad Administration collision prediction value: the at-grade crossing on Southern Boulevard ranks 4th, the at-grade crossing on North Street ranks 7th, the at-grade crossing at Camden-Wyoming Avenue ranks 8th and the at-grade crossing at Front Street ranks 11th, in terms of highest collision prediction values. As development continues in the greater Dover area and the level of rail and vehicular traffic grows, safety at rail crossings in the study area will become an even greater concern. Delaware Code Title 17 Highways indicates that any new railroad crossing on state highways must be grade-separated, which will significantly improve safety for multiple travel modes such as motor vehicles, bicycles, and pedestrians.

Intersections

Generally speaking, the probability of crashes increases with the volume of turning movements at intersections. Accident data for the three-year period (1/2007 to 12/2009) indicate that Saulsbury Road at North Street has a significant number of crashes (31 crashes). Within the last several years, this signalized intersection was reconfigured from a "T" configuration to a four-leg alignment with the new intersection approach serving only the Eden Hill Farm residential development. Since this approach only provides access into the Eden Hill Farm residential development and does not provide a through connection to the network of streets and highways in the study area, there are and will be heavy turning movements which are a contributing factor to crashes at this intersection. As traffic volumes at this

intersection will increase in the future with continued growth and development in the greater Dover area, this intersection will continue to experience high crash potential in the future due to heavy turning movements.

Roadways

Traveler safety can be affected on a roadway by the composition of traffic (through traffic and local traffic), the configuration of roadways, and the presence of intersecting streets and driveways. When through and local traffic mix, conflicts can occur as the former is trying to move through the network while local traffic is navigating within the network, making turns specifically to access land uses adjacent to a roadway. Differences in travel speed between through and local traffic can also create conflicts. As described previously, the separation of through from local traffic and the distribution of that traffic to a hierarchy of streets and highways are desirable.

Bicycle and Pedestrian

Within the study area, a need has been identified to better support bicycle and pedestrian travel modes and to improve safety for pedestrian and bicycle travel. Parks, schools, and other community facilities are not connected by facilities that provide for safe and convenient travel by pedestrians and bicyclists. As stated in the City of Dover Comprehensive Plan Update, “*From the People-For the People*” (2003, amended 2005), and reiterated in the most recent 2008 Comprehensive Plan, bikeways and pedestrian ways along collector and arterial streets in Dover are fragmented. The Plan states that the City of Dover lacks a completely interconnected transportation system; however, the city now requires that sidewalks be constructed or, as an alternate to sidewalks, a paved, multi-use path may be provided through a waiver process.

In the West Dover Connector study area, there is a multi-use path on the south side of North Street between Wyoming Mill Road and the NS Railroad. Eden Hill Farm is being developed with a multi-use path along the site’s perimeter. A stated priority of the Safety Advisory and Transportation Committee of the Dover City Council is to have a bicycle route and facility established within the study area to connect Schutte Park to Brecknock Park as part of a proposed Capitol Bike Belt. This priority points to the need to develop a transportation improvement that arises from the West Dover Connector as a bikeway to facilitate this connection.

DeIDOT prepared a Delaware Bicycle Facility Master Plan in October of 2005 in order to define and implement a statewide system of designated, on-road bicycle facilities. The Master Plan identifies a hierarchy of bikeways to account for mobility needs including statewide bicycle routes, regional bicycle routes, and connector bicycle routes. A number of these bikeways are present within the study area according to the March 2008 map for Kent County which can be found in the 2010 *Alternatives Analysis Report*.

With the presence of statewide and regional bicycle routes and recreational connectors in the study area, bicyclists can be expected to be on roadways within the study area pointing to the need to develop a transportation improvement that arises from the West Dover Connector as a bikeway.

Further supporting the need to improve travel for bicycle and pedestrian modes within the study area is the recent issuance in 2009 of a “Complete Streets” policy by DeIDOT. The Complete Streets policy’s purpose is to ensure that DeIDOT system modifications are routinely planned, designed, constructed, operated, and maintained in a way that enables safe and efficient access for all users (pedestrians, bicyclists, transit riders, and motorists). A transportation improvement that arises from the West Dover Connector project will need to be consistent with DeIDOT’s Complete Streets policy.

In addition, the West Dover Connector project should be consistent with the Federal Highway Administration's (FHWA) Livability Initiative. The initiative's aim is to improve the relationship between infrastructure and community needs, specifically to improve a community's 'livability,' to enhance the environmental sensitivity of roads and bridges and to help develop multi-modal transportation options. By improving travel for bicyclists and pedestrians and connecting parks to each other and to residential areas, a transportation improvement that arises from the West Dover Connector project will support sustainable growth and increase transportation choices.

6. Previously Established and Current Planning Context

This section describes the planning context for the West Dover Connector that is in place. A transportation improvement that arises from this project should be consistent with the previously established and current planning context.

Various descriptions of a West Dover Connector (or Saulsbury Road extension to New Burton Road) have been part of the City of Dover's comprehensive plans dating back to the 1960's and continuing through the 2003 City of Dover Comprehensive Plan. The most recent 2008 City of Dover Comprehensive Plan (adopted February 9, 2009 with final November 23, 2009 amendments) supports the West Dover Connector as a recommendation under the plan's third goal of "Develop and Expand Alternate Modes of Transportation," and emphasized the continued collaboration of DeIDOT, the Dover/Kent County MPO, private property owners, elected officials, neighborhood associations, and school organizations on the plans for the connector roadway.

The Safety Advisory and Transportation Committee of the Dover City Council identified the extension of Saulsbury Road as its number one priority on its list of unfunded transportation projects to be studied in calendar year 2003 and it has remained on this priority list over time. In 2010, the Committee identified the West Dover Connector project on its list of priorities for top transportation projects.

Developing a West Dover Connector transportation improvement is also consistent with the planning of the Dover/Kent County MPO. In 2004, the Dover/Kent County MPO's LRTP recommended studying the extension of Saulsbury Road due to persistent and fast-paced growth that contributes to existing and forecast future traffic congestion in the area. The most recent Dover/Kent County MPO's LRTP, adopted in January 28, 2009, identified the West Dover Connector project as a Committed Project with completion by 2020, and the project is contained in the MPO's current 2011 – 2014 TIP (adopted May 5, 2010 and amended September 8, 2010) and is identified as a Funded Project.

7. Livability Initiative

Through their 2009 Partnering Agreement, the U.S Departments of Housing and Urban Development (USHUD) and Transportation (USDOT) and the Environmental Protection Agency (USEPA) are working together to integrate housing, transportation, water infrastructure and land use planning and investment through planning grants to metropolitan areas which are provided to localities to implement livability programs. One of the key goals of the livability initiative is to support sustainable growth by targeting development in locations that already have infrastructure and by offering increased transportation choices.

Six Principles of Livability were developed in 2009 to be implemented through this initiative. The six Principles of Livability include:

1. Provide more transportation choices
2. Promote equitable, affordable housing
3. Enhance economic competitiveness
4. Support existing communities

5. Coordinate policies and leverage investment
6. Value communities and neighborhoods

The FHWA is undertaking many activities in support of the Livability Initiative. FHWA actions are targeted toward enhancing the quality and location of transportation facilities in order to increase access to jobs, affordable housing, quality schools, and safe streets. The West Dover Connector project is consistent with these national livability principles, goals and initiatives. Transportation investments such as the West Dover Connector will enhance the livability of the west side of Dover by enhancing access to housing, jobs, and other opportunities, such as parks, and by providing for increased transportation choice by increasing safety and providing facilities for bicyclists and pedestrians. The Preferred Alternative for the new roadway will connect employment to residential areas in the City of Dover thus increasing access to jobs and other opportunities within an existing community. Future growth in Dover will be supported by the West Dover Connector which will accommodate the increased travel associated with development and redevelopment in the study area. In addition, the Preferred Alternative provides increased transportation choices by including accommodations for bicyclists and pedestrians as well as motor vehicles.

II. ALTERNATIVES

This Chapter discusses alternatives considered, alternatives eliminated from further consideration, and the Preferred Alternative, as well as the reasons for eliminating or retaining alternatives. The No-build Alternative is also described below. The term “Preferred Alternative” is only used to refer to the alternative that has been carried forward from the alternatives analysis process into detailed study in the EA. The use of the term “preferred” should not be interpreted to mean that DeIDOT or FHWA has made any final decision regarding the project. This would occur upon FHWA issuance of a Finding of No Significant Impact (FONSI) for the project. Any decision on a Preferred Alternative would be made based on DeIDOT review of public and agency comments on this EA and recommendations of a selected alternative to FHWA.

A. No-build Alternative (Alternative 1)

The No-build Alternative (Alternative 1) includes the existing network of roads in the study area, plus the currently programmed, committed and funded roadway and transit projects in the vicinity of the study area including the realignment and signalization of Wyoming Mill Road and the Dover Transit Center. The No-build Alternative assumes no construction of a West Dover Connector (aka Extension of Saulsbury Road) and no other improvements to the study area’s transportation system other than routine maintenance and repair. It represents future transportation and travel conditions in the study area but without an investment in a West Dover Connector project.

The No-build Alternative would not meet the purpose and need for this project because it:

- Does not address existing and future traffic congestion
- Does not address future traffic demand caused by anticipated development
- Does not address traffic circulation problems in the study area because of missing system links and lack of a continuous roadway facility for traffic on the Saulsbury Road corridor
- Does not address cut-through traffic or through traffic using residential neighborhood streets to access US Route 13
- Does not improve circulation across the NS Railroad
- Will not enhance the livability of the west side of Dover; will not enhance access to housing, jobs and other opportunities, such as parks, and will not provide for increased transportation choice or increase safety and providing facilities for bicyclists and pedestrians.

The traffic circulation patterns in the study area in the future No-build Alternative would remain similar to the existing condition but with higher volumes due to projected growth in trip making as a result of forecasted increases in population, households and employment. Significantly higher traffic volumes would be expected to circulate around the Eden Hill Farm parcel and Schutte Park, while the performance of the North Street intersections would significantly deteriorate due to the higher volumes. The detailed traffic analysis results (see the 2011 *Updated Traffic Report*) confirmed that intersection traffic performance under the 2035 No-build Alternative would excessively deteriorate during the evening peak hour - all 13 intersections studied are projected to have unacceptable intersection performance (LOS E or LOS F). Projected growth in the study area and in the greater Dover area would exacerbate traffic congestion and potentially lead to adverse effects on emergency service accessibility and overall safety. Additionally, there would be considerably more cut-through traffic compared to existing conditions, there would be no improvement in mobility and access across the NS Railroad in the study area, and the No-build Alternative would not change or increase the connectivity between parks.

The No-build Alternative would not require any displacements; right-of-way acreage acquisitions; or directly impact any streams, wetlands, floodplains, cultural resources, or preserved agricultural lands. The No-build Alternative would not add any new costs. However, it would not resolve the current peak traffic congestion and circulation problems and would exacerbate future access and circulation problems along the North Street corridor, Webbs Lane, New Burton Road, Wyoming Avenue, Wyoming Mill Road, and Camden-Wyoming Avenue. Therefore, the No-build Alternative would not address the project Purpose and Need.

The No-build Alternative does, however, provide a baseline by which to compare the other alternatives. As such, the No-build Alternative is retained in this EA for evaluation purposes.

B. Build Alternatives

As later detailed in Chapter V of this EA, ideas and potential solutions for the project were developed in consultation with the West Dover Connector Working Group (an advisory group made up of elected officials, members of community organizations, and other stakeholders); the local, State and Federal environmental resource agencies; and through Public Workshops. Working Group members and the general public were encouraged to come up with additional ideas or concepts so that a full set of concepts could be evaluated. During this alternatives analysis and evaluation, 25 build concepts/alternatives (consisting of 14 core concepts with permutations) and the No-build Alternative were assessed, comprising the full range of alternatives for the project. The complete evaluation and selection process of the improvement concepts, alternatives, and the detailed study work completed for DeIDOT's West Dover Connector Project is included in the 2010 *Alternatives Analysis Report*. Further, a completely new traffic count program and updated traffic analysis was completed for this EA and is documented in the 2011 *Updated Traffic Report*.

The development and evaluation of concepts and alternatives for the West Dover Connector was undertaken by DeIDOT using a progressive, three-step alternatives evaluation process consisting of the following elements:

Step One – Performance related to the project Purpose and Need;

Step Two – Performance related to specific traffic, engineering, and environmental parameters; and

Step Three – Detailed study of design and operations along with a refined environmental evaluation.

Alternatives found to be responsive to the evaluation criteria in each step progressed to the next step. Alternatives that failed to respond or responded poorly to the evaluation criteria were eliminated from further consideration at their point of failure in the three-step process. The exception was the No-build Alternative, described previously, which was retained throughout the alternatives evaluation and is carried forward to this EA.

In Step One, the 25 build concepts and the No-build Alternative were evaluated according to specific elements of the project Purpose and Need. At the end of Step One, 20 concepts/alternatives advanced to Step Two.

In Step Two, the 20 surviving build alternatives from Step One were evaluated according to the feasible and prudent standards related to specific traffic, engineering and environmental parameters, as well as input from the Working Group, the resource agencies, and the public. At the end of Step Two, the No-build Alternative (Alternative 1) and four build alternatives (Alternatives 4, 5C - renamed 5C Modified, 7C and 7D) were retained for detailed study and 15 alternatives were eliminated.

Step Three involved a detailed study of the surviving alternatives and involved conceptual engineering design of each retained alternative - 4, 5C Modified, 7C and 7D - the refinement of design elements to avoid or minimize impacts, and refined calculations of traffic and environmental performance. This more focused approach provided for a clearer understanding of the potential functions, operations, and impacts of each alternative enabling a more refined assessment of the advantages and disadvantages which further helped the selection of a Preferred Alternative.

Additional details of the analysis and evaluation of concepts and alternatives may be found in the in the 2010 *Alternatives Analysis Report*, the 2011 *Updated Traffic Report*, or on the project website maintained by DeIDOT. The evaluation table summarizing the evaluation results from all three steps is included as **Table II-1** and more detail about the avoidance alternatives can be found in Chapter IV.

1. Alternatives Eliminated from Further Study

As detailed above, the initial 25 build concepts/alternatives were evaluated and refined based upon a progressive, three-step alternatives evaluation process resulting in five alternatives to be evaluated in detailed study. These preferences, in combination with the environmental and engineering findings, eliminated the build Alternatives 4, 7C, and 7D from further study. Each is summarized below. Additional details of the build alternatives eliminated from further study may be found in the in the 2010 *Alternatives Analysis Report* or on the project website maintained by DeIDOT.

Alternative 4

Alternative 4 would extend Saulsbury Road south from its current terminus at North Street, cross Puncheon Run and connect to US Route 13 using Webbs Lane. This alternative would also provide an auxiliary connection to Wyoming Mill Road from the connector. The alignment of Alternative 4 was refined during the detailed study phase to avoid direct impacts on the building complex of the National Register of Historic Places eligible Kesselring Farm (West) located west of New Burton Road.

Since Alternative 4, along with Alternative 5C Modified to be described below, were determined during detailed study to be the only prudent alternatives to pursue in addressing project need, the performance of these alternatives in context of engineering and environmental factors was considered. This analysis showed that while Alternative 4 would have slightly less impact on floodplains, Alternative 5C Modified would have significantly fewer partial impacts and fewer potential indirect impacts on historic properties. In terms of new right-of-way, Alternative 4 would have the potential for disproportionate impacts on minority populations along Webbs Lane due to partial property impacts for new right-of-way and additional traffic volume. The Working Group and general public also indicated concerns about pedestrian safety along Webbs Lane in Alternatives 4 and 7C. These preferences, in combination with the environmental and engineering findings, favor Alternative 5C Modified over Alternative 4.

Alternative 7C

Alternative 7C would extend Saulsbury Road along the western boundary of the Eden Hill Farm parcel before swinging to southeast to cross the NS Railroad and New Burton Road on a structure. After crossing the NS Railroad and New Burton Road, the alignment would connect to New Burton Road using a series of ramps and intersections. The new connector road would then continue along New Burton Road before it would run adjacent to the Boys Scouts of America property and connect to US Route 13 using the Charles Polk Road corridor. New Burton Road would be improved and widened and the existing structure across Puncheon Run would be widened. As with Alternative 5C Modified, Charles Polk Road would be retained for local circulation to and from the Rodney Village community and would not connect directly to US Route 13, but instead would intersect the new connector road. The existing Charles Polk Road would be separated from the new connector road using a raised

landscape buffer, planted heavily with native trees and plant species to serve as a visual barrier and reduce noise impacts on the adjacent Rodney Village neighborhood. The new connector road would connect with US Route 13 near the current intersection of Charles Polk Road.

Alternative 7C would incur the highest number of displacements compared to the other retained alternatives, with a high number of partial takes, and a relatively moderate amount of acreage would be required for right-of-way. Although Alternative 7C would have the lowest floodplain impacts with respect to fill, moderate impacts on wetlands, no impacts on agricultural land, and no direct or indirect impacts on historical or agricultural properties occur, Alternative 7C is not responsive to specific elements of need. It would capture insufficient volumes of through traffic, provide an indirect connection to US Route 13, increase traffic on New Burton Road, increase cut-through traffic on local streets east of New Burton Road, and exhibit dramatically high friction for mainline connector traffic because of the turning movements that occur at numerous existing driveways and intersections currently along New Burton Road. These conditions render Alternative 7C not prudent.

Alternative 7D

Alternative 7D would extend Saulsbury Road along the western boundary of the Eden Hill Farm parcel before swinging to southeast to cross the NS Railroad and New Burton Road on a structure. After crossing the NS Railroad and New Burton Road, the alignment would connect to New Burton Road using a series of ramps and intersections. The new connector road would then continue along New Burton Road and Webbs Lane to connect to US Route 13. New Burton Road would be improved and widened and the existing structure across Puncheon Run would be widened. Webbs Lane would also be widened to the intersection with US Route 13. By using New Burton Road, Alternative 7D would eliminate a new crossing of Puncheon Run but would still require the widening of the existing bridge to support a wider roadway section.

Although Alternative 7D would have no floodplain impacts in terms of fill, no impacts on preserved agricultural land, and low to moderate number of displacements, Alternative 7D would result in loss of parking on Webbs Lane, a high number of partial impacts (strip takes), disproportionate impacts on minority populations along Webbs Lane, and has potential impacts on a historic property.

Alternative 7D would address some elements of need but compared to Alternative 7C, Alternative 7D performs least well. Combined with community impacts that would be high on New Burton Road and Webbs Lane, this Alternative would not be prudent. As previously noted for Alternative 7C, Alternative 7D also captures insufficient through traffic; provides an indirect connection to US Route 13; increases traffic on New Burton Road; increases through traffic on Webbs Lane; creates a potential for increasing cut-through traffic on local streets east of New Burton Road; and exhibits dramatically high friction for mainline corridor traffic because of the number of intersections, driveways and turning movements that happen on New Burton Road and Webbs Lane. These compromises, considered in conjunction with the existence of a high performing alternative, render Alternative 7D not prudent.

2. Preferred Alternative – Alternative 5C Modified

Based upon the input from the Working Group, the resource agencies, the Public Workshops and the progressive, three-step alternatives evaluation process, Alternative 5C Modified is the Preferred Alternative as it is the best performer compared to Alternatives 4, 7C and 7D in terms of responding to the Project Need. When the results of the project need analysis are combined with the outcome of the engineering, traffic and environmental analyses, Alternative 5C Modified edged out second ranked Alternative 4 by incurring the least overall environmental harm (see Alternative 4 discussion above). A map of Alternative 5C Modified is included as **Figure II-1**. Design plans and detailed descriptions of the Preferred Alternative are included in Appendix A and in the 2010 *Alternatives Analysis Report*.

Table II-1 Summary of Alternatives Evaluation

Concept/ Alternative	Step One Meets Purpose & Need?	Step Two Retained for Detailed Study?	Step Three Feasible & Prudent?	Rationale
1 - No-build	No	Yes	No	Does not meet Purpose and Need
2A, 2B, 2C, 2D	Yes, but weak	No	No, not retained for detailed study	Weak on Purpose and Need; no connection to US 13; no reduction in cut-through traffic; large structures with no compensating benefit; other alternatives avoid or minimize natural and right-of-way impacts; lack of Working Group support; public opinion mixed
3	Yes	No	No, not retained for detailed study	Other alternatives avoid or minimize right-of-way impacts better; lack of Working Group and public support
4	Yes	Yes	No	Moderately responsive to Purpose and Need; moderate environmental impacts; Working Group and public concerns regarding child and pedestrian safety along Webbs Lane in the vicinity of Reilly Brown Elementary School; potential disproportionate effects on minority populations along Webbs Lane
5A, 5B	Yes	No	No, not retained for detailed study	Other alternatives avoid or minimize right-of-way impacts better; public support mixed
5C (Modified)	Yes	Yes	Yes – The Preferred Alternative	Strong on Purpose and Need (best performer); moderate environmental impacts; Working Group and public support: would remove through traffic from local roads; would avoid Webbs Lane
5C Spur	Yes	No	No, not retained for detailed study	Impacts to Brecknock Park and Isaac Branch undesirable or infeasible; lack of Working Group, resource agency and public support
6	No	No	No, not retained for detailed study	Does not meet Purpose and Need
7A, 7B	Yes	No	No, not retained for detailed study	Other alternatives avoid or minimize social and traffic impacts better; lack of Working Group support; public opinion mixed
7C, 7D	Yes	Yes	No	Least responsive to Purpose and Need; least to moderate environmental impacts; Working Group and public concerns: high right-of-way impacts undesirable; adverse effect of channeled traffic on Webbs Lane on child and pedestrian safety in vicinity of Reilly Brown Elementary School; potential for disproportionate effects on minority populations along Webbs Lane (7D only)
7C Spur	Yes	No	No, not retained for detailed study	Impacts to Brecknock Park and Isaac Branch undesirable or infeasible; lack of Working Group, resource agency and public support
8	No	No	No	Does not meet Purpose and Need

Concept/ Alternative	Step One Meets Purpose & Need?	Step Two Retained for Detailed Study?	Step Three Feasible & Prudent?	Rationale
9	No	No	No	Does not meet Purpose and Need
10	No	No	No	Does not meet Purpose and Need
11	No	No	No	Does not meet Purpose and Need
12A, 12B	Yes	No	No, not retained for detailed study	Relocation of railroad determined infeasible; lack of Working Group support for 12A; potential for disproportionate effects on minority populations along Webbs Lane (12A only)
13	No	No	No	Does not meet Purpose and Need
14A	Yes, but weak	No	No, not retained for detailed study	Weak on Purpose and Need; lack of Working Group support
14B	Yes, but weak	No	No, not retained for detailed study	Weak on Purpose and Need; other alternatives avoid or minimize right-of-way impacts; engineering, operational limitations at New Burton Road

Design – Preferred Alternative

Alternative 5C Modified would extend Saulsbury Road along the western boundary of the Eden Hill Farm parcel before swinging southwest to cross Puncheon Run and the railroad spur on a structure. A future roadway right-of-way has already been designated to the State of Delaware in the area of the Eden Hill Farm parcel by the developer of the Eden Hill Farm community; as a result, the location of this section of the proposed roadway is fixed.

At Puncheon Run, the proposed alignment of Alternative 5C Modified was further evaluated and refined during the detailed study. The major considerations were motorist safety (i.e. design speed and geometric design), environmental impacts to the existing natural resources, impacts to the existing community, and the anticipated cost. Differing from the original Alternative 5C, Alternative 5C Modified would shift the roadway crossing Puncheon Run further east toward the railroad, creating a shorter, curved structure. This realignment would impact Eden Hill Farm’s recently constructed stormwater management facility, requiring a complete relocation and/or reconfiguration of the basin. Placing the bridge closer to the NS Railroad and New Burton Road would also make the structure highly visible to drivers and residential neighborhoods and businesses on the east side of New Burton Road. Accordingly, a wooded area would act as a visual buffer to the bridge and would provide a physical separation between the proposed roadway and the NS Railroad.

Once south and over Puncheon Run, the proposed roadway would pass around the building complex of the historic Kesselring Farm located west of New Burton Road, avoiding displacement and/or demolition of the National Register of Historic Places eligible farm complex buildings. The alignment would curve back east before crossing the NS Railroad and New Burton Road on another structure. The proposed roadway would then pass north of the Boy Scouts of America property east of New Burton Road. A two-way at-grade connection would be provided to access New Burton Road. On either side of the bridge crossing the NS Railroad, Alternative 5C Modified would have a typical section as shown in **Figure II-2**. The bridge structures would have the typical section as shown in **Figure II-3**.



Figure II-2 Typical Section for New Roadway

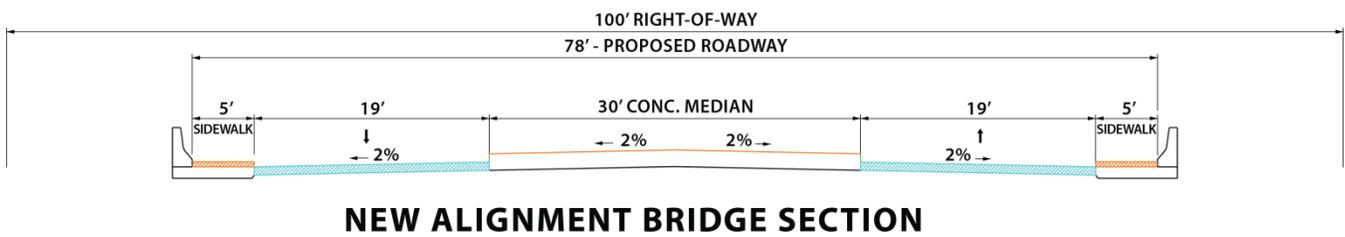


Figure II-3 Typical Section for Bridge

Alternative 5C Modified would connect to US Route 13 by paralleling Charles Polk Road. Meetings with DeIDOT and the Rodney Village community resulted in agreement that Charles Polk Road would be

retained for local circulation to and from the Rodney Village community as a local frontage road. Charles Polk Road would not connect directly to US Route 13; instead it would intersect the proposed roadway and the proposed roadway would then intersect US Route 13. The existing Charles Polk Road would be separated from Alternative 5C Modified using a raised landscape buffer, planted heavily with native trees and plants to serve as a visual barrier and reduce noise impacts on the adjacent neighborhood. A typical section of Charles Polk Road and Alternative 5C Modified and local frontage road is shown on **Figure II-4**.

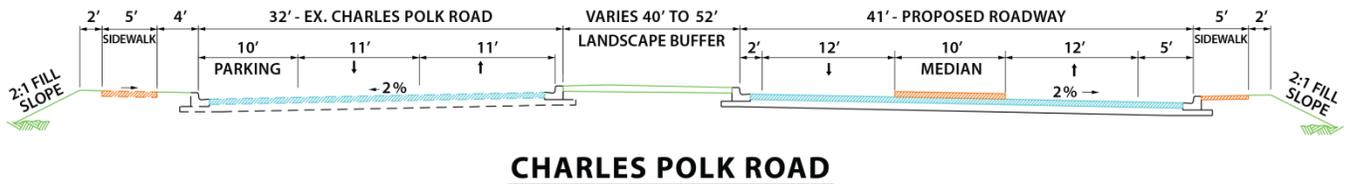


Figure II-4 Typical Section Charles Polk Road and New Roadway

Alternative 5C Modified would provide dedicated facilities to accommodate pedestrians and bicyclists, thereby being consistent with DeIDOT's Complete Streets policy, the Delaware Bicycle Facility Master Plan, the City of Dover Comprehensive Plan Update and the Regional Bicycle Plan of the Dover/Kent County Metropolitan Planning Organization. The auxiliary connection to Wyoming-Mill Road would link the West Dover Connector to designated Delaware Bicycle Route 1, study area parks and US Route 13. In this way and by virtue of the grade-separated crossing of the railroad, Alternative 5C Modified would provide the benefit of new connectivity to all parks with a safe movement for all modes across the railroad.

Additionally, the design of the Preferred Alternative would provide access for agricultural equipment and other mechanical needs to safely access farmland on the remaining agricultural parcels, in particular the National Register of Historic Places eligible Kesselring Farm.

Alternative 5C Modified includes the modification of two existing intersections to accommodate the West Dover Connector alignment and the resulting increase in traffic volume. The North Street at Saulsbury Road intersection will be widened to accommodate turn lanes and the signal will be optimized. The Charles Polk Road at US Route 13 intersection will be the southern terminus of the Preferred Alternative (Alternative 5C Modified) and serve local access needs only to and from the Rodney Village neighborhood. This is due to the designation of Charles Polk Road as a local access roadway. Charles Polk Road will terminate instead at Nathaniel Mitchell Road with no direct connection to US Route 13 and it will intersect with the West Dover Connector near John Clark Road. What is currently the Charles Polk Road and US 13 intersection would become the West Dover Connector and US Route 13 intersection. This intersection will be widened to accommodate turn lanes and the signal will be optimized. Five new intersections are created as part of the Preferred Alternative alignment. Four of these intersections will be stop controlled T-intersections and one will be a signalized T-intersection. More details on the new intersections created can be found in the 2011 *Updated Traffic Report*.

More detail of the alignment for Alternative 5C and Alternative 5C Modified can be found in the 2010 *Alternatives Analysis Report*.

3. Performance – Preferred Alternative

Performance of the North Street intersections would improve greatly under Alternative 5C Modified as significant turning movements would be converted to through movements at the intersection of North Street and Saulsbury Road. There would be a significant reduction in traffic volumes along Camden-

Wyoming Avenue as Alternative 5C Modified would provide an improved parallel roadway connection to US Route 13. The auxiliary connection from Wyoming Mill Road to the new connector road would help reduce traffic volumes along Camden-Wyoming Avenue. Cut-through traffic would be significantly reduced, especially along Kesselring Avenue and Webbs Lane, since through traffic would be channelized to the new connector road. Since Alternative 5C Modified would provide a grade-separated crossing of the NS Railroad within the study area, mobility and access across the railroad would be greatly improved. Alternative 5C Modified would provide the greatest connectivity to parks within the study area. Notably, schools and residential developments located on roadways between New Burton Road and US Route 13 in the study area are experiencing high volumes of cut-through traffic, creating an unsafe environment for pedestrians, bicyclists, and school children. With the addition of the Preferred Alternative, the level of service at intersections in these areas would be improved, and much of the cut-through traffic would diminish.

As previously discussed in Chapter I under the 2035 No-build PM peak hour condition, all 13 intersections studied in the West Dover Connector study area are projected to have a level of service (LOS) at either failing (LOS F) or near failing (LOS E) conditions. Alternative 5C Modified would help to improve the performance of many study area intersections from an unacceptable PM peak hour performance level (Level of Service E or F; near failing or failing conditions) to an acceptable level (Level of Service D or better) under the 2035 Build condition, with a significant average delay reduction per vehicle. Of the 13 intersections studied, eight show improvement to an acceptable performance level under the Preferred Alternative (Alternative 5C Modified) for the 2035 Build condition PM peak hour. Although the other five intersections remain at a LOS F under the Build condition, they each show significant improvements in the average approach delay per vehicle at the intersection. Results from this traffic analysis are shown in **Table II-2** below.

Table II-2 Improvement in 2035 PM Peak Hour Intersection Performance due to Alternative 5C Modified (Preferred Alternative)

Intersection	2035 PM Peak Hour	
	LOS Improvement	Average Delay Reduction
1. North St. & Saulsbury Rd.	LOS F to LOS C	60 sec
2. North St. & West St.	-	> 732 sec
3. West St. & New Burton Rd.	LOS F to LOS D	> 969 sec
4. New Burton Rd. & Westview Tr.	LOS F to LOS C	763 sec
5. New Burton Rd. & Wyoming Ave.	LOS F to LOS D	> 966 sec
6. New Burton Rd. & Kesselring Ave.	LOS F to LOS C	405 sec
7. New Burton Rd. & Webbs Ln.	-	> 882 sec
8. New Burton Rd. & Front St.	-	57 sec
9. Hazletville Rd. & Wyoming Mill Rd.	LOF F to LOS C	77 sec
10. North St. & Mifflin Rd.	LOS F to LOS B	372 sec
11. Charles Polk Rd. & US 13	LOS E to LOS C	42 sec
12. Front St. & Wyoming Mill Rd.	-	> 299 sec
13. Camden-Wyoming Ave. & US 13	-	111 sec

Four of the five remaining failing intersections have been recommended (with accompanying Signal Warrants Analysis completed) for signalization since these intersections would still be operating under stop-control. The fifth intersection that is projected to operate at a LOS F in the 2035 Build condition PM peak hour, Camden-Wyoming Avenue and US Route 13, is currently a wide intersection with signal-control and turning lanes (this intersection currently operates at LOS E under existing conditions

(2011), as noted in Chapter I - Purpose and Need). DeIDOT will undertake further evaluation of alternatives to improve the performance of this intersection and the US Route 13 corridor in the future.

4. Livability Initiative

The Six Principles of Livability, put forth by the collaboration of the USHUD, USDOT, and USEPA include:

1. Provide more Transportation choices
2. Promote equitable, affordable housing
3. Enhance economic competitiveness
4. Support existing communities
5. Coordinate policies and leverage investment
6. Value communities and neighborhoods

The Preferred Alternative (Alternative 5C Modified) is consistent with these national livability principles. The Preferred Alternative would provide increased transportation choices by providing facilities to accommodate travel by bicyclists and pedestrians as well as motor vehicles. The planned provision of dedicated bicycle and pedestrian facilities would promote the use of alternative modes of travel and would provide an improved connection between study area parks and residential neighborhoods and residential neighborhoods to other important activity centers, such as commercial and employment areas. The Preferred Alternative would connect employment areas to residential areas in the City of Dover thus increasing access to jobs and other opportunities within existing communities. Future growth in Dover would be supported by the Preferred Alternative which would accommodate the increased travel associated with development and redevelopment.

Despite the impacts resulting from displacing a limited number of residences along the south side of Charles Polk Road in the Rodney Village neighborhood, the proposed transportation access improvements to separate local traffic to/from the Rodney Village neighborhood from West Dover Connector traffic and the buffer mitigation (the new 50-foot wide landscaped median buffer) incorporated into the Preferred Alternative, the Rodney Village neighborhood would remain a viable and cohesive neighborhood, consistent with FHWA's Livability Initiative.

Improved safety for pedestrians and bicyclists, connections to parks and hospitals, access to employment opportunities and separating of local and through traffic would improve the quality of life for those living in the study area. Existing communities and community services are maintained, improved, and made more accessible through the direct connection that the Preferred Alternative would provide across the NS Railroad, as well as the improved safety and efficiency of alternative modes of travel.

In the context of the elements of the project need, Alternative 5C Modified consistently performs at the highest level among the other retained build alternatives in response to each element analyzed of the project need. In particular, Alternative 5C Modified would have the most overall benefits in terms of addressing existing and future traffic congestion in the study area, accommodating projected regional growth, improving system linkage and continuity, reducing traffic on local and collector streets, addressing emergency service accessibility, and improving safety. For these reasons, Alternative 5C Modified provides the best response to the project need and, is therefore, the Preferred Alternative.

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III. IMPACTS

This Chapter details the environmental features of the West Dover Connector study area (see **Figure III-1**) that would potentially be impacted by implementing the Preferred Alternative. Existing information on the natural and built environment was collected from field investigations undertaken by the project team and from the following federal, state, and local agencies and databases:

- U.S. Environmental Protection Agency (USEPA)
- National Marine Fisheries Service (NMFS)
- U.S. Fish and Wildlife Service (USFWS)
- U.S. Army Corps of Engineers (USCOE)
- U.S. Census Bureau and American Community Survey
- Kent County
- Kent County Conservation District
- City of Dover
- Town of Camden
- Town of Wyoming
- Delaware Geological Survey
- Delaware Natural Heritage Program
- Delaware Department of Agriculture
- Delaware Department of Natural Resources and Environmental Control (DNREC)
 - Air and Waste Management
 - Endangered Species
 - Fish and Wildlife
 - Parks and Recreation
 - Soil and Water Conservation
 - Water Resources
- Delaware State Historic Preservation Office (DE SHPO)

Environmental impacts were calculated using the proposed right-of-way for the Preferred Alternative, which assumed a footprint having a 150-foot wide typical section as centered on proposed conceptual centerline of the roadway and included a 60-foot wide typical section as centered from the proposed connecting roadways. The following sections discuss the potential impacts by resource. A complete comparative of the potential impacts of other alternatives evaluated for the project may be found in the 2010 *Alternatives Analysis Report*. **Table III-1** provides a summary of the potential environmental and natural resource impacts of the Preferred Alternative and No-build Alternative.

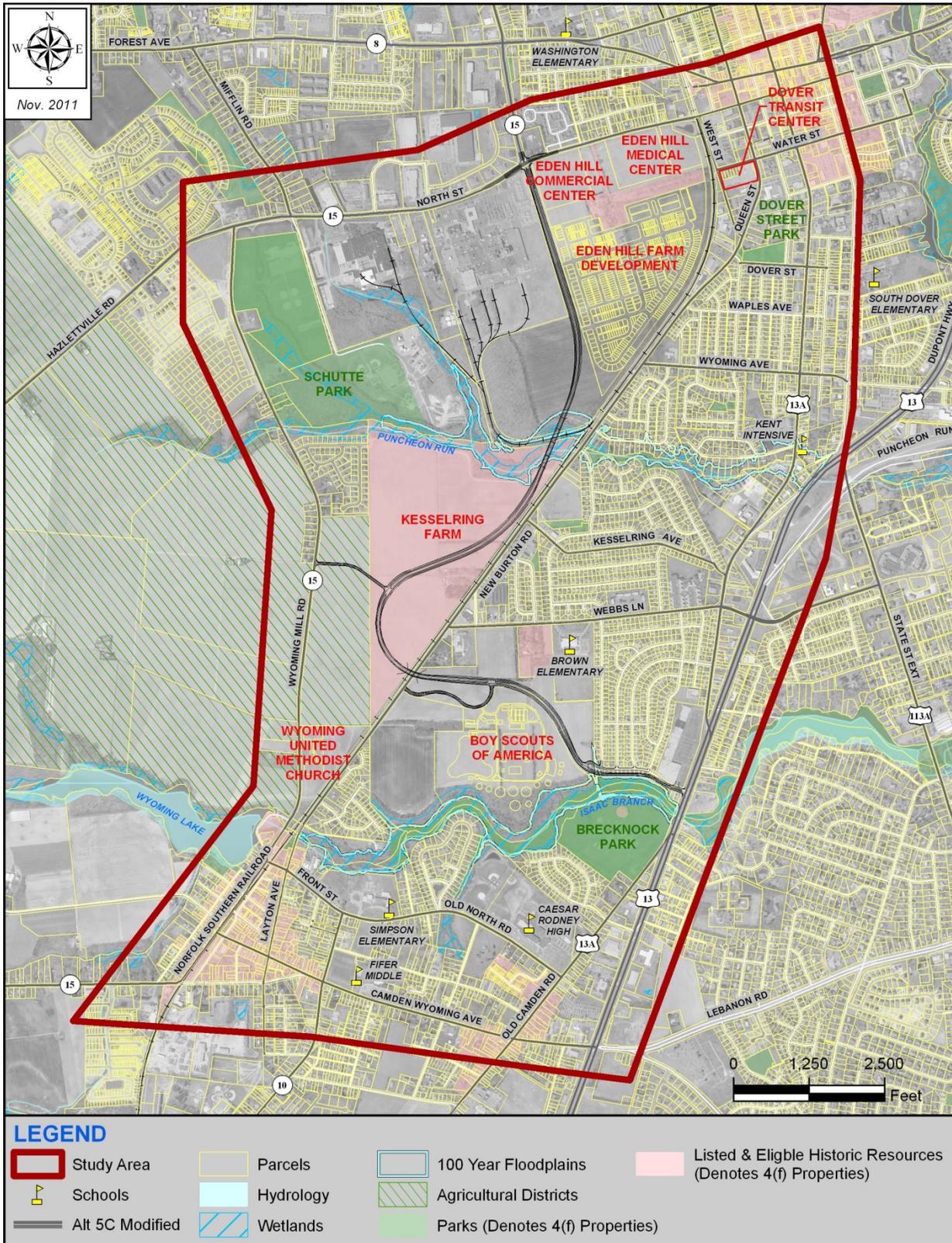


Figure III-1 West Dover Connector Study Area and Preferred Alternative (Alternative 5C Modified)

Table III-1 Potential Impacts of Preferred and No-build Alternatives

Resources	Potential Impacts	
	No-build Alternative	Preferred Alternative Alternative 5C Modified
Displacements (number)		
Residential	0	15
Commercial	0	2
Industrial	0	0
Total Displacements	0	17
Partial Impacts (number)		
Residential	0	6
Commercial	0	7
Industrial	0	4
State-Owned	0	0
Total Partial Impacts	0	17
Agricultural Land (acres)		
Preserved Agricultural Land (acres)	0	1.3
Active Agricultural Lands (acres)	0	58.3
Undeveloped Prime Farmland Soils (acres)	0	42.7
Forested Areas (acres)	0	0
Potential Adverse Effects on National Register of Historic Places Listed or Eligible Properties (number)	0	2
Archaeological Sites Impacted (number)	0	TBD ^(a)
Noise Impacts (number)	3 Noise Study Areas (=15 residences)	1 Noise Study Area (= 9 residences)
Meets National Ambient Air Quality Standards (yes/no)	Yes	Yes
Potential Impacts from Contaminated Sites (number)	0	2
Pavement (acres)		
New roadway pavement (acres)	0.00	16.70
Existing roadway pavement (acres)	N/A	0.34
Floodplain Impacts – Fill (acres) ^(b)	0	0.57
Wetlands Impacts – Fill (acres) ^(b)	0	0.05

Table Notes:

- (a) To be determined: A formal Phase IB Archaeology Survey will be undertaken during the next phase of the project to determine the potential for adverse effects to archaeological resources and if additional investigations are warranted.
- (b) Fill associated with bridge, piers, embankment, and roadway filling. The bridge is anticipated to be approximately 40 feet in elevation above Puncheon Run and 146 linear feet wide and therefore would have no direct impacts on the surface waters of Puncheon Run.

A. Socioeconomic Environment

1. Right of Way Relocations and Acquisitions

The Preferred Alternative would require full acquisition of 17 properties, including 15 residences and two commercial properties. No businesses would be relocated. The full acquisitions would occur along the south side of Charles Polk Road. A total of 17 partial property acquisitions would occur including portions of the historic Kesselring Farm and other large tracts (**Table III-1**). Property owners would be contacted regarding potential acquisitions and would be fairly compensated for the required acreage.

Owners would be provided relocation assistance according to the Uniform Relocation Assistance and Real Property Acquisition Act of 1970, as amended by the Uniform Relocation Act Amendments of 1987.

2. Neighborhood and Community Facilities

Community cohesion and transportation linkages within the community would not be adversely affected by the West Dover Connector because the Preferred Alternative would be located at or beyond the edges of existing neighborhoods. One existing transportation linkage would be altered by the project; Charles Polk Road would connect with the Preferred Alternative rather than directly with US Route 13. However, the community would still have access to US Route 13 via that new connection. No existing linkages would be eliminated by the Preferred Alternative.

The Preferred Alternative would provide a new crossing of the NS Railroad, thereby improving linkages across the railroad between study area communities, US Route 13, SR 8, SR 15, and Governors Avenue as shown on **Figure III-1**. Community facilities, such as churches, schools, health facilities and parks, would not be adversely impacted by the Preferred Alternative and linkage between these facilities and neighborhoods would be improved because of its grade-separated railroad crossing, its ability to reduce cut-through traffic, accommodation for bicycle and pedestrian modes, and interconnections with US Route 13, New Burton Road, North Street, and Wyoming Mill Road.

3. Environmental Justice

A socioeconomic review of the population and demographics of the most recent 5-year estimate (2005-2009) in the study area using the 2010 US Census and the US Census Bureau - American Community Survey (ACS) was completed to evaluate environmental justice in accordance with Executive Order 12898 issued on February 11, 1994.

The 5-year estimate was used since it provides the most reliable, largest sample size available and is best used when analyzing smaller populations. Percentages and totals are included in **Table III-2**. Minority populations are included on **Figure III-2** and low income population is included on **Figure III-3**.

Through public engagement during the project development process and design refinements to avoid, minimize and mitigate environmental impacts described in this EA, the Preferred Alternative would not disproportionately or adversely impact any environmental justice population.

Table III-2 Population and Demographics

Demographic	Population Totals by Geographic Area (Percent of All Population)									
	Delaware	Kent County	Dover City	413 Census Tract	414 Census Tract	415 Census Tract	416 Census Tract	417.02 Census Tract	418.02 Census Tract	
Total Population	897,934	162,310	36,047	2,068	3,648	3,875	2,089	4,216	5,203	
White	618,617 (68.9%)	109,999 (67.8%)	17,393 (48.3%)	967 (46.8%)	1,439 (39.4%)	2,143 (55.3%)	1,659 (79.4%)	2,731 (64.8%)	3,454 (66.4%)	
Black or African American	191,814 (21.4%)	38,913 (24.0%)	15,215 (42.2%)	927 (44.8%)	1,912 (52.4%)	1,361 (35.1%)	271 (13.0%)	1,077 (25.5%)	1,172 (22.5%)	
American Indian/Alaskan Native	4,181 (<1%)	1,043 (<1%)	196 (<1%)	16 (<1%)	9 (<1%)	10 (<1%)	17 (<1%)	19 (<1%)	15 (<1%)	
Asian	28,549 (3.2%)	3,306 (2.0%)	982 (2.7%)	27 (1.3%)	82 (2.2%)	129 (1.9%)	39 (1.9%)	194 (4.6%)	257 (4.9%)	
Native Hawaiian/Pacific Islander	400 (<1%)	91 (<1%)	23 (<1%)	1 (<1%)	2 (<1%)	1 (<1%)	1 (<1%)	2 (<1%)	2 (<1%)	
Other Race	30,519 (3.4%)	3,235 (2.0%)	765 (2.1%)	49 (2.4%)	63 (1.7%)	62 (1.6%)	47 (2.2%)	44 (1.0%)	74 (1.4%)	
Two or More Races	23,854 (2.7%)	5,723 (3.5%)	1,473 (4.1%)	81 (3.9%)	141 (3.9%)	169 (4.4%)	55 (2.6%)	149 (3.5%)	229 (4.4%)	
Total Racial Minority	279,317 (31.1%)	52,311 (32.2%)	18,654 (51.7%)	1,101 (53.2%)	2,209 (60.6%)	1,732 (44.7%)	430 (20.6%)	1,485 (35.2%)	1,749 (33.6%)	
Hispanic or Latino	73,221 (8.2%)	9,346 (5.8%)	2,362 (6.6%)	145 (7.0%)	276 (7.6%)	225 (5.8%)	110 (5.3%)	224 (5.3%)	209 (4.0%)	
Median Household Income	\$57,618	\$52,016	\$46,150	\$36,625	\$36,845	\$54,665	\$77,955	\$61,354	\$66,989	
Percent all people below poverty level	10.5%	12.4%	15.9%	24.2%	21.0%	15.7%	7.8%	14.9%	7.3%	

Note: The majority of the study area is comprised by Census Tracts 414 and 415 and to a lesser extent by Census Tract 417.02.
Source: Population and Demographics – US 2010 Census: <http://www.census.gov/>.
Income and Economics – US Census Bureau, American Community Survey; <http://www.census.gov/acs/www/>.

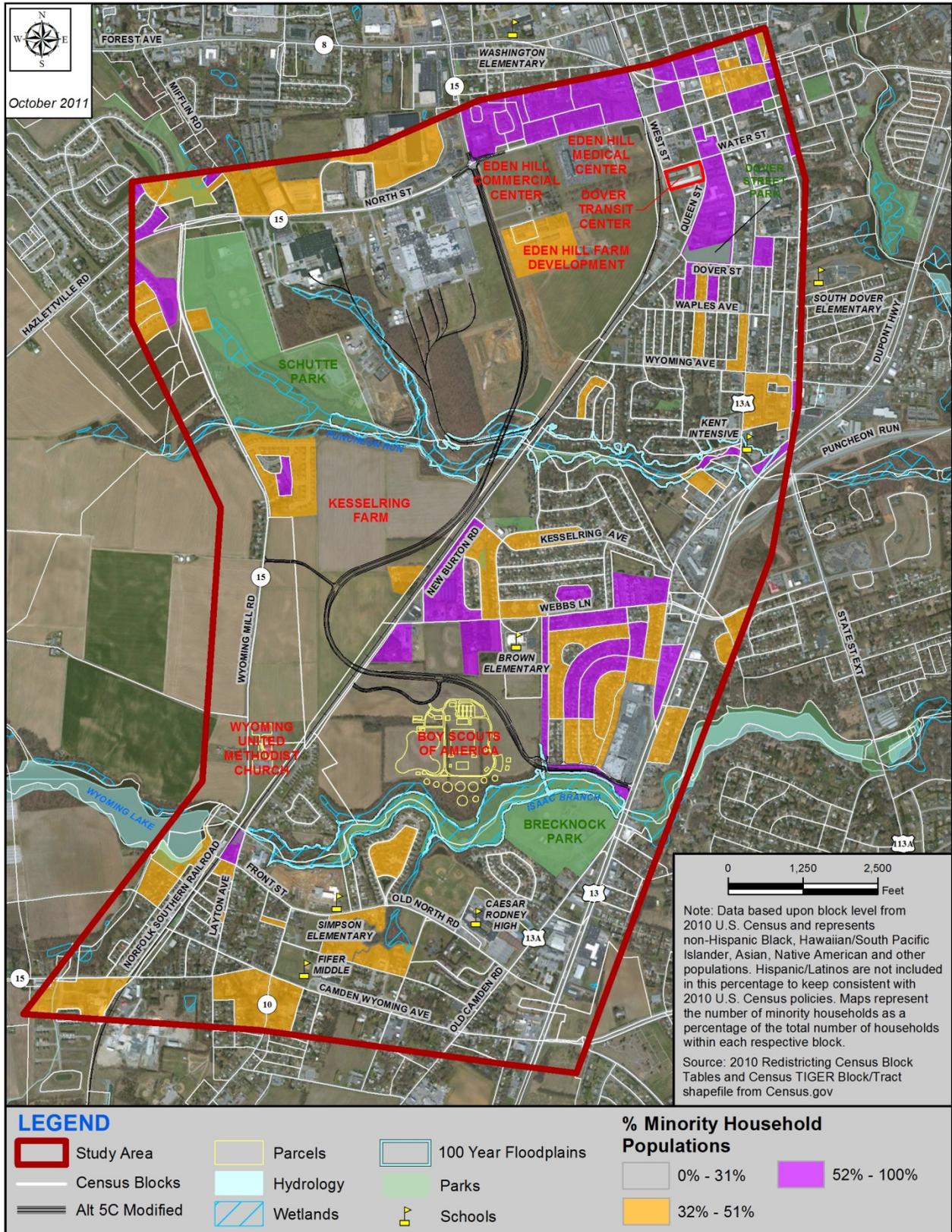


Figure III-2 Minority Populations

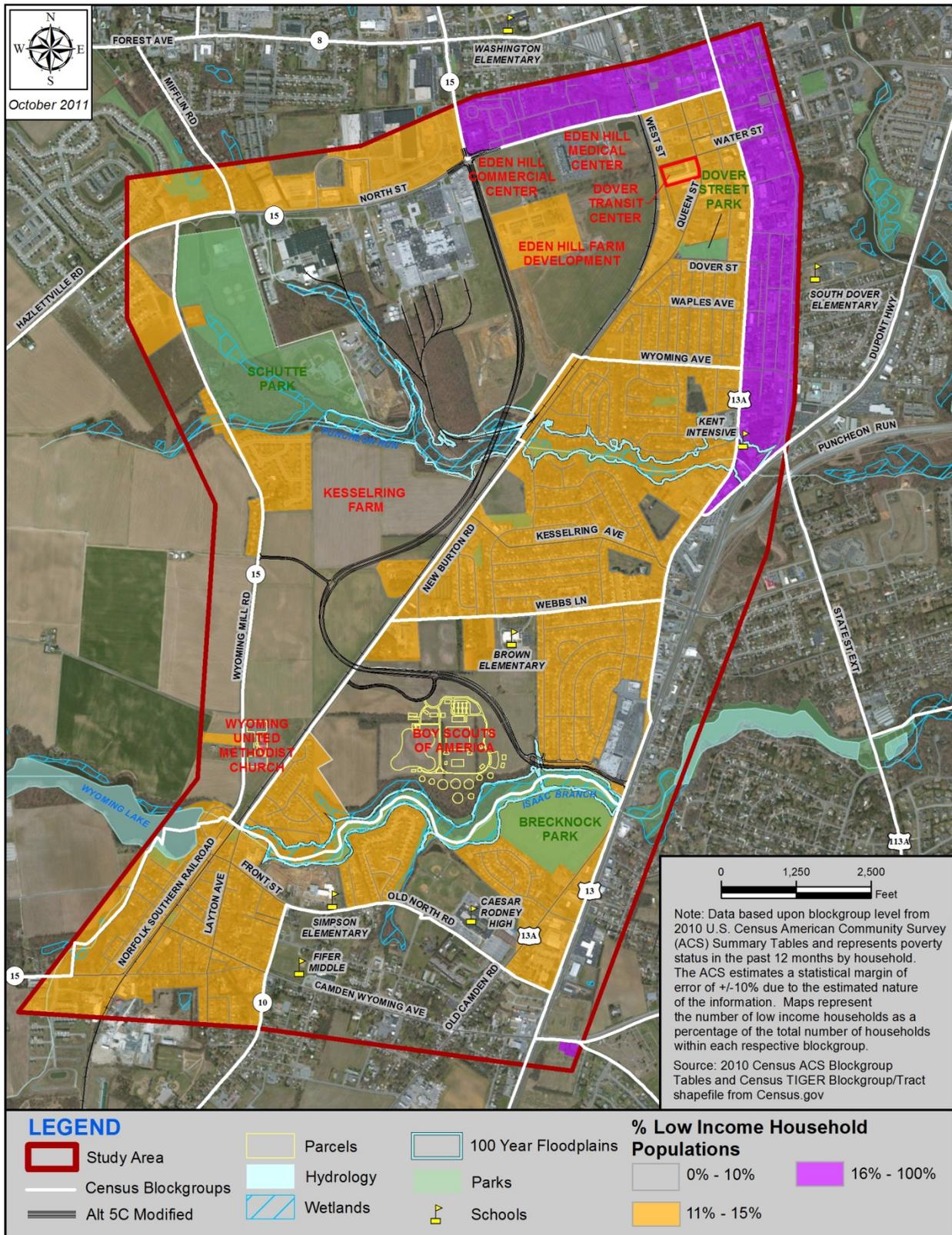


Figure III-3 Low Income Populations

B. Cultural Resources

Since 2004, DeIDOT has consulted on behalf of the FHWA with the DE State Historic Preservation Office (DE SHPO) about the project's effects on the historic properties that are listed in or are eligible for listing in the National Register of Historic Places (National Register). This section is intended to summarize the fulfillment of the applicable requirements of Section 106 of the National Historic Preservation Act of 1966, as amended (NHPA). As such, this section would be recognized as implementing the regulations of the Advisory Council for Historic Preservation (ACHP) pursuant to 36 CFR Part 800.

Proposed measures to avoid, minimize, or mitigate the potential effects of the project on cultural resources are summarized in this section. A draft Memorandum of Agreement (MOA) has been developed to formalize Section 106 consultation, resolve any adverse effects, and present a mitigation plan for the relevant historic properties and unidentified archaeological sites. Complete details on the cultural resources investigations undertaken to date and Section 106 consultation can be found in the September 2010 *Determination of Eligibility Report*, the 2011 *Documentation in Support of a Finding of Adverse Effect*, and in the draft MOA contained in Appendix B. The project has also included outreach efforts to the Federally Recognized Native American Tribes including Delaware Nation, Stockbridge-Muncie and the Delaware Tribe of Indians.

1. Architectural Resources

During consultation, an area of potential effects (APE) was developed in the study area for architectural properties and archaeological resources which were evaluated for eligibility for inclusion in the National Register. These APEs were aligned along much of the Preferred Alternative, with the archaeological APE also encompassing all wetlands areas within the conceptual right-of-way.

Initial research of previously and newly identified architectural resources began in 2006. The majority of the 50-year old buildings within the project area are examples of common vernacular dwellings with little stylistic detailing. Most have also undergone significant alterations, including but not limited to the following: the application of modern siding; the replacement of doors and windows; the construction of additions; and the modification of porches. Properties that represent exceptions include the dwellings on the Eden Hill (K00125), H. Jenkins (K03205), and Kesselring (K01030) farms.

Eden Hill (K00125) was previously listed in the National Register; Kesselring Farm (K01030) and the H. Jenkins House (K03205) are recommended eligible for listing in the National Register. In accordance with the implementing regulations of Section 106, the 36 CFR Part 800 criteria of adverse effect were applied to the three listed or eligible historic properties within the APE. The Preferred Alternative cannot fully avoid having an adverse effect on the Kesselring Farm or the H. Jenkins House. In accordance with Section 106, a draft MOA has been developed outlining stipulations for actions to minimize project impacts on these resources as well as measures to mitigate adverse effects. Included in these measures are planting or fencing along rights-of-way to minimize some of the adverse visual and setting effects.

Table III-3 summarizes the listed and eligible properties including the potential adverse effect determination in accordance with the Section 106 criteria of adverse effect completed in coordination and consultation with the DE SHPO. The listed and eligible properties are also shown on **Figure III-4**. Each property includes the Cultural Resource Survey (CRS) number identified and maintained by the DE SHPO.

Table III-3 National Register-Listed or Eligible Properties in the APE and Potential Effect

Name/Address	CRS/Survey No.	Tax Parcel No.	Date Established/Constructed	National Register (NR) Eligibility Status	Potential Adverse Effect
Eden Hill Farm	K00125	2-05-07600-01-1400	ca. 1749	NR Listed, 1973.	No
Kesselring Farm 1436 New Burton Road	K01030	2-05-08500-01-0700	ca. 1850	Recommended NR eligible under Criteria A and C	Yes
H. Jenkins House 400 Webbs Lane	K03205	2-00-08500-02-0501	ca. 1850	Recommended NR eligible under Criteria A and C	Yes

Source: September 2010 *Determination of Eligibility Report* and 2011 *Documentation in Support of a Finding of Adverse Effect*

Vibration monitoring may be implemented to monitor the effects of project construction on Eden Hill Farm, Kesselring Farm, and H. Jenkins Farm. During construction, if the optional vibration monitoring indicates that damage is occurring to historic properties subject to the monitoring plan, construction in the immediate area will cease until services of a professional engineer and/or architect that is knowledgeable about the effects of construction vibration on historic properties are acquired. A detailed description of the requirements of these measures can be found in the draft MOA.

DeIDOT and the property owners of the Kesselring Farm will consult to consider historic naming of new developed access or corridor roads that will be related to the historic qualities of the Kesselring family, the historic property, and its historic function.

2. Archaeological Resources

The APE for archaeological resources was established and has both a horizontal and a vertical dimension and is defined as any portion of the project area in which ground disturbance may occur or where the integrity of archaeological sites may be diminished. Investigations into the National Register eligibility of archaeological sites are presently on-going.

To date, nine areas that have the potential to be directly impacted by the Preferred Alternative have been identified as potential archaeological sites. Eight of the nine potential sites date to the pre-European contact era, while the remaining site is associated with historic period occupation dating from the nineteenth century. Identification and evaluation efforts to confirm the National Register eligibility of these sites is ongoing. As the project has the potential to result in a finding of an adverse effect, where adverse effects cannot be avoided by a redesign of the Preferred Alternative, mitigation options are outlined in the draft MOA. The draft MOA includes provisions for the completion of the identification of any National Register eligible archaeological sites as well as measures to minimize or mitigate impacts to National Register eligible sites.

A formal Phase IB Archaeology Survey will be prepared during the next phase of the project. The results of the Phase IB survey will determine if further archaeological investigations are required, if the sites are eligible for listing in the National Register and if potential adverse impacts are present as a result of the project.

The draft MOA also outlines steps to be taken to complete the Section 106 consultation process with regard to archaeological sites. Coordination with the DE SHPO and DeIDOT, archaeological data recovery, public outreach, preservation in place, consulting party protocol, and other potential mitigation measures are discussed and administered in the draft MOA.

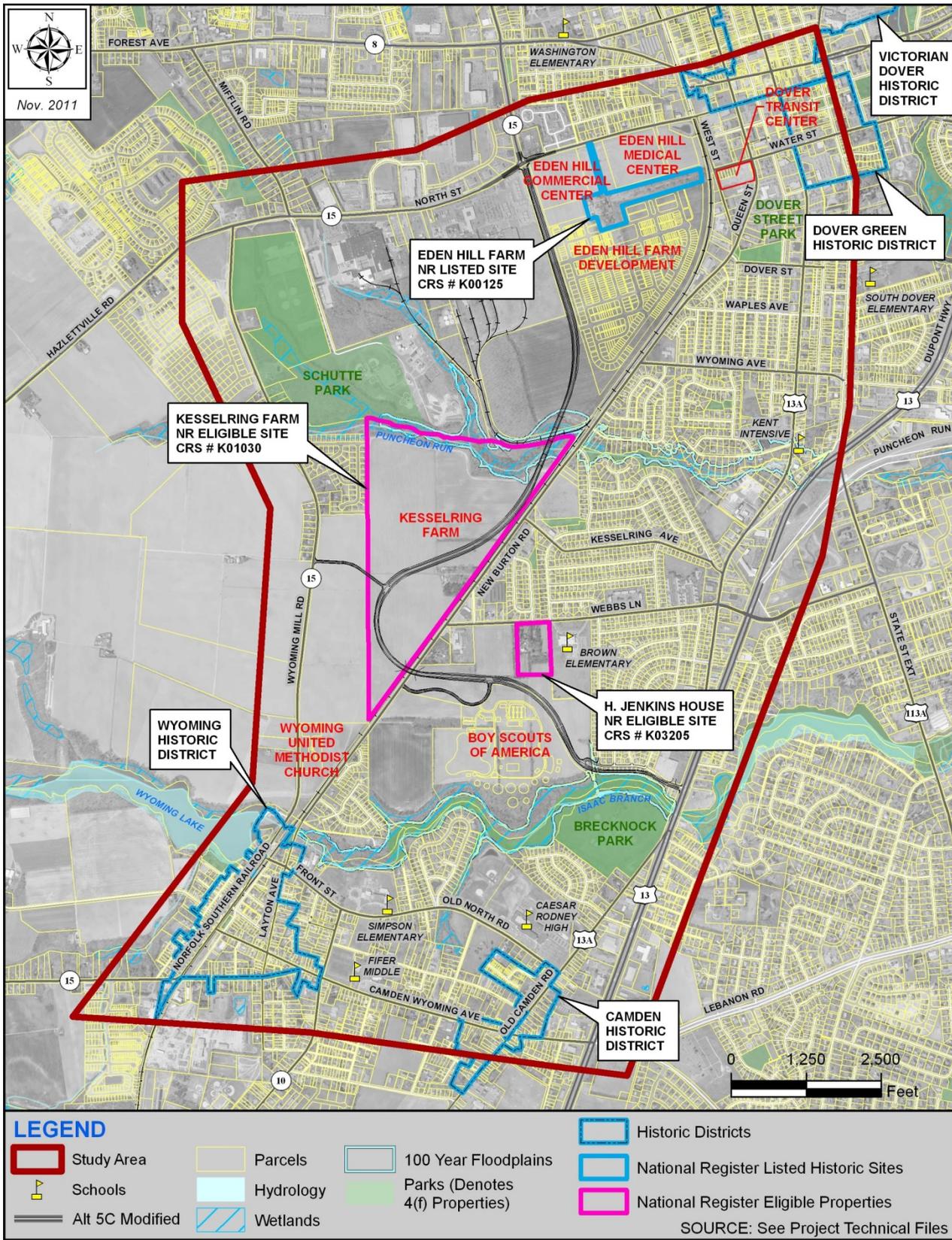


Figure III-4 National Register and Potential Eligible Properties

C. Farmlands and Farmland Soils

As detailed by the United States Department of Agriculture (USDA) Web Soil Survey, the West Dover Connector study area contains approximately 39 percent prime farmland and 4 percent of farmland of statewide importance. The majority of undisturbed farmland suitable for farming in the study area is located north and west of New Burton Road along with areas associated with the property recently purchased by the Boy Scouts of America.

Approximately 42.7 acres of undisturbed and/or undeveloped prime farmland soils would be impacted with the Preferred Alternative. Impacts would primarily be associated with the Kesselring Farm property and agricultural land east of Wyoming Mill Road (**Figure III-5**). Mitigation would include provisions for access for farm equipment across the roadways to ensure the continued integrity of the farm and safety of the farmers who continue to farm the fields on both sides of the connector road.

The Delaware Agricultural Lands Preservation Foundation maintains the State Agricultural Preservation Districts. The Farmlands L.P. and the Raughley Preservation Districts are located in the project area west of New Burton Road. The Wyoming Mill Road element of the Preferred Alternative would impact 1.3 acres of preserved agricultural land (**Figure III-5**). The use of land from State Agricultural Preservation Districts would require a legal agreement with the State and the property owner which may contain stipulations to mitigate the loss of preserved land.

D. Air Quality

The USEPA has established National Ambient Air Quality Standards (NAAQS) of concern for transportation air quality analyses. Three of which - Carbon Monoxide (CO), "coarse" particulate matter of 10 microns or less in size (PM₁₀), and "fine" particulate matter of 2.5 microns or less in size (PM_{2.5}) are required to be considered at the project level. To evaluate these pollutants of concern, an air quality assessment was completed on a regional and project level according to the USEPA, FHWA, and DeIDOT guidelines. The complete evaluation is documented in the *Air Quality Analysis West Dover Connector Project*, dated April 2011.

On a regional level, the assessment considered the Regional Transportation Conformity. As such, the project is currently adopted by the Dover/Kent County MPO's 2011 – 2014 TIP. Based on the USEPA's "*Green Book – Nonattainment Areas for Criteria Pollutants*", Kent County is classified as nonattainment with respect to 8-hour ozone levels and does not meet the NAAQS for ozone. Subsequently, project level analysis for ozone is not required. A qualitative particulate matter (PM) analysis at PM_{2.5}/PM₁₀ was also not required because Kent County is in attainment for particulate matter and not considered a project of air quality concern.

CO, which is an accepted indicator of vehicle-generated air pollution, is therefore currently the only mobile source pollutant for which a project-level and localized quantitative analysis for emission impacts was required. The results of this localized analysis indicate that the Preferred Alternative would have no significant adverse impact on air quality as a result of CO emissions. The air analysis locations are presented on **Figure III-6**.

A qualitative Mobile Source Air Toxics (MSAT) analysis was also completed for the project for the USEPA's seven transportation's "priority toxics". Given the comparatively equivalent traffic volumes between both the Preferred Alternative (Build) and No-build environments, the project would not meaningfully increase MSAT emissions.

In addition, the operation of heavy equipment during construction would not have significant impacts on local ambient air quality during the construction of the project. Contractors would be required to comply with the project plans, permits, and all State and Federal regulations.

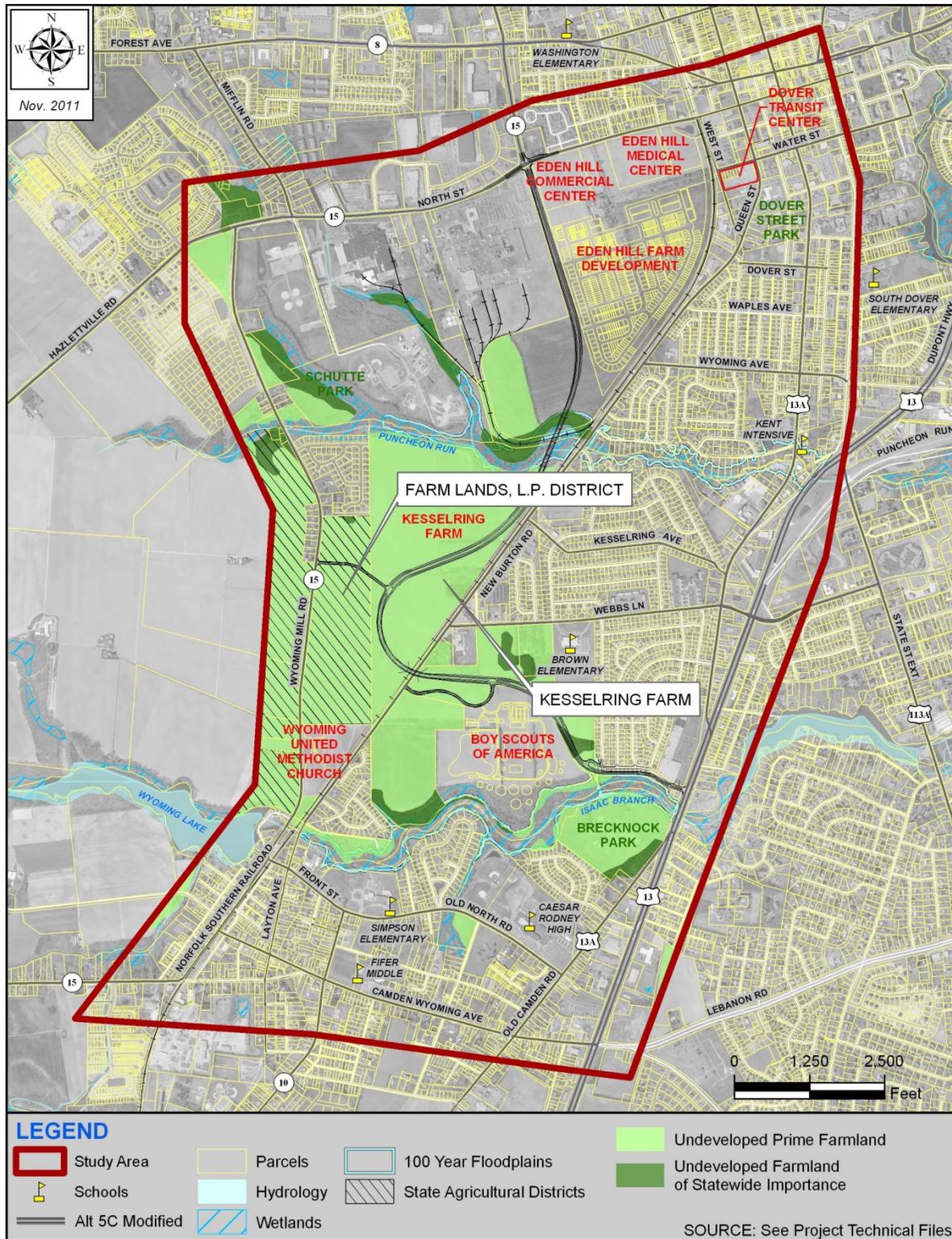


Figure III-5 Farmland Soils and Farmland Preservation Districts

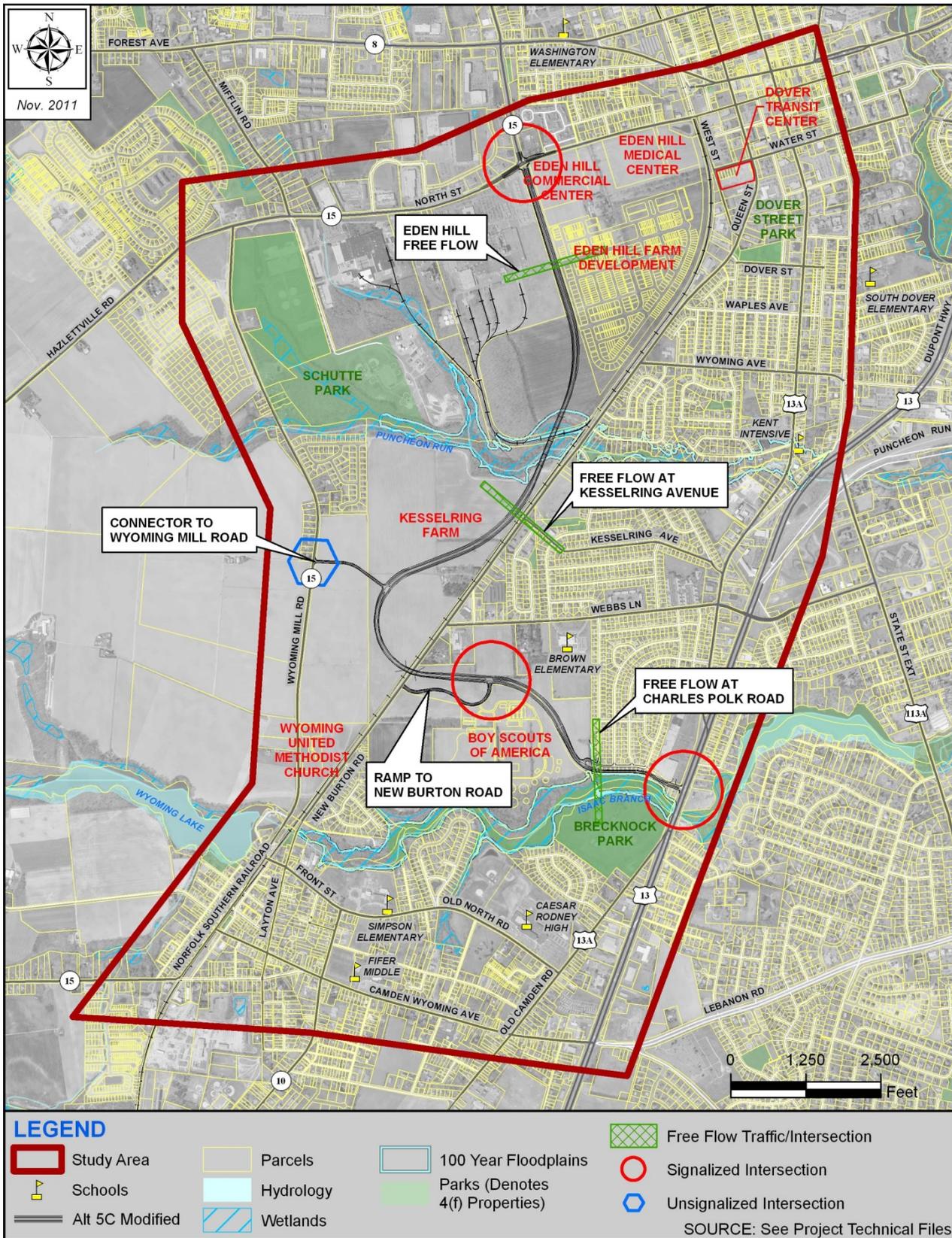


Figure III-6 Air Quality Analysis Locations

E. Noise

Existing (2011) and design-year (2035) traffic noise conditions for the No-build Alternative and the Preferred Alternative were analyzed using the FHWA's Traffic Noise Model v 2.5 (TNM) and compared to the FHWA Noise Abatement Criteria (NAC) to determine whether noise impacts could occur at identified noise study areas (NSAs) in the project area (**Figure III-7**). See the *West Dover Connector Noise Technical Report - 2011* for the complete methodologies, evaluation procedures, and findings.

The noise analysis was based upon the design information developed during the conceptual engineering phase of project development, and followed the current DeIDOT Highway Transportation Noise Policy (effective July 13, 2011) and FHWA guidelines. Existing (2011) worst-case traffic conditions were used to establish existing ambient noise levels at the NSAs. Existing noise levels at the NSAs range from 44 to 68 dB(A). Of which, nine residences along Wyoming Mill Road currently experience traffic noise impacts at or above the NAC of 66 dB(A).

Design-year (2035) No-build Alternative noise levels are predicted to range between 45 and 72 dB(A) with an increase of 1 to 4 dB(A) over existing worst-case noise levels. The greatest increase in noise levels between existing (2011) and No-build Alternative (2035) noise levels would occur at the nine residences along Wyoming Mill Road, that already experience noise impacts under existing conditions. Two NSAs (totaling six dwellings) located along New Burton Road would be predicted to be further impacted with noise levels at or above the NAC of 66 dB(A) in the No-build condition. Because roadways under the No-build Alternative represent existing facilities incorporating no changes to the roadway geometry, noise abatement is not being considered even if predicted noise levels approach or exceed the NAC.

Design-year analysis of the Preferred Alternative (Build) predicts that only the NSA previously identified as impacted in the existing worst-case (2011) and No-build conditions (2035), located on Wyoming Mill Road, would experience impacts during the Preferred Alternative (Build). Noise levels are predicted to range between 69 and 70 dB(A) with increases ranging between 1 and 2 dB(A) over the existing (2011) worst-case levels for this NSA. However, each of these properties requires direct driveway access to Wyoming Mill Road; gaps would be required in any proposed noise mitigation facility to allow access. Thus effective noise reduction is not achievable for this NSA; therefore, mitigation is not considered feasible.

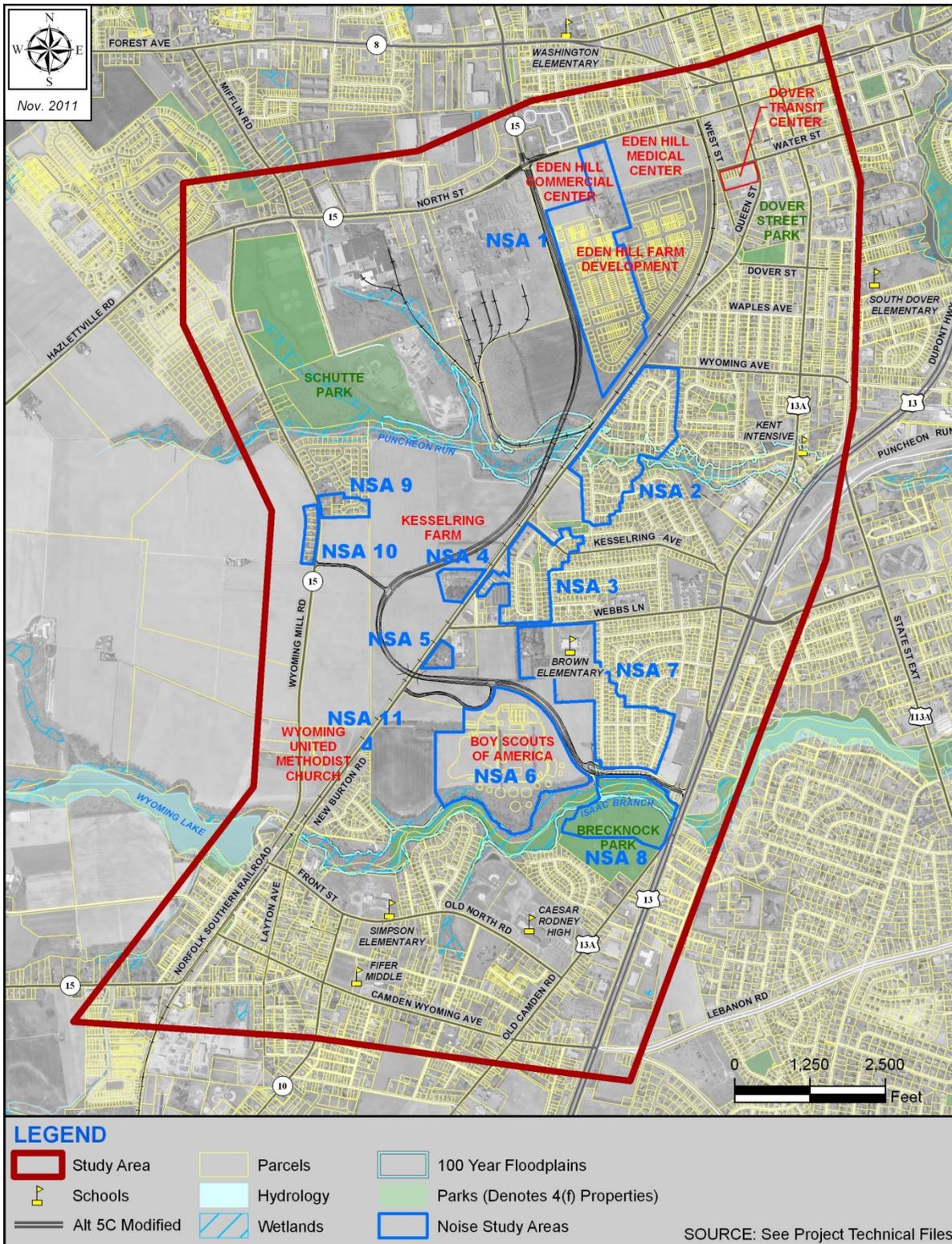


Figure III-7 Noise Study Areas

F. Hazardous Materials

Numerous underground storage tanks (USTs) and known sites of concern were identified in the study area. Of these, five sites are located in the immediate vicinity of the Preferred Alternative. The Preferred Alternative has the potential to encounter subsurface contamination from leaking UST sites near Webbs Lane associated with the Angerstein Dover site (DE Facility ID No. 1-000392) and the Delaware State News Circulation Dover site (DE Facility ID No. 1-000492). Although these sites are remote from the project right-of-way, underground utility installations could potentially extend to or near these locations (**Figure III-8**).

Any unidentified contamination encountered within the project right-of-way during construction would require investigation and possible remediation. The handling and disposal of contaminated materials by the contractor would comply with DeIDOT Specification #202560 to ensure handling is consistent with state and federal regulations.

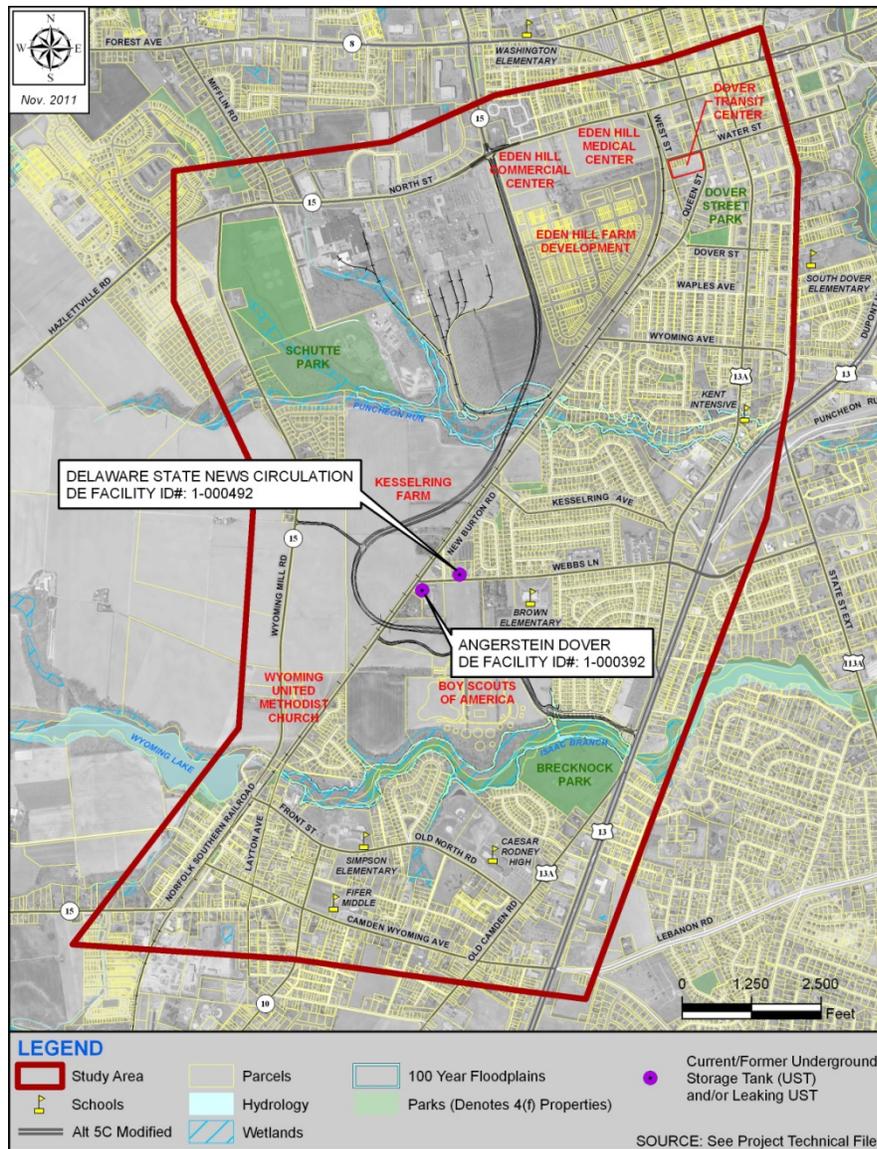


Figure III-8 Current/Former Sites of Potential Concern

G. Natural Environment

DeIDOT has coordinated with local, state, and federal regulatory agencies during project development to refine the Preferred Alternative to avoid or minimize potential environmental impacts. This section summarizes the natural environment conditions within the study area and the potential impacts of the Preferred Alternative.

1. Surface Waters, Subaqueous Lands, Floodplains, and Wetlands

The study area is located in the Puncheon Run and Isaac Branch subwatersheds of the St. Jones River. Puncheon Run and Isaac Branch flow east through the study area; the study area is at the upper reach of the Puncheon Run subwatershed.

The Preferred Alternative would not directly impact any surface waters. The proposed bridge of the Preferred Alternative would be approximately 146 feet wide, 40 feet high, and would span the waterway and floodplain of the Puncheon Run. The bridge would be supported on multiple piers, all located outside the waterway. The piers of the proposed bridge over Puncheon Run would permanently impact approximately 0.57 acres of associated floodplain. The area under the bridge is partially disturbed by utility and railroad infrastructure as well as recent Eden Hill construction activities. The limited area of permanent structure in the floodplain and the design of the bridge to span the floodplain and waterway would not measurably reduce the size of the floodplain or create a point of constriction.

Palustrine resource freshwater wetlands, as delineated using the USCOE’s 1987 *Wetlands Delineation Manual*, were identified primarily along Puncheon Run and Isaac Branch. However, the Preferred Alternative would only impact a small wetland east of New Burton Road and north of Isaac Branch. This permanent wetlands impact would only be approximately 0.05 acres. **Figure III-9** details the locations of waterways, floodplains and wetlands in the study area. Impacts are summarized in **Table III-4**.

Table III-4 Surface Water, Floodplain and Wetlands Impacts

Alternative	Floodplain Impact (fill)	Wetlands Impact (acres)
Preferred Alternative	0.57 acres (bridge pier)	0.05 acres (fill) ^(a)

Notes: ^(a)Fill associated with bridge, piers, embankment, and roadway filling. The bridge is anticipated to be approximately 40 feet in elevation above Puncheon Run and 146 linear feet wide and therefore would have no direct impacts on the surface waters of Puncheon Run.

Erosion and sediment control plans would be developed as part of final design for the project. Stormwater management measures would be designed to satisfy quality and quantity management requirements of Delaware’s Sediment and Stormwater Regulations.

The USCOE and DNREC regulate surface waters, subaqueous lands, floodplains, and wetlands as well as other natural environmental settings. Permits from these agencies to implement the Preferred Alternative would be required prior to implementing the project. Proper identification, avoidance, and minimization efforts to reduce impacts to these regulated areas would continue during permitting and final design. Appropriate compensatory mitigation would be undertaken to offset unavoidable impacts.

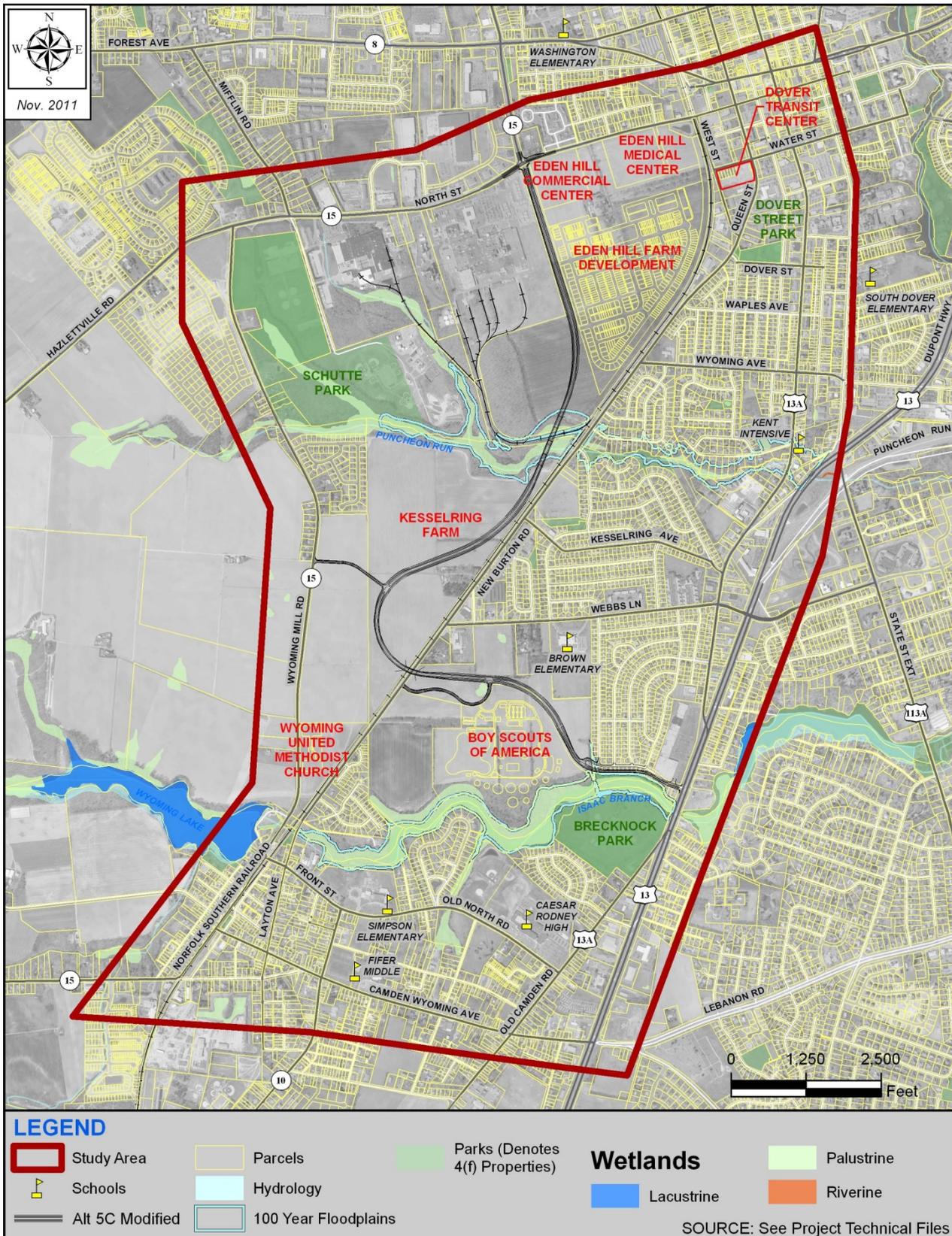


Figure III-9 Locations of Waterways, Wetlands, and Floodplains

2. Well-Head Protection Areas and Groundwater

Most of the study area, primarily west of New Burton Road, is designated to provide good to excellent recharge capability (**Figure III-10**). The Preferred Alternative would not impact public wells or well-head protection areas. The project would have only a very minimal impact on groundwater recharge by introducing impervious surfaces within the right-of-way. Implementing appropriate construction procedures and design features would minimize the potential for project impacts on the water quality of groundwater resources, even though these potential impacts are not considered significant.

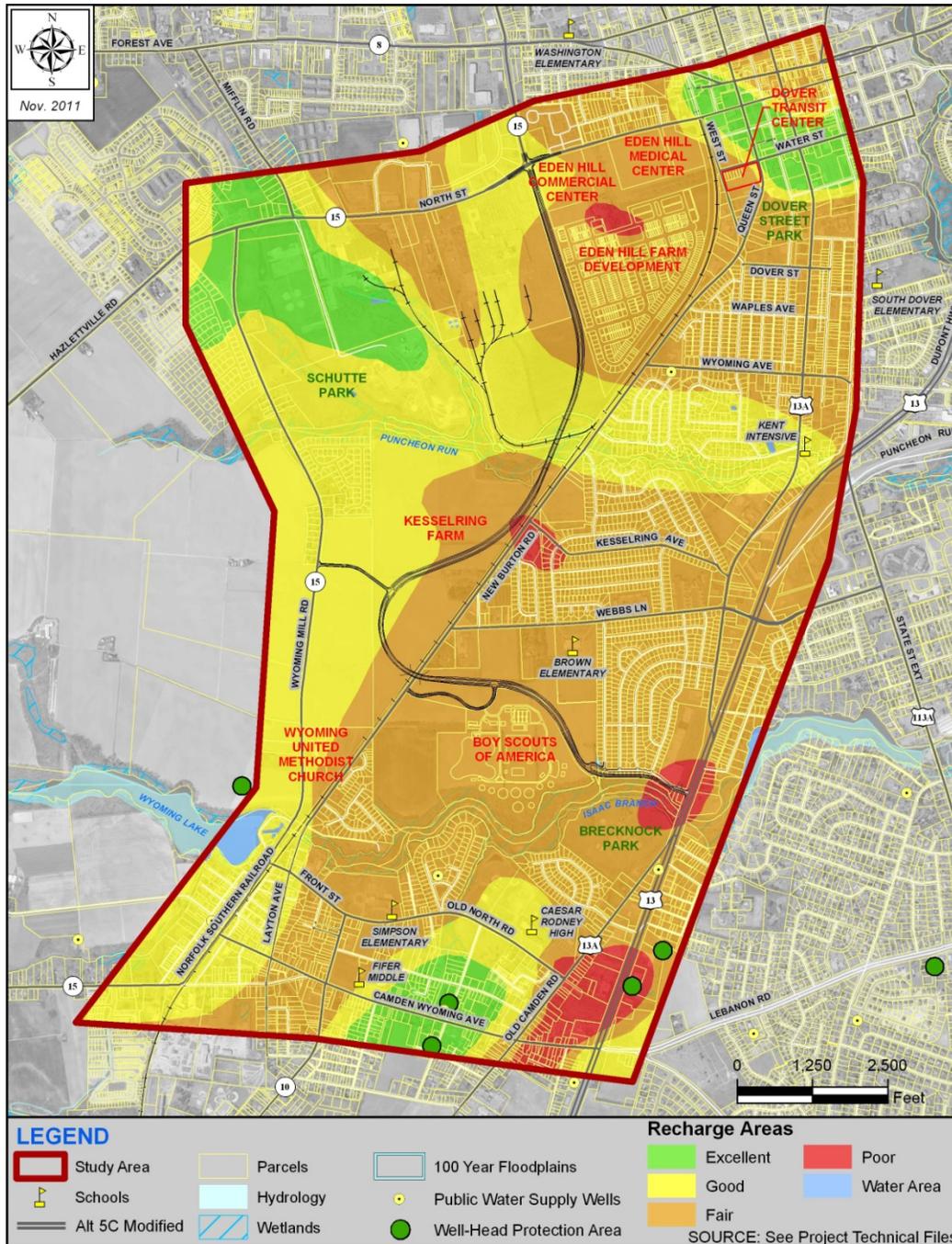


Figure III-10 Public Wells and Recharge Areas

3. Wildlife, Rare, Threatened and Endangered Species

The study area contains a mix of ecological systems including developed land, agricultural lands, and forested waterway corridors. The forested waterway corridors provide the highest natural habitat value for wildlife. The proposed bridge spanning Puncheon Run would enable the waterway to continue to serve as a wildlife habitat corridor and fish passageway. The height of the bridge, approximately 40 feet above the stream bed, would enable wildlife to continue to pass unencumbered under the bridge.

The U.S. Fish and Wildlife Service reported that no federally listed species are known to occur in the study area and an updated request to the service yielded no new information. The Delaware Natural Heritage Program identified the red-headed woodpecker, a State-listed endangered bird, as having been observed in the Brecknock Park area. The State-designated rare black vulture was also observed in the Brecknock Park area. Two State-identified rare fish, the ironcolor shiner and mud sunfish, have been observed in Moores Lake east of and downstream from the study area.

Potentially suitable habitat for the red-headed woodpecker and black vulture is limited to the wooded Puncheon Run and Isaac Branch corridors. The proposed Puncheon Run crossing is located near New Burton Road, away from the more remote, wooded headwaters area of the waterway. As such, the potential impact on habitat that might be used by the birds is minimized.

The project would have no direct impact on Isaac Branch, a tributary to Moore's Lake. Potential indirect effects due to stormwater runoff would be minimized through use of state-approved stormwater management facilities. As such, no impact on the rare fish is anticipated to occur.

4. State Forested and Resource Areas

The nearest State Resource Area (SRA) and Natural Area (NA) to the West Dover Connector is associated with Isaac Branch and Brecknock Park which is located immediately south of the Preferred Alternative alignment and Charles Polk Road. The West Dover Connector would not impact these areas. However, the Preferred Alternative would require the removal of 2.22 acres of trees within the proposed alignment, primarily related to woodland and wooded-edge areas of the floodplain associated with the construction of the bridge over Puncheon Run.

5. Permits

The Preferred Alternative would require an USCOE permit for work in the Waters of the U.S. (including streams, floodplains, and wetlands) in accordance with Section 404 of the Clean Water Act, as well as a DNREC Water Quality Certification, Subaqueous Lands. Overall impacts are minimal and permitting should be routine.

6. Indirect and Cumulative Effects (ICE)

Indirect Effects

While no development projects are dependent on the West Dover Connector project and the Preferred Alternative would generally limit access along the connector to street connections only, it would provide a new crossing of the railroad. As such, it would add to development pressures that already exist west of the City of Dover. As evidenced by the Eden Hill development and other projects, large land tracts currently in agriculture are being converted to residential and non-residential uses. Traffic generated by these approved developments is already burdening the existing street network. While the West Dover Connector would help address local congestion issues, it and the existing roadway network would be challenged as future development occurs. Further information on the status of local and regional transportation and land use plans and pending development can be found in the 2010 *Alternatives Analysis Report*.

Cumulative Effects

If a project directly or secondarily affects a resource, there is potential for cumulative effects to occur if another development or project affects the same resource. The proposed Puncheon Run bridge crossing would occur in a location where previous impacts to the waterway have occurred in the past including utility and railroad infrastructure and recent land disturbance by the Eden Hill development. Cumulatively, these past projects have caused changes in the water channel, floodplain configuration, hydrology, and ecosystem. The proposed bridge would cause additional disturbance. To address the role of the potential project impacts on Puncheon Run, there will be enhancement and restoration of waterway functions and values where possible west of New Burton Road. Strategies to be considered in consultation with the USCOE and DNREC include channel restoration, floodplain and wetlands enhancement to improve flood storage and water quality functions, removal of invasive plant species, and reintroduction of native plant materials.

The West Dover Connector would have impacts to the historic Kesselring Farm (Site K01030). The Kesselring Farm retains the feeling of an agricultural complex due to its location in the middle of crop fields on a once-active farmstead. The Preferred Alternative will directly impact approximately 26 acres of the 191-acre property, but will avoid direct impacts to the complex associated with the Kesselring Farm by wrapping around the buildings. Although large portions of the associated farmlands adjacent to the complex will be retained and farm equipment access across the connector road will be provided, the Preferred Alternative will largely isolate the farm complex from the surrounding farmland to the north and west. The Kesselring Farm had received prior preliminary approval from the City of Dover for a single-family residential development for the property; however, the developer has since ceased development due to the downturned national economy. Future development of the property could further diminish the feel of the historic significance of the property.

The Preferred Alternative for the West Dover Connector would also require the acquisition of 1.3 acres of state-preserved agricultural land to construct the auxiliary extension to Wyoming Mill Road. The use of land from State Agricultural Preservation Districts requires a legal agreement with the State and the property owner which may contain stipulations to mitigate the loss of preserved land. The existing farmland could become further fragmented and could lose some or part of its agricultural use should future access, right-of-ways, easements or developments also use land from these State Agricultural Preservation Districts.

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IV. DRAFT SECTION 4(f) EVALUATION

Section 4(f) refers to the original section in the USDOT Act of 1966 and applies to all agencies within the USDOT. The Section 4(f) requirement, originally set forth in 49 USC 1653(f), includes consideration in transportation project development of the use of publicly owned land of a public park, recreation area, or wildlife and waterfowl refuge, or land of an historic site of national, state, or local significance (as determined by the federal, state, or local officials having jurisdiction over the park, recreation area, refuge, or site). Historic sites are afforded protection under Section 4(f) if listed or determined eligible for the National Register. The law is codified in 49 USC 303 and 23 USC 138 and is implemented by the USDOT per 23 CFR 774. In accordance with 23 CFR 774, the USDOT may not approve an action requiring the use of a Section 4(f) protected property, unless it is determined that:

- There is no feasible and prudent alternative to the use of land from the property; and
- The action includes all possible planning to minimize harm to the property resulting from such use.

A Section 4(f) "use" occurs when property identified as a Section 4(f) resource is permanently acquired and incorporated into a transportation project or when there is occupancy of land that is adverse in terms of the integrity of the Section 4(f) resource. The requirements of Section 4(f) apply to the West Dover Connector project because the Preferred Alternative would require the direct use of land from one historic property eligible for listing on the National Register.

In compliance with the separate Section 106 process (23 CFR 800), and in order to identify the Section 4(f) properties in the project area, coordination was conducted with the DE SHPO as the official having jurisdiction over historic Section 4(f) properties. The federal Advisory Council on Historic Preservation (ACHP) was notified of the Section 106 Adverse Effect finding for the Preferred Alternative and offered an opportunity to participate in the Section 106 consultation. In November 4, 2011 correspondence, ACHP declined to participate in the consultation (see Appendix B).

A. Section 4(f) Properties

Two (2) public parks and four (4) historic properties listed in or eligible for the National Register (see **Figure IV-1**) have been identified in the project study area. Those properties afforded protection under Section 4(f) are:

- Brecknock Park
- Schutte Park
- Brecknock (K00143), located within Brecknock Park
- Eden Hill Farm (K00125)
- H. Jenkins House (K03205)
- Kesselring Farm (K01030)

Section 4(f) use applies to only the Kesselring Farm due to the Preferred Alternative (Alternative 5C Modified). The other five properties listed above do not require Section 4(f) use or consideration of Section 4(f) *de minimis*. They are identified in this Draft Section 4(f) Evaluation in terms of project development discussions including consideration of Section 4(f) avoidance alternatives.

1. Kesselring Farm (K01030)

Kesselring Farm is a National Register-eligible property encompassing a complex of farm buildings and surrounding agricultural land. The DE SHPO concurred with this finding on February 24, 2011. It is located south of Puncheon Run and west of New Burton Road and the NS Railroad in the central portion of the study area. **Figure IV-1** depicts the boundaries of Kesselring Farm.

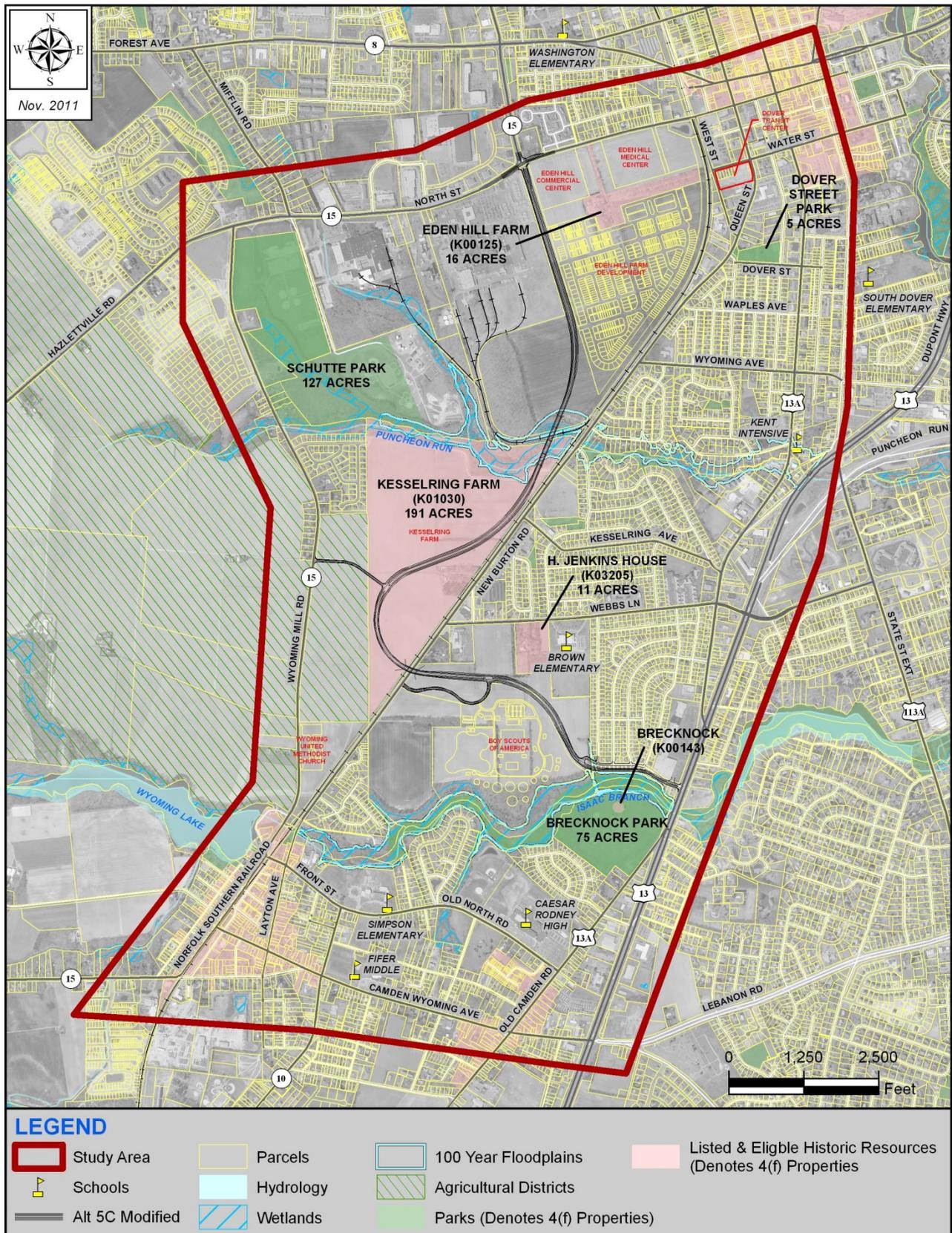


Figure IV-1 Alternative 5C Modified (Preferred Alternative)

The complex consists of a circa 1840/1900 Folk Victorian dwelling with a number of original farm buildings contributing to the property and its setting. The Kesselring Farm retains the feeling of an agricultural complex due to its location amid active crop fields that have been active and associated with the dwelling. The resource also retains a historic house, barn and several outbuildings in a range farm plan in which the dwelling faces the main road and the farm buildings are placed behind the dwelling facing the farm lane that passes by the house. In addition to retaining historic features, the farm retains integrity from the period of active agriculture and significance (ca. 1840-1956).

B. Use of Section 4(f) Properties

The proposed use of Section 4(f) property by Alternative 5C Modified, as the Preferred Alternative, is described in this section. A Section 4(f) “use” occurs when:

- Land from a Section 4(f) property is acquired for a transportation project, referred to as a “direct taking,” and/or
- The proximity impacts of the transportation project on the Section 4(f) site, without acquisition of land, are so great that the purposes for which the Section 4(f) site exists are substantially impaired. This circumstance is known as “constructive use.”

1. Kesselring Farm

Alternative 5C Modified would result in the direct, permanent use of portions of one Section 4(f) property, the Kesselring Farm, because of the Adverse Effect to the property resulting from Section 106 consultation. The *de minimus* criteria defined in 23 CFR 774 do not apply to the Section 4(f) use by Alternative 5C Modified.

Of the 191 acres comprising the property, approximately 26 acres would be acquired as right-of-way for the Preferred Alternative for the West Dover Connector, with approximately 165 acres remaining.¹ **Figure IV-2** shows the use of the Kesselring Farm by the Preferred Alternative. Of the proposed land acquisition and use of the historic property, none of the man made architectural elements that characterize the property as an active farm would be removed, relocated, or adjusted; none would be used. **Figure IV-3** shows the detail of the Preferred Alternative and how the alignment wraps around the farm complex buildings, thus avoiding any removal, relocation, adjustment or use of the buildings. During construction, temporary access by DeIDOT and its contractors within the remaining historic boundary and associated agricultural fields will not be necessary.

Since the architectural elements of the farm will be physically separated from the agricultural lands by a new roadway, provisions for safe access will be made so that farm equipment and other mechanical needs can move between the remaining parcels. Safe access provisions will ensure that farming activities on the property can remain active and viable.

Except at or for street intersection areas, a denial of access will be placed along the proposed West Dover Connector right-of-way to ensure that areas of the remaining farm do not appeal to future development. Stormwater management facilities will be sized for the West Dover Connector and not for shared use by future growth and development.

¹ The acreage does not include potential stormwater management facilities as design has not sufficiently advanced to determine the location and size of facilities.

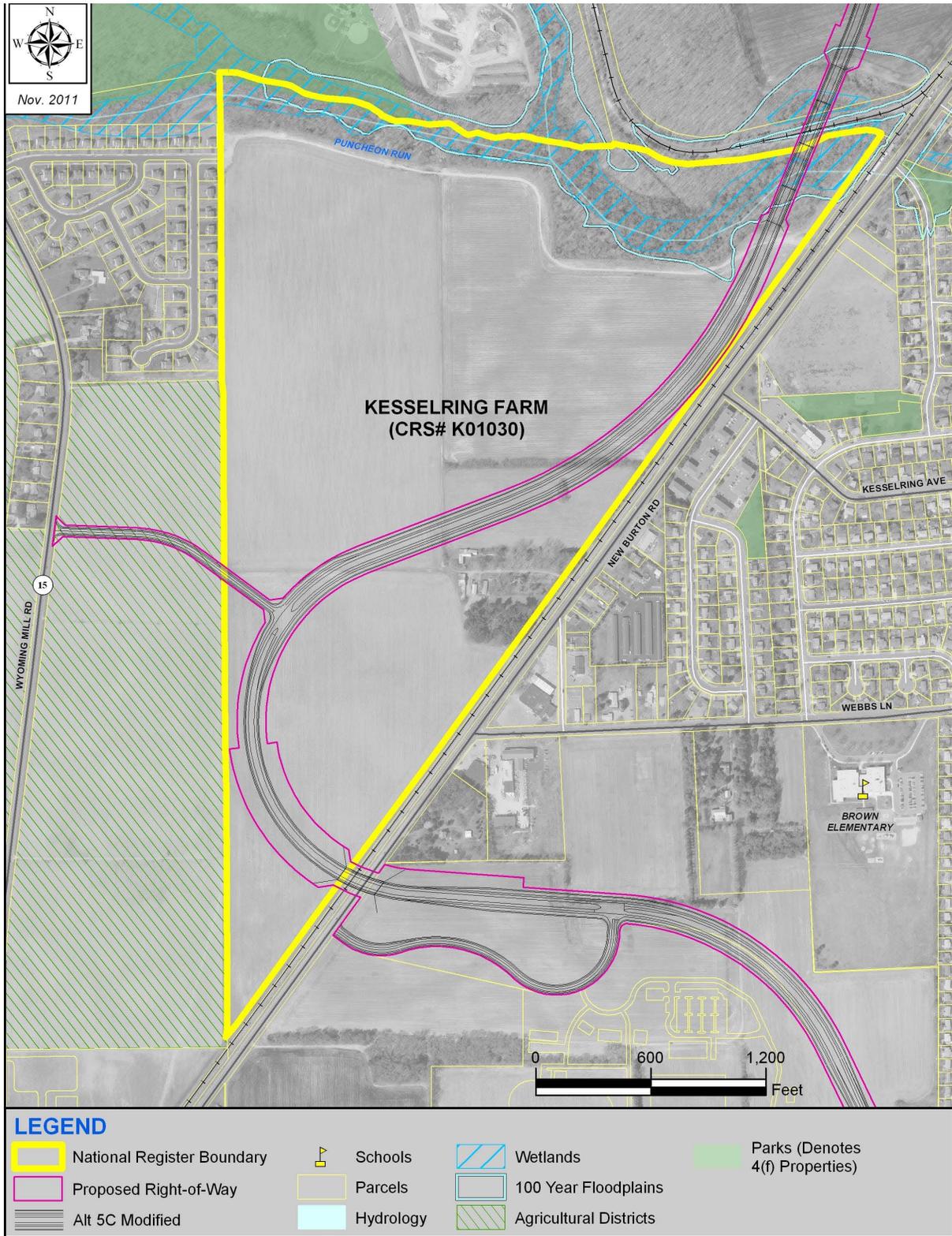


Figure IV-2 Alternative 5C Modified (Preferred Alternative) and Kesselring Farm

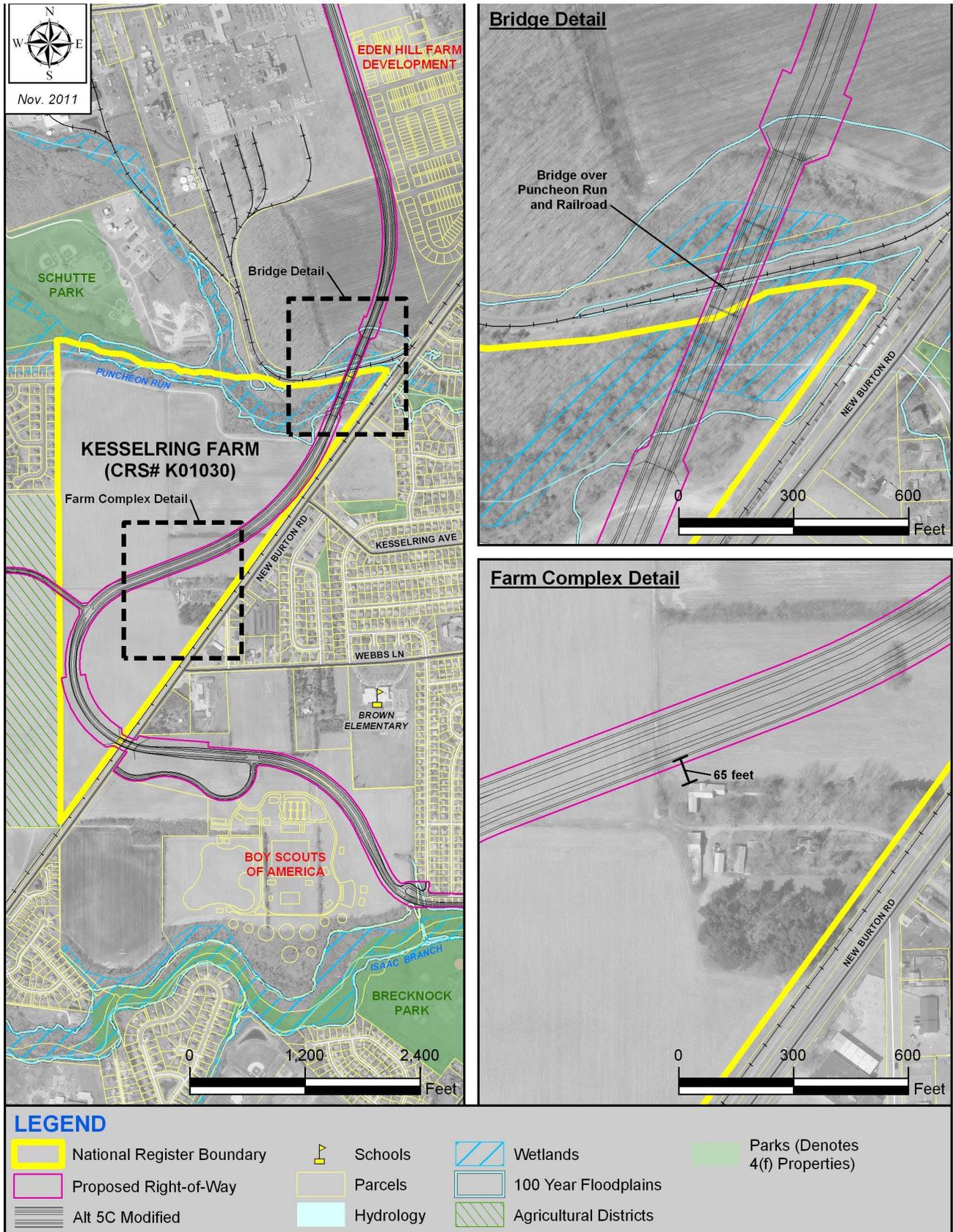


Figure IV-3 Alternative 5C Modified (Preferred Alternative) and Kesselring Farm Detail

C. Avoidance Analysis

This section identifies and evaluates Section 4(f) avoidance alternatives. As summarized in this evaluation, 13 avoidance alternatives were evaluated during the alternatives analysis phase of the project, including the No-build Alternative. The methodology and findings of the analysis of the alternatives may be found in the 2010 *Alternatives Analysis Report*. **Table IV-1** lists the alternatives evaluated during the alternatives analysis. This table is supplemented with the results of the avoidance analysis, including the number of Section 4(f) properties each alternative would use, and the prudence standards not met (23 CFR 774.17). The avoidance analysis determined that there is no feasible and prudent avoidance alternative to the use of the Kesselring Farm Section 4(f) property.

Table IV-1 Summary of Section 4(f) Property Use By Alternatives

Alternative	Number of Section 4(f) Properties Used	Prudent Standard Not Met	Names of Section 4(f) Properties Used
1 No-build	0	1	N/A
2A	0	1, 2, 3	N/A
2B	0	1, 2, 3	N/A
2C	1	n/a	Kesselring Farm
2D	1	n/a	Kesselring Farm
3	0	1	N/A
4	1	n/a	Kesselring Farm
5A	1	n/a	Kesselring Farm
5B	1	n/a	Kesselring Farm
5C Modified	1	n/a	Kesselring Farm
5C Spur	2	n/a	Kesselring Farm; Brecknock Park
6	1	n/a	Kesselring Farm
7A	0	1, 2, 3	N/A
7B	0	1, 2, 3	N/A
7C	0	1, 2, 3	N/A
7C Spur	2	n/a	Brecknock Park
7D	0	1, 2, 3	N/A
8	1	n/a	Kesselring Farm
9	0	1	N/A
10	0	1	N/A
11	0	1	N/A
12A	1	n/a	Kesselring Farm
12B	1	n/a	Kesselring Farm
13	1	n/a	Kesselring Farm
14A	0	1	N/A
14B	0	1, 2, 3	N/A

1. Alternatives Development Summary

During the Alternatives Analysis phase of study, 25 build alternatives (consisting of 14 core alternatives with permutations) and the No-build Alternative were assessed, comprising the full range of alternatives for the project. The alternatives were developed in consultation with the West Dover Connector Working Group (an advisory group made up of elected officials, and members of community organizations and stakeholders), the resource agencies and the general public. Descriptions and depictions of the alternatives are provided in the 2010 *Alternatives Analysis Report*.

Each of the alternatives was subjected to a progressive, three-step alternatives evaluation process that consisted of the following:

- Step 1 – Performance related to the project Purpose and Need
- Step 2 – Performance related to specific traffic, engineering, and environmental parameters
- Step 3 – Detailed study of design and operations; refined environmental evaluation

In Step 1, all 26 alternatives were evaluated for their performance in the context of the project Purpose and Need. At the end of Step 1, six alternatives were eliminated as they did not meet the project Purpose and Need (6, 8, 9, 10, 11 and 13). Alternatives 9 and 11 were avoidance alternatives as defined by Section 4(f).

In Step 2, the 20 surviving alternatives from Step 1 were evaluated according to specific traffic, engineering and environmental parameters, as well as input from the Working Group, the resource agencies and the public. At the end of Step 2, five alternatives were retained for detailed study (1, 4, 5C, 7C and 7D) and 15 alternatives were eliminated. One eliminated alternative, Alternative 14A, was an avoidance alternative as defined by Section 4(f).

In Step 3, detailed study of the retained alternatives was undertaken on the five surviving alternatives from Step 2 (1, 4, 5C, 7C and 7D). In particular and as described in the 2010 *Alternatives Analysis Report*, the alignment of Alternative 5C was modified to pass to the west of the Kesselring Farm complex buildings, thereby avoiding a direct impact on the historic farmhouse and buildings. In addition, the alignment east of New Burton Road was shifted to the north in response to the proposed development by the Boy Scouts of America. The resulting alignment embodying these changes was named Alternative 5C Modified. At the end of Step 3, Alternative 5C Modified was determined to provide the best combination of responding to the Purpose and Need and avoiding or minimizing impacts.

2. Avoidance Analysis

The analysis of avoidance alternatives used the feasible and prudent standards of Section 4(f). An alternative is determined feasible if it can be built “as a matter of sound engineering judgment.” In this analysis, all of the alternatives are considered to be feasible from a purely engineering perspective. Under 23 CFR, 774.17, the FHWA defines the factors for determining alternatives as prudent or not prudent in the negative; thus, an alternative is not prudent for any of the following reasons:

1. It compromises the project to a degree that it is unreasonable to proceed with the project in light of its stated purpose and need;
2. It results in unacceptable safety or operational problems;
3. After reasonable mitigation, it still causes:
 - a. Severe social, economic or environmental impacts;
 - b. Severe disruption to established communities;
 - c. Severe disproportionate impacts to minority or low-income populations; or
 - d. Severe impacts to environmental resources protected under other federal statutes;
4. It results in additional construction, maintenance, or operational costs of an extraordinary magnitude;
5. It causes other unique problems or unusual factors; or
6. It involves multiple factors in 1 through 5 above, that while individually minor; cumulatively cause unique problems or impacts of extraordinary magnitude.

In the alternatives evaluation summarized above, 13 alternatives are avoidance alternatives: 1, 2A, 2B, 3, 7A, 7B, 7C, 7D, 9, 10, 11, 14A and 14B. **Figure IV-4** displays the avoidance alternatives.

In the evaluation, six avoidance alternatives are unresponsive to the purpose and need: 1, 3, 9, 10, 11 (Alternative 11 is the Transportation Systems Management alternative and consists of improvements to existing intersections only) and 14A. The 2010 *Alternatives Analysis Report* summarizes the performance of the alternatives in terms of the purpose and need elements. These alternatives were eliminated early in the evaluation process.

Avoidance alternatives 2A, 2B, 7A, 7B, 7C, 7D and 14B were found in the evaluation to have severe safety and operational limitations at New Burton Road (prudence standard 2) that led to their dismissal from further consideration. In each of these alternatives, the large footprint of the interchange and necessary widening of New Burton Road would require property acquisition and displacement of a significant number of residents and businesses (51 to 102 properties impacted and 20 to 37 displacements depending on the alternative), an effect that was deemed by the public, the Working Group and DeIDOT to be severe and unacceptable. In addition, concerns about safety in proximity to the Reilly Brown Elementary School along Webbs Lane led to a finding that Alternatives 7D and 14B would be unacceptable (prudence standard 3). Moreover, these alternatives would contradict the project purpose by providing an indirect connection to US Route 13; increasing traffic on New Burton Road; increasing the likelihood of cut through traffic on lower classification streets east of New Burton Road; and exhibiting dramatically high friction for mainline corridor traffic because of the number of intersections, driveways and turning movements (prudence standard 1). These factors render Alternatives 2A, 2B, 7A, 7C, 7D and 14B not prudent.

In summary, none of the avoidance alternatives considered and discussed during project development was found to be feasible and prudent based on one or more of the Section 4(f) standards: 1. unreasonable compromise to the project in light of its stated purpose and need; 2. unacceptable safety or operational problems due to undesirable weaving from New Burton Road to and from the West Dover Connector; and, 3. severe disruption to established communities by the alternatives that would use New Burton Road.

3. Other Potential Avoidance Alternatives

Beyond the avoidance alternatives discussed above, consideration was given to the potential for others or variations of alternatives to avoid Section 4(f) uses. Given the very large number of alternatives and variations previously evaluated, and study area-specific land use, engineering and transportation characteristics, little room remains for new ideas. Working from the Saulsbury Road intersection with North Street as the northern terminus and US Route 13 as the southern terminus, potential routes include those represented by the alternatives evaluated.

Only the No-build Alternative (Alternative 1), which is based on a no-construction scenario where roadway improvements would not take place, would result in no use of a Section 4(f) property. The No-build Alternative includes the existing network of roads in the study area, plus the currently programmed, committed and funded roadway and transit projects in the vicinity of the study area including the realignment and signalization of Wyoming Mill Road and the Dover Transit Center. The No-build Alternative assumes no construction of a West Dover Connector (aka Extension of Saulsbury Road) and no other improvements to the study area's transportation system other than routine maintenance and repair. It represents future transportation and travel conditions in the study area but without an investment in a West Dover Connector project.

Due to forecasted increases in population, households, and employment without appropriate roadway improvements to accommodate the increase in traffic, all 13 intersections studied in the 2011 *Updated Traffic Report* for the No-build Alternative are projected to have unacceptable intersection performance (LOS E or LOS F) in 2035. These traffic issues will result in adverse effects on emergency service accessibility and overall safety and higher volumes of traffic circulation around the Eden Hill Farm parcel and Schutte Park. Due to these and other traffic and safety issues, the No-build Alternative

would not meet the purpose and need of the project and would be inconsistent with the current planning context. Further detail can be found in the 2010 *Alternatives Analysis Report*.

Existing lands east of the NS Railroad and north of Puncheon Run are almost entirely developed; remaining parcels are planned for development. As a result, any proposed crossing of the railroad would require a new intersection with New Burton Road and the widening of New Burton Road. These activities would result in significant property acquisition and displacements of similar magnitude to those for avoidance alternatives 2A, 2B, 7C, 7D, and 14B. It should be noted that impacts on the approved and in-progress implementation of the Eden Hill Farm development would also be impacted by an alignment located between the remaining historic property and Puncheon Run. Importantly, though an at-grade crossing of the railroad could potentially require less impact area, Delaware Law Title 17 Highways, Chapter 7 Railroad Crossings Over Highways prevents creation of new at-grade crossings (prudence standard 2).

The Kesselring Farm parcel has long property frontage along Puncheon Run which limits the ability to cross the waterway without using the property. A route west of the Kesselring Farm would require significant residential property acquisition and displacement on the south side of Puncheon Run as there is a relatively new, moderate density residential subdivision abutting the Kesselring Farm property to the west (prudence standard 3). Also, a westerly alignment would substantially impact wetlands in the Puncheon Run stream corridor. The ACOE has provided guidance that the proposed connector should be aligned as close to New Burton Road as possible to avoid impacting the relatively higher quality and well-buffered wetlands found further west along Puncheon Run (prudence standard 3).

In consideration of these findings, there is no feasible and prudent avoidance alternative to the use of the Kesselring Farm Section 4(f) property.

D. Least Overall Harm Analysis

Applying the FHWA criteria in 774.3(c)(1), a least harm analysis was undertaken that involved balancing the following seven factors:

1. The ability to mitigate adverse impacts to each Section 4(f) property (including any measures that result in benefits to the property);
2. The relative severity of the remaining harm, after mitigation, to the protected activities, attributes, or features that qualify each Section 4(f) property for protection;
3. The relative significance of each Section 4(f) property;
4. The views of the officials with jurisdiction over each Section 4(f) property;
5. The degree to which each alternative meets the purpose and need for the project;
6. After reasonable mitigation, the magnitude of any adverse impacts to resources not protected by Section 4(f); and,
7. Substantial differences in costs among the alternatives.

Of the 26 alternatives analyzed including the No-build, 13 alternatives (No-build, 2A, 2B, 3, 7A, 7B, 7C, 7D, 9,10,11, 14A, and 14B) did not meet the prudency standard. Of the remaining, 13 build alternatives (2C, 2D, 4, 5A, 5B, 5C Modified, 5C Spur, 6, 7C Spur, 8, 12A, 12B and 13) would use one or more Section 4(f) properties as summarized in **Table IV-1**. Of these, Alternative 5C Modified was determined to cause the least overall harm in light of the protection purposes of Section 4(f). A detailed discussion of the least harm analysis is as follows.

Of the alternatives that would use Section 4(f) properties, two would use three properties: Kesselring Farm, Brecknock and Brecknock Park (5C Spur and 7C Spur). These alternatives were universally considered nonviable by Kent County Parks and Recreation, the Working Group, the DE SHPO, USCOE, and the public. The unavoidable impacts of these alternatives to the historic and recreational

elements of Brecknock and Brecknock Park, respectively, and to the forested wetlands fringe along Isaac Branch were determined to be unacceptable (least harm criteria 2, 3 and 4). For this reason, Alternatives 5C Spur and 7C Spur would not cause the least overall harm.

Alternative 2C would use a relatively small corner of Kesselring Farm (approximately 0.4 acres of agricultural land) near Puncheon Run. However, Alternative 2C has safety and operation problems at the New Burton Road interchange and significant community disruption via property acquisition and displacements along New Burton Road that render the alternative nonviable (least harm criteria 6). Considering these factors and the fact that it would not perform well in response to the purpose and need compared to other alternatives (criteria 5), Alternative 2C is not considered to have the least overall harm.

Alternatives 12A and 12B would require relocating the railroad to the west, using approximately 6 acres of the Kesselring Farm agricultural land. Although the potential acreage of impact on the property would be smaller than that of Alternative 5C Modified, Norfolk Southern will not agree to a relocation of the railroad. Thus, Alternatives 12A and 12B are nonviable (least harm criteria 6).

Alternative 8 would require a relatively small use of the Kesselring Farm compared to Alternative 5C Modified (approximately 4 acres of agricultural land). However, Alternative 8 was determined early in the evaluation process to be not responsive to the project purpose and need (least harm criteria 5).

The remaining alternatives, 2D, 4, 5A, 5B, 5C Modified, 6, and 13 would each require moderate use of the Kesselring Farm property (approximately 16-21 acres of agricultural land) if all alignments were adjusted around the farm buildings as indicated for 5C Modified. Alternatives 2D, 6, and 3 were removed from consideration because they respond weakly to the project Purpose and Need. Alternatives 4, 5A, and 5B were eliminated due to high magnitude non-Section 4(f) impacts in the form of safety and disruption of future development. Details of these determinations and analysis can be found in the 2010 *Alternatives Analysis Report*.

The prior alignment to Alternative 5C Modified, Alternative 5C, would have required direct use of the farm buildings on the Kesselring Farm property and a total of approximately 16 acres of property use.² The alignment was subsequently refined (5C Modified) to circumnavigate the buildings, thereby avoiding a direct impact on the buildings.

Alternative 5C Modified would respond strongly to the project purpose and need and provide the least overall harm in terms of Section 4(f) use and non-4(f) impacts. Although Alternative 5C Modified would use a portion of agricultural lands that contribute to the historic Kesselring Farm, it would avoid the farm buildings and provision would be made to enable access across the roadway for farming activities to continue on the remaining portions of the property.

Other means of minimizing harm are built into the conceptual design of Alternative 5C Modified. The connector would provide a continuous facility to accommodate pedestrians and bicyclists, thereby being consistent with DeIDOT's Complete Streets policy, the Delaware Bicycle Facility Master Plan, and city and regional bicycle and pedestrian plans. The auxiliary connection would link Wyoming-Mill Road, which is part of the designated Delaware Bicycle Route 1, to study area parks and US Route 13. In this way and by virtue of the grade-separated crossing of the railroad, Alternative 5C Modified would provide the benefit of new connectivity to all parks in the study area with a safe movement across the railroad. As described previously, the typical section refinements will be examined in future design phases to avoid or minimize environmental impacts where possible while addressing operational needs. Moreover, the benefits in its design and operational elements, including safety, and bicycle and

² Alternative 5C is described in the 2010 *Alternatives Analysis Report*.

pedestrian accommodation, as well as landscaping and flexible footprint are minimization and mitigation strategies that help to offset the use of the Kesselring Farm by Alternative 5C Modified.

Based on this comparative assessment, Alternative 5C Modified would cause the least overall harm while also avoiding or minimizing community and environmental impacts. **Table IV-2** summarizes the results of the least overall harm analysis.

E. All Possible Planning to Minimize Harm

Section 106 consultation regarding Alternative 5C Modified yielded an “adverse effect” determination for Kesselring Farm. Reasonable means to minimize harm were also determined in consultation with the DE SHPO. DeIDOT will incorporate these means as described in the draft MOA (see Appendix B). As outlined in the draft MOA, DeIDOT, in consultation with the property owner and DE SHPO, will consider and include landscaping or fencing in its design plans for the Kesselring Farm. The planting or fencing along rights-of-ways, around stormwater management pond(s), or on private property will reduce some of the adverse visual and setting effects and will ensure that the Preferred Alternative will not permanently alter conditions on the Kesselring Farm in a manner that could result in a greater irreversible adverse effect. DeIDOT, in consultation with the DE SHPO and FHWA, has the option to develop and implement a vibration monitoring plan to monitor the effects (or prevent adverse effects) of construction on the Kesselring Farm. In the event that unanticipated effects to Kesselring Farm occur during construction, DeIDOT will instruct the contractor to cease construction in the immediate area, and immediately notify the FHWA. The FHWA will comply with 36 CFR Part 800.13 by consulting with the DE SHPO. DeIDOT, in consultation with the property owners of the Kesselring Farm, will query together and consider the naming of newly developed access or corridor roads under an appropriate historic name related to the Kesselring family, property, and/or its historic function. As described previously, during future design phases, the width of the typical section will be refined to avoid or minimize impacts on the Kesselring Farm where possible while addressing operational needs. These measures will be applied to reduce the severity of the project effect as well as to offset or mitigate some of the adverse effects. These strategies have been documented in the draft MOA between the DE SHPO, DeIDOT and the FHWA to ensure that commitments made under Section 106 are binding.

F. Consultation and Coordination

Coordination with the DE SHPO was initiated as part of the alternatives development process and has occurred throughout the EA process. Coordination with individual property owners, Kent County, and the City of Dover has also been on-going throughout the West Dover Connector planning process.

Regarding the Section 4(f) properties, DeIDOT undertook public outreach efforts with area residents, property owners and or other consulting parties with respect to development of the alternatives and Section 106 consultation (see Chapter V). Owners of the Kesselring Farm were contacted regarding proposed impacts on their property and agricultural lands. Correspondence from the Kesselring family is contained in project files maintained and available at DeIDOT. They are aware of the expected impact upon their property and object to the historic determination of their property. Continued access to and viability of the remaining agricultural lands for farming, now and into the future, is also a specific concern.

DE SHPO involvement and consultation has been extensive, including plan reviews, written and verbal coordination and communications, resource identification and evaluations, and field assessments. The FHWA and DeIDOT have consulted with the DE SHPO and the public on alternatives considered and measures to avoid and/or minimize effects on all historic properties, particularly the Kesselring Farm. Copies of the DE SHPO’s correspondence specific to the Section 106 adverse effect and Section 4(f) findings are included in project files maintained and available at DeIDOT.

Table IV-2 Least Overall Harm Analysis Results
Least Overall Harm Criteria (Kesseling Farm, unless noted otherwise)

Build Alternative	1 – Ability to Mitigate 4(f) Impacts	2 – Relative Severity of Impacts (use, acres approximate)****	3 – Relative Significance of 4(f) Property	4 – Officials' Views	5 – Purpose & Need Criteria Met***	6 – Relative Magnitude of Non-4(f) Impacts (number)**	7 – Relative Cost
2C	High	Low (0.4)	Moderate	None	3 of 5	High (1)	N/A
2D	Moderate	Moderate (21)	Moderate	None	3 of 5	Low (4)	N/A
4	Moderate	Moderate (17)	Moderate	None	5 of 5	High (2)	N/A
5A	Moderate	Moderate (17)	Moderate	None	5 of 5	High (1)	N/A
5B	Moderate	Moderate (21)	Moderate	None	5 of 5	High (2)	N/A
5C Modified	Moderate	Moderate (21)	Moderate	Moderate	5 of 5	Moderate (3)	N/A
5C Spur	KF – Moderate B – Low BP – Low	KF - Moderate (21) B – High BP - High	KF – Moderate B – High B - High	KF – None B – High BP - High	5 of 5	High (1)	N/A
6	Moderate	Moderate (18)	Moderate	None	2 of 5	Not analyzed	N/A
7C Spur	KF - N/A B – Low BP - Low	KF - N/A B – High BP - High	KF - N/A B – High BP - High	KF – N/A B – High BP - High	4 of 5	Moderate (3)	N/A
8	High	Low (4)	Moderate	None	1 of 5	Not analyzed	N/A
12A*	Moderate	Moderate (6)	Moderate	None	5 of 5	High (1)	N/A
12B*	Moderate	Moderate (6)	Moderate	None	5 of 5	High (1)	N/A
13	Moderate	Moderate (16)	Moderate	None	2 of 5	Not analyzed	N/A

Section 4(f) Property Codes: KF = Kesseling Farm; B = Brecknock; BP = Brecknock Park
 Shading denotes best performing alternatives according to each criterion.

*Assumes historic building preservation with a railroad alignment behind the buildings.

***Scoring involved summing the number of “moderate” and “most” ratings on the Traffic Performance Scoring Sheet in the 2010 *Alternative Analysis Report*.

**Scoring involved summing the number of “no impact” and “least impact” ratings on the Environmental Scoring Sheet (for natural resources) and Table V-3 (for partial impacts and displacements) in the 2010 *Alternative Analysis Report*, then deducting 1 point each for unique safety or freight railroad factors where applicable.

****Assumes that the alignments of Alternatives 2D, 4, 5A, 5B, 5C Spur, and 6 are adjusted to pass west of the Kesseling Farm buildings similar to Alternative 5C Modified.

Legend for Table IV-2

Criteria	Scoring Definitions	Notes
1 – Ability to Mitigate	Low: Possibly preserve some function, some integrity and some attributes Moderate: Preserve function, some integrity and some attributes High: Preserve most function, integrity and attributes	High and Moderate scores are considered acceptable.
2 – Relative Severity	Low: Little to no loss of function, integrity and/or attributes Moderate: Some function, integrity and/or attributes are harmed High: Most function, integrity and/or attributes are harmed	Low and Moderate scores are considered acceptable.
3 – Relative Significance	Moderate: An eligible historic property High: A National and/or State listed historic property; a public park	A Moderate score is considered acceptable.
4 – Officials' Views	None: No views of the alternative have been given Moderate: Opposed with conditions High: Opposed without conditions	A Moderate score is considered acceptable.
5 – Number of Purpose and Need Criteria Met	Scores of 4 and 5 out of 5 are considered acceptable.	
6 – Relative Magnitude of Adverse Impacts to Non-4(f) Resources	Low: Least impacts (4) Moderate: Some impacts (3) High: Most impacts (1 or 2)	Low and moderate scores are considered acceptable.
7 – Relative Cost	This criterion is not applicable as costs have not been developed.	

V. AGENCY AND PUBLIC COORDINATION

Throughout the history of this project dating to 2004, DeIDOT has met with and coordinated closely with federal and state regulatory and resource protection agencies and the FHWA. The various public workshops and community meetings also provided a forum for interaction with the local residents, elected officials, and business owners, along with emergency service providers. All public and agency input was crucial to selection of the Preferred Alternative, Alternative 5C Modified.

A. Agency Coordination

Agency coordination for the West Dover Connector project was initiated on April 8, 2004 in accordance with the Mid-Atlantic Transportation and Environmental (MATE) Streamlining process established in 2000. Meetings were held with the resource agencies to keep them up to date on the project progress and community involvement efforts throughout the project development process. Attendees included representatives from the following federal and state agencies:

1. U.S. Army Corps of Engineers
2. U.S. Environmental Protection Agency
3. U.S. Fish and Wildlife Service
4. Federal Highway Administration
5. National Marine Fisheries Service
6. Delaware Department of Natural Resources and Environmental Control
 - a. Wetlands and Subaqueous Lands Section
 - b. Delaware Coastal Programs
7. Delaware State Historic Preservation Office
8. Delaware Department of Agriculture

Ten meetings have been held to date with the agencies, either at DeIDOT's joint-permit quarterly meetings or at special project meetings that included site visits to the study area. As alternatives were developed, they were presented along with impacts to the agencies for consideration and comment. This included review of the 2009 Draft *Alternatives Analysis Report*. Agency meetings were held on:

- | | |
|---------------------|---------------------|
| 1. April 8, 2004 | 6. April 14, 2005 |
| 2. July 8, 2004 | 7. July 14, 2005 |
| 3. August 31, 2004 | 8. October 13, 2005 |
| 4. October 14, 2004 | 9. May 13, 2009 |
| 5. January 13, 2005 | 10. April 4, 2011 |

Meeting summaries are contained in Appendix C. The agencies focused their attention on the alternatives considered including the Preferred Alternative and the efforts of DeIDOT to avoid or minimize environmental and community impacts. Of particular interest was the impact of the project on the National Register-listed Eden Hill Farm, the development plans for the farm, and the eligible Kesselring Farm. Based on the 2010 *Alternatives Analysis Report*, FHWA agreed to support the Preferred Alternative as basis for development of an Environmental Assessment (EA)/Draft Section 4(f) Evaluation. With no objections from the resource agencies at the April 4, 2011 meeting, FHWA agreed to advance the project as an EA/Draft Section 4(f) Evaluation pursuant to 23 CFR 771.119 and 23 CFR 774. Section 106 consultations with the DE SHPO is on-going, involving identification and evaluation of historic and archaeological resources, determination of effects, and commitments to measures to avoid, minimize, or mitigate the adverse effects. Appendix B contains the draft MOA between the DE SHPO, DeIDOT and the FHWA to ensure that commitments made under Section 106 are binding including agreed-to mitigation for the Kesselring Farm.

B. Public and Community Involvement

Involvement with the public and local community began early in the West Dover Connector project with a listening tour, the formation of a Working Group (meetings open to the public), and a public outreach program that included announcements, mailings, a project website and Public Workshops. Based on review of the project files, the public included impacted or involved property owners.

1. Listening Tour

To involve community members and stakeholders early on in the project development process and to understand community issues and concerns, the project team conducted a listening tour. The listening tour was comprised of interviews with nearly 100 individuals from the West Dover area, adjacent communities and the wider region and included a broad cross-section of civic, business, historic and environmental organizations, citizens, and elected and appointed officials of the Towns of Camden and Wyoming, the City of Dover, Kent County, and the State of Delaware. These interviews were conducted prior to the formation of a community Working Group. A report on the listening tour can be found in Appendix A-I of the 2010 *Alternatives Analysis Report*.

The comments and feedback from the listening tour included the following major themes:

- Local congestion is the most pressing traffic problem in the City of Dover
- All types of traffic cut through neighborhoods, and truck traffic in neighborhoods is particularly problematic
- Development is impending and Dover needs additional access to and from the west side
- Access to and from the west side could be enhanced by the extension of Saulsbury Road
- A western by-pass is another possible solution to enhance access to and from the west side
- NS Railroad expects its operations on the line adjacent to New Burton Road to continue and to experience increased levels of activity
- Alternative connector road locations included: bringing the road under or over the railroad, and connecting US Route 13 and the Puncheon Run Connector via Webbs Lane
- Community concerns included: creation of more traffic on local and regional road network, impacts of new road on safety of school children and residents, particularly along Webbs Lane, and impact on livability of neighborhoods
- Environmental concerns included: impacts of a new road on farmlands, wetlands, streams, and other environmental and cultural resources
- Desire to enhance the safety for bicyclists and pedestrians
- Improved pedestrian access to schools, parks and neighborhoods, especially to Brecknock Park and Schutte Park
- The community needs to be involved in the decision-making about the new roadway
- Need to coordinate land use and transportation planning

2. Working Group

The listening tour interviews also provided insight to determine candidates for the Working Group. A forty-member Working Group, with interests throughout the West Dover Connector study area was established and met eight times between May 2004 and November 2005.

The Working Group was comprised of individuals representing the following organizations, businesses, and agencies:

- Delaware Department of Transportation
- Department of Agriculture
- Office of State Planning Coordination (Director)
- Planning Services, Kent County (Director)
- Kent County Parks and Recreation (Director)
- Kent County Department of Public Safety (Director)
- Dover/Kent Count MPO (Executive Director)
- Town of Camden (Mayor)
- Town of Wyoming (Mayor)
- Dover Planning and Inspections (Director)
- City of Dover (Mayor)
- Dover Parks and Recreation (Director)
- W. Reilly Brown Elementary School (Principal)
- 2nd District – Dover City
- 4th District – Dover City
- 17th Senatorial District
- 31st Representative District
- 32nd Representative District
- 34th Representative District
- Crossgates/Mayfair Homeowner's Association (President)
- Wyoming Mills Homeowner's Association
- Rodney Village Homeowner's Association (President)
- Town of Wyoming (Resident)
- Crossgates/Mayfair (Resident)
- Sherwood (Resident)
- Lincoln Park (Resident)
- Woodbrook (Resident)
- Rodney Village (Resident)
- Eden Hill Farm
- Kesselring Property (East of New Burton Road - Kesselring Farm)
- Kesselring Property (West of New Burton Road)
- Farmer, Major Property Owner
- Kraft Foods
- Commerce Bank (President)
- Central Delaware Chamber of Commerce (Executive Director)
- Dover First Seventh-Day Adventist Church
- Kent County Motor Sales Company

The Working Group's role in the project development process was to assist DeIDOT by providing input, making suggestions, reviewing alternatives, narrowing the range of alternatives, recommending alternatives that will receive detailed study, and recommending a preferred alternative. Detailed

Working Group meeting summaries can be found in Appendix A-III of the 2010 *Alternatives Analysis Report*.

A summary of the topics covered during each Working Group meeting follows:

Meeting #1 – May 26, 2004

The first meeting of the West Dover Connector Study Working Group served as an introductory meeting. Topics covered were:

- Purpose and role of the Working Group
- Project history and its relationship to the Eden Hill Farm
- Introduction of Working Group guidelines
- Listening Tour and Public Workshop comments
- Development plans and proposals for the study area
- Background information on the Purpose and Need
- Process for developing and evaluating alternatives
- Introduction of draft Working Group goals and objectives

Meeting #2 – July 14, 2004

Topics covered at the second Working Group Meeting included:

- Review and adoption of Working Group guidelines
- Input on revisions to draft Working Group goals and objectives
- Environmental consultation process and environmental and engineering features
- Breakout session to brainstorm ideas for West Dover Connector alternatives

Meeting #3 – September 22, 2004

Topics covered at the third Working Group included:

- Field Tour of the study area
- Update on the resource agency meeting
- Update on field tour conducted on August 31, 2004
- Update on the City of Dover’s Traditional Neighborhood Design Zoning Ordinance Amendment
- Revised Working Group goals and objectives
- Reviewed ideas generated from the July 14th meeting developed into concepts and maps
- Reviewed general assessment of the pros and cons associated with each concept in terms of traffic and effects on the natural and built environment issues
- Breakout session to continue brainstorming ideas for West Dover Connector alternatives as well as to comment on their support or lack of support for each of the concepts
- Homework assigned to Working Group regarding likes and dislikes of concepts

Meeting #4 – October 20, 2004

Topics covered at the fourth Working Group Meeting included:

- Update from the October 14, 2004 environmental resource agency meeting
- Results of homework assigned to Working Group regarding likes and dislikes of concepts
- Presentation on existing study area traffic flow patterns and the travel demand modeling process to be used to analyze traffic for each of the concepts

Meeting #5 – March 23, 2005

Topics covered at the fifth Working Group Meeting included:

- Presentation on the results of the Preliminary Alternatives screening
- Update on the results of the November 10, 2004, Public Workshop
- Update on the results of the Rodney Village Civic Association meetings attended
- Update on the results of the January 2005 resource agency meeting

- Update on the January 2005 meeting with the Federal Highway Administration
- Update on the status of the Eden Hill Farm

Meeting #6 – April 6, 2005

Meeting #6 of the Working Group was devoted to presenting and discussing alternatives in small breakout groups as well as in group discussions.

Meeting #7 – May 25, 2005

Meeting #7 of the Working Group was devoted to presenting and discussing alternatives in small breakout groups as well as in group discussions.

Meeting #8 – November 2, 2005

The final meeting of the Working Group was devoted to presenting DeIDOT's decision about the alternatives that should be retained for detailed study and explaining the work products of the detailed study phase.

All of the Working Group meetings for the West Dover Connector project provided the greater community with the opportunity to view displays, hear presentations, and offer comments regarding the concepts and alternatives. There was considerable interest in the project as demonstrated by the public attendance at the Working Group meetings.

3. Public Workshops

Four (4) public workshops in the Dover area provided the greater community with the opportunity to view displays and offer comments regarding the concepts and alternatives. A summary of the topics presented during each Public Workshop follows:

Topics covered at the workshops included

Public Workshop #1 – January 22, 2004

- Background information on traffic trends and land development activities in the study area
- Common concerns and issues raised during the Listening Tour

Public Workshop #2 – November 10, 2004

- Information on future levels of service for study area intersections
- Projections of population, households and employment
- Environmental screening maps
- Maps depicting the conceptual alternatives developed by through the Working Group process

Public Workshop #3 – January 11, 2006

- Information about the alternatives retained for detailed study

Public Workshop #4 – September 28, 2010

- Alternatives retained for detailed study and results of the analysis of these alternatives
- DeIDOT's Preferred Alternative (Alternative 5C Modified) for a new roadway that would extend Saulsbury Road south where it currently ends at the intersection of Saulsbury Road and North Street

A Public Workshop Summary was prepared after each workshop. The summary included the meeting displays, handouts, signage, public notices, media coverage, attendance sheets, comments received at the workshops and a summary of public comments. Detailed Public Workshop Summaries can be found in Appendix A-II of the 2010 *Alternatives Analysis Report*.

4. Project Website

Since the inception of the West Dover Connector Study in 2003, DeIDOT has maintained a project website at www.deldot.gov/information/projects/wdc. The information pertains to the study area and includes overall project information and public involvement efforts. Under the section “Working Group Meetings and Information,” there are links to each of the meeting’s agendas and presentations. Under the section “Meeting Minutes,” there are meeting minutes of each of the Working Group meetings. Informational project boards from the Public Workshops are contained under the section “Meeting Display Boards.” The “Scheduled Meetings and Workshops” section contains the notices and flyers announcing the Public Workshops and Working Group meetings.

5. Other Public Involvement Efforts

DeIDOT has responded and will continue to respond to community interest in the West Dover Connector project. DeIDOT made presentations to the Towns of Camden and Wyoming on May 2, 2005 and the Camden-Wyoming Fire Department on June 27, 2005. As well, DeIDOT was invited to and attended two (2) meetings of the Rodney Village Civic Association on December 2, 2004 and January 27, 2005. The consultant team attended a September 21, 2004 meeting of the Crossgates-Mayfair neighborhood to hear their comments and concerns.

A mailing list was developed from sign-in sheets at every meeting and is continuously updated. The mailing list is used to distribute meeting announcements and project updates. Announcements were also posted in newspapers.

This *Environmental Assessment and Draft Section 4(f) Evaluation* is made available for public review and opportunity to comment.

References for this EA may be found in the project files maintained by DeIDOT.

APPENDIX A

Plan Sheets for the Preferred Alternative (Alternative 5C Modified)

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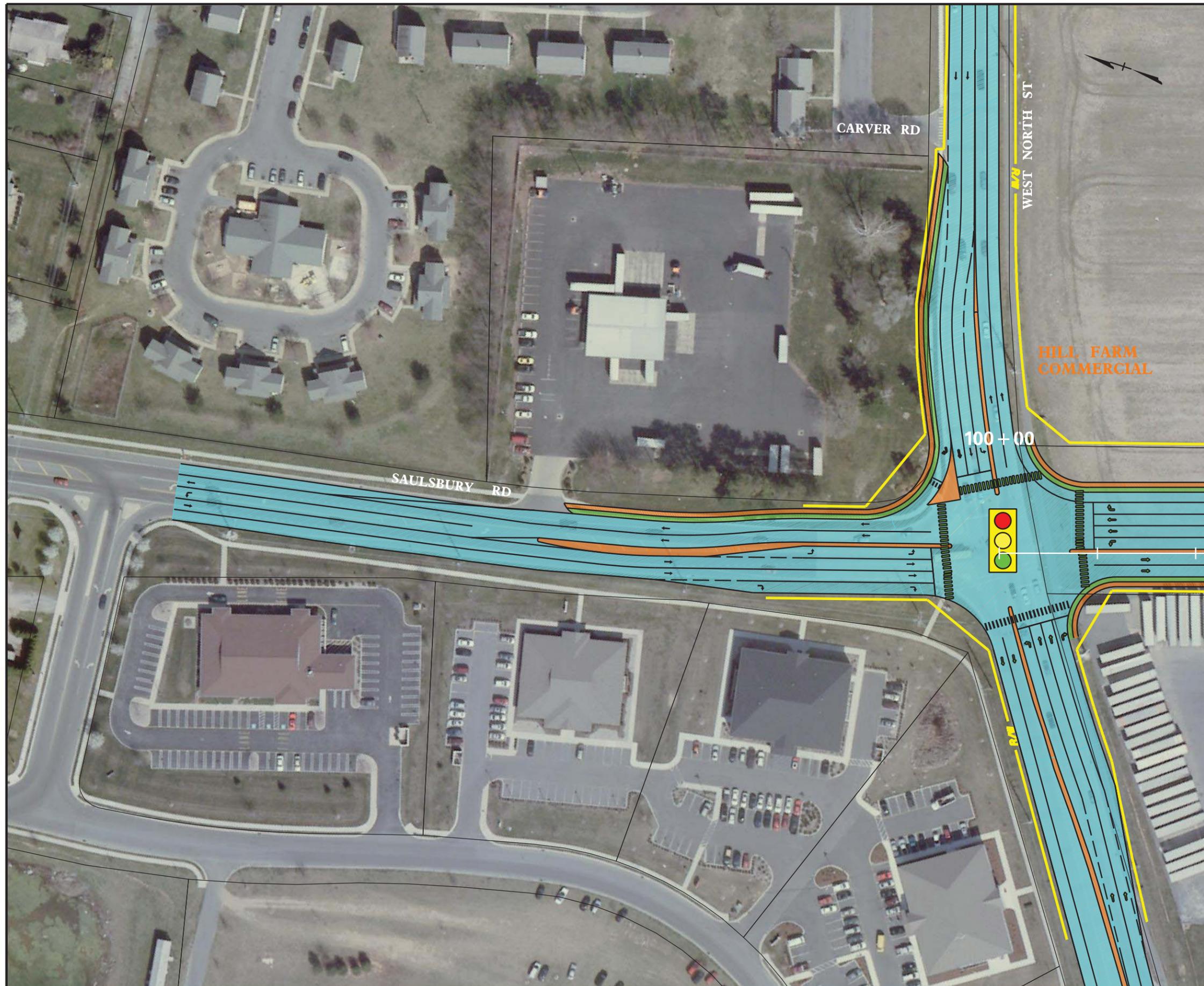


WEST DOVER CONNECTOR

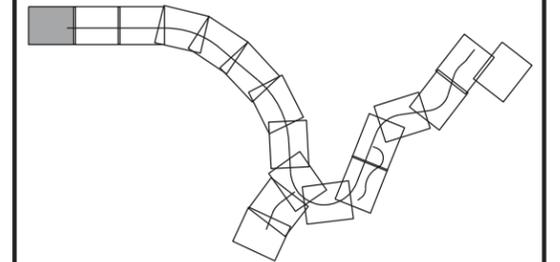
**KEY MAP
PREFERRED ALTERNATIVE**

DECEMBER 2011





WEST DOVER CONNECTOR



LEGEND:

-  ROADWAY
-  SIDEWALK / MEDIAN
-  LANDSCAPE/MEDIAN BUFFER
-  WETLANDS
-  PARCEL DISPLACEMENTS
-  FLOODPLAIN
-  RIGHT OF WAY
-  AGRICULTURAL PRESERVATION
-  PARKS
-  RAILROAD
-  HISTORIC PROPERTY

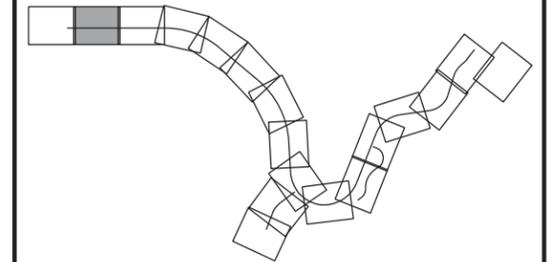
SHEET 1 of 18
PREFERRED ALTERNATIVE

DECEMBER 2011





WEST DOVER CONNECTOR



LEGEND:

-  ROADWAY
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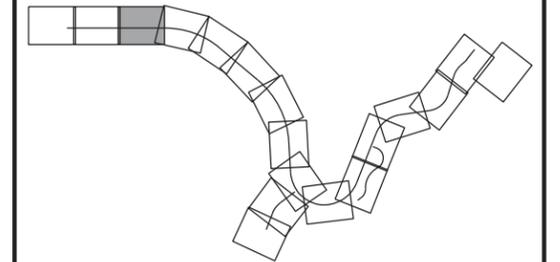
SHEET 2 of 18
PREFERRED ALTERNATIVE

DECEMBER 2011





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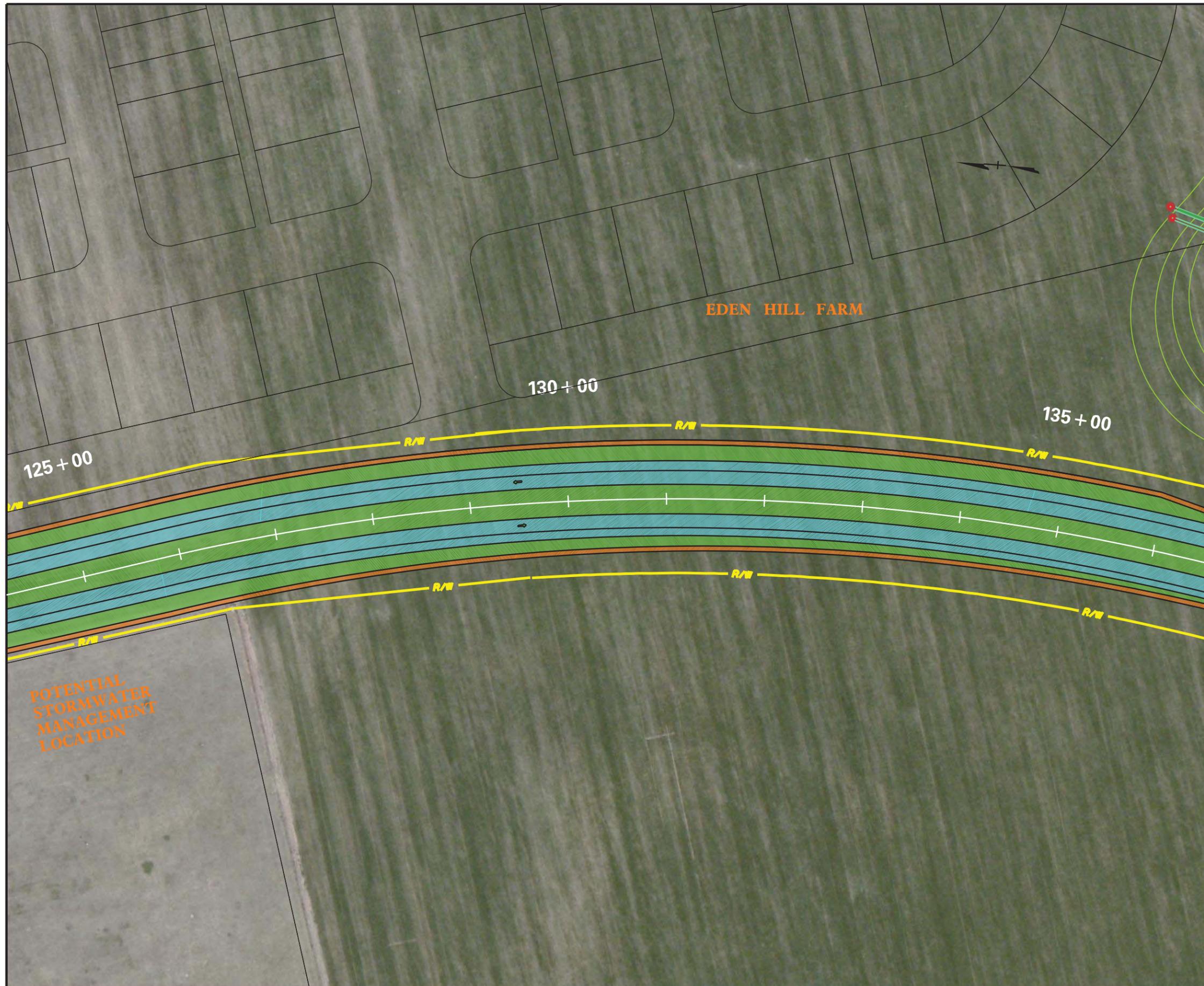
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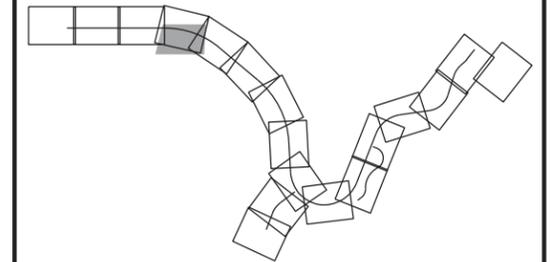
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DECEMBER 2011





WEST DOVER CONNECTOR



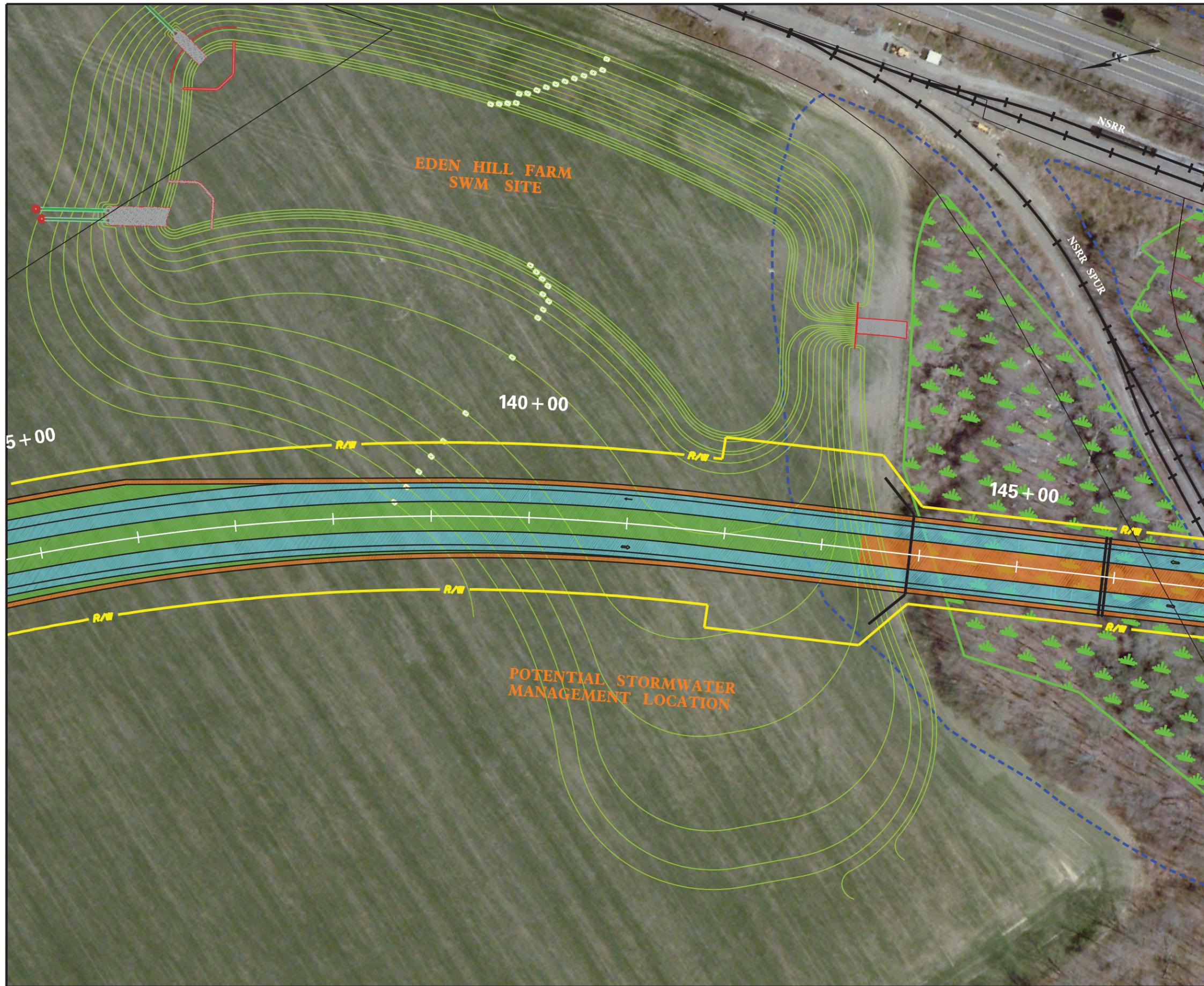
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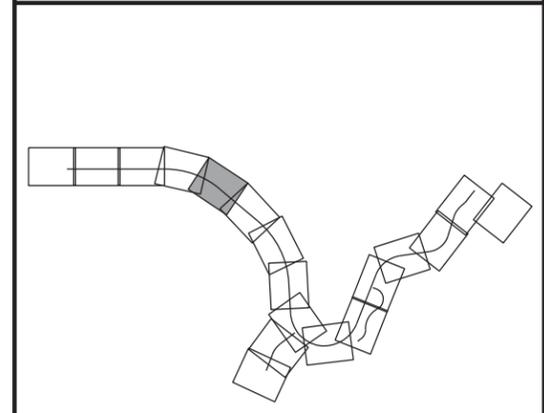
SHEET 4 of 18
PREFERRED ALTERNATIVE

DECEMBER 2011





WEST DOVER CONNECTOR



LEGEND:

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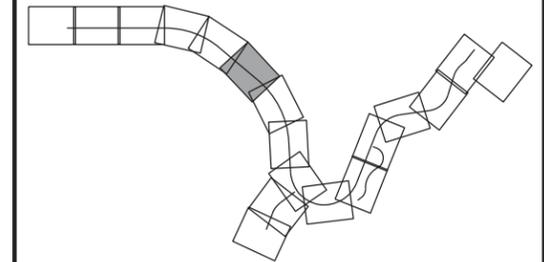
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DECEMBER 2011





WEST DOVER CONNECTOR



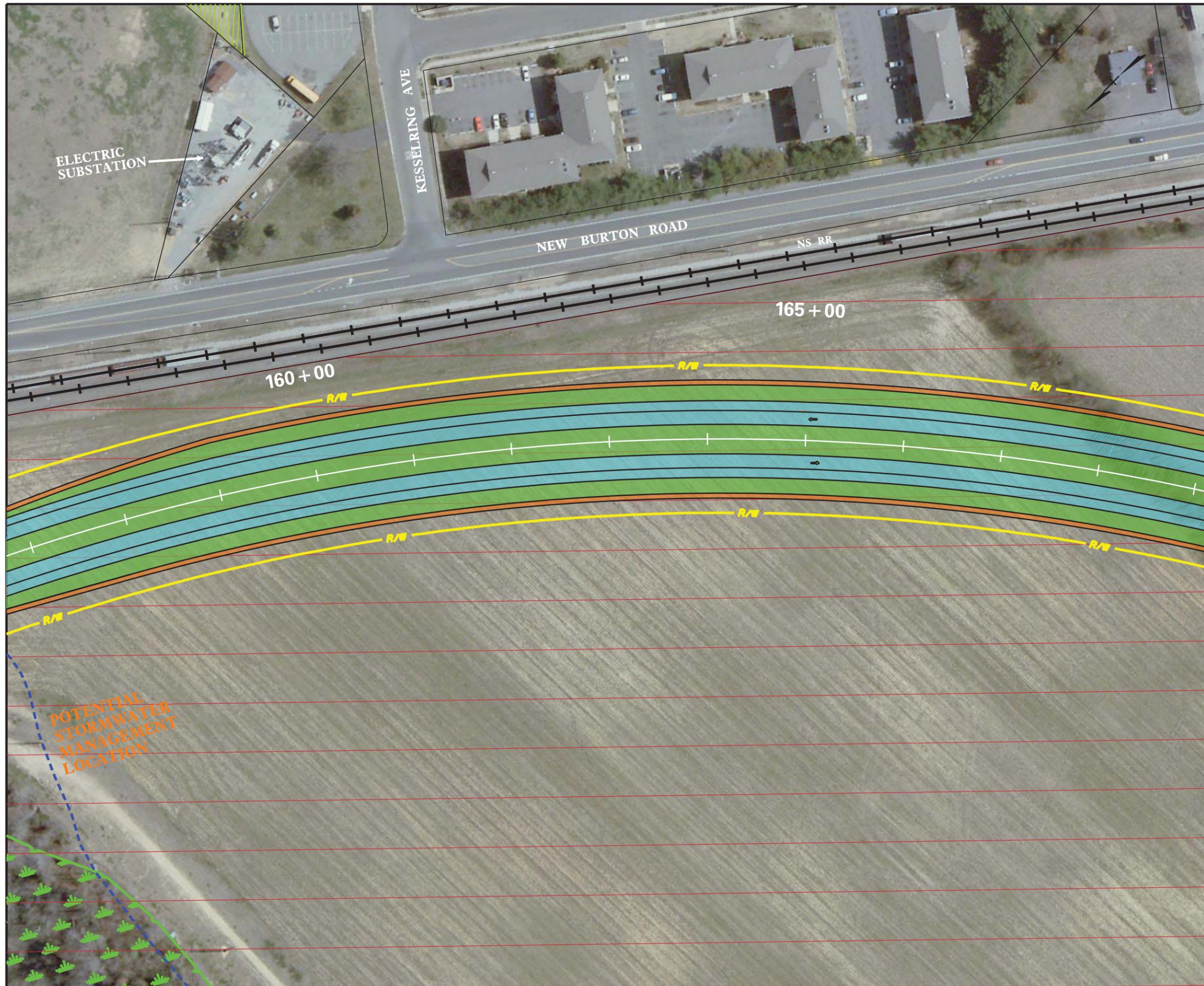
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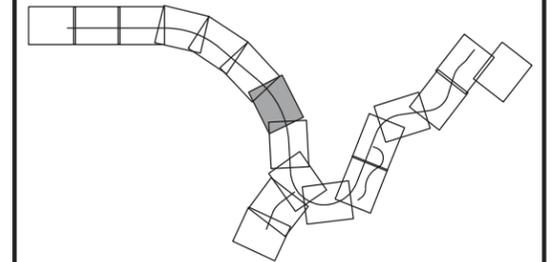
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PREFERRED ALTERNATIVE

DECEMBER 2011





WEST DOVER CONNECTOR



LEGEND:

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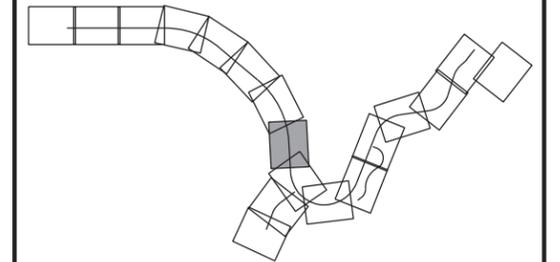
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DECEMBER 2011





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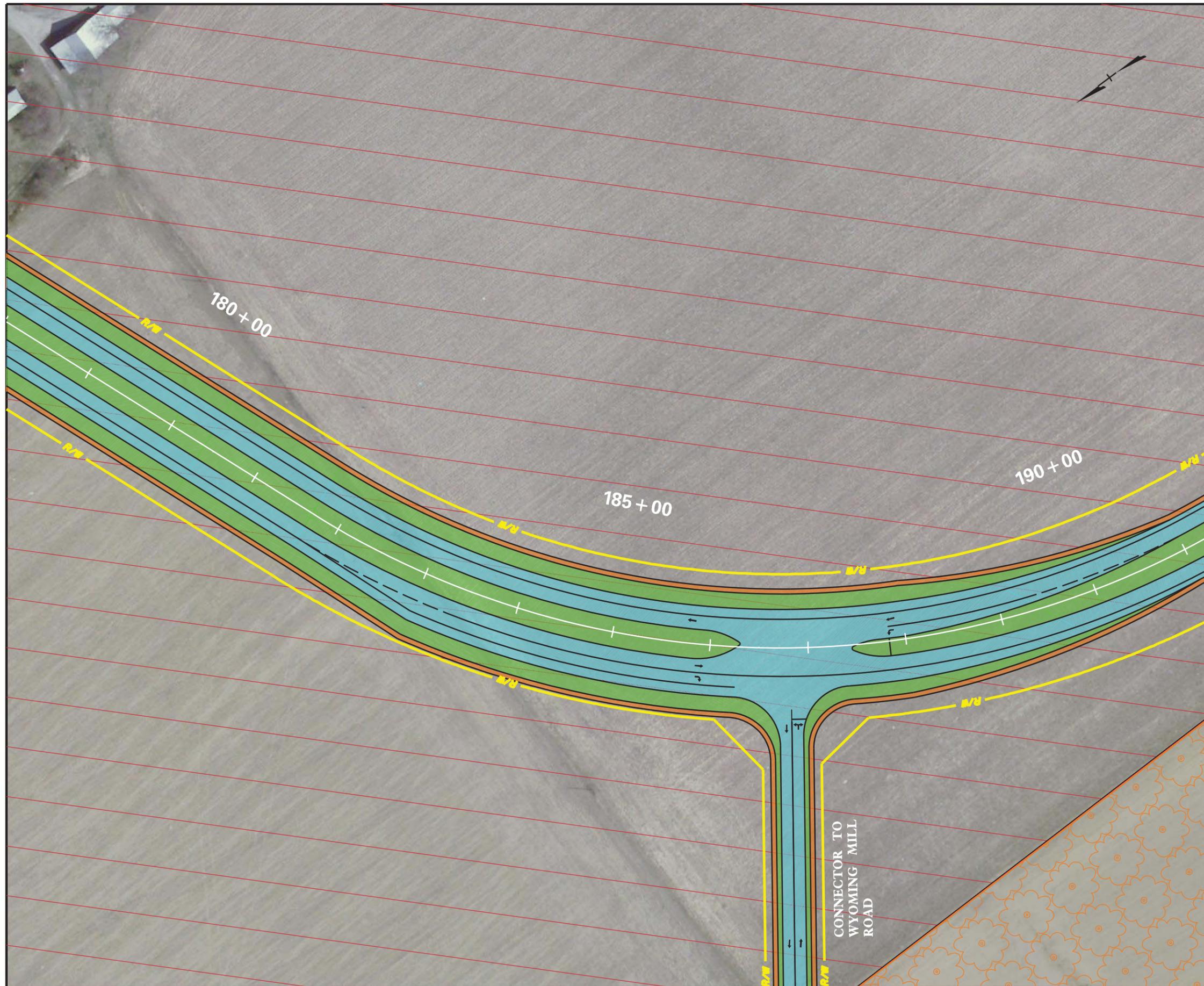
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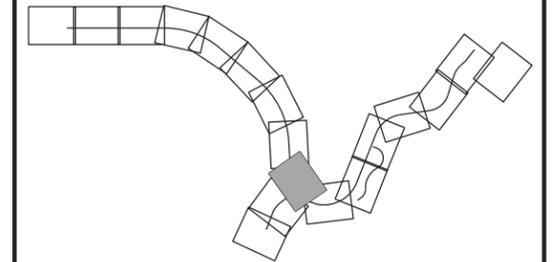
SHEET 8 of 18
PREFERRED ALTERNATIVE

DECEMBER 2011





WEST DOVER CONNECTOR



LEGEND:

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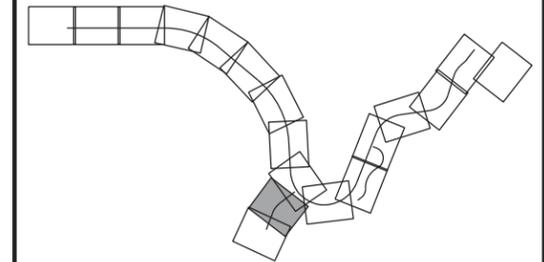
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DECEMBER 2011





WEST DOVER CONNECTOR



LEGEND:

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-  PARKS
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-  HISTORIC PROPERTY

SHEET 10 of 18
PREFERRED ALTERNATIVE

DECEMBER 2011





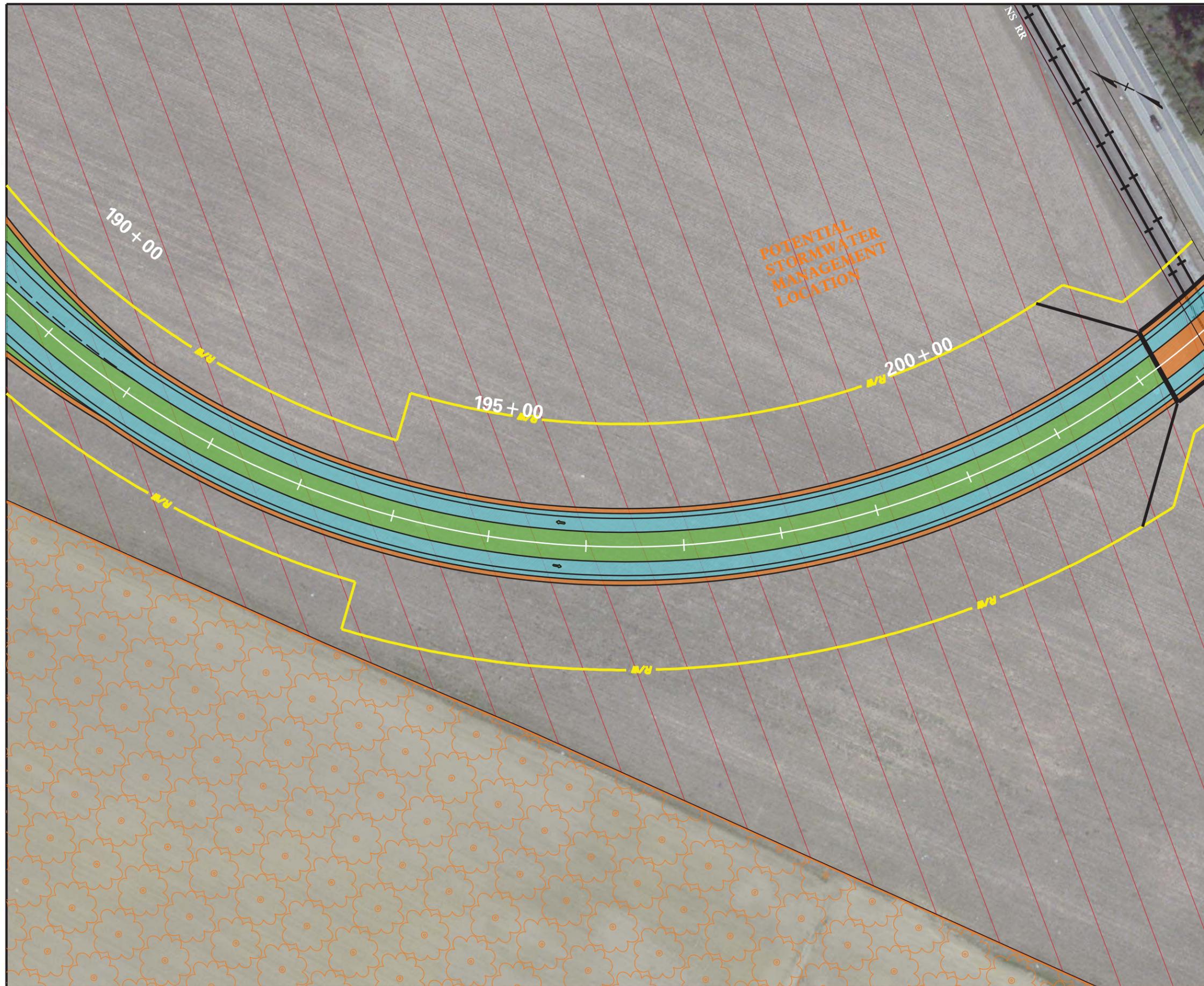
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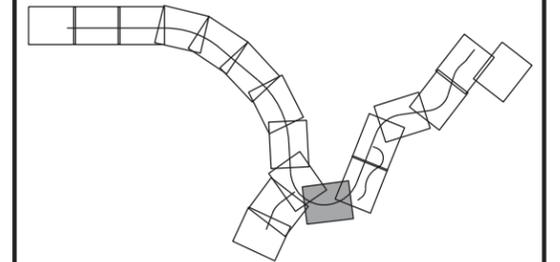
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- LANDSCAPE/MEDIAN BUFFER
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- PARCEL DISPLACEMENTS
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- RIGHT OF WAY
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- PARKS
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- HISTORIC PROPERTY

SHEET 11 of 18
PREFERRED ALTERNATIVE

DECEMBER 2011



WEST DOVER CONNECTOR



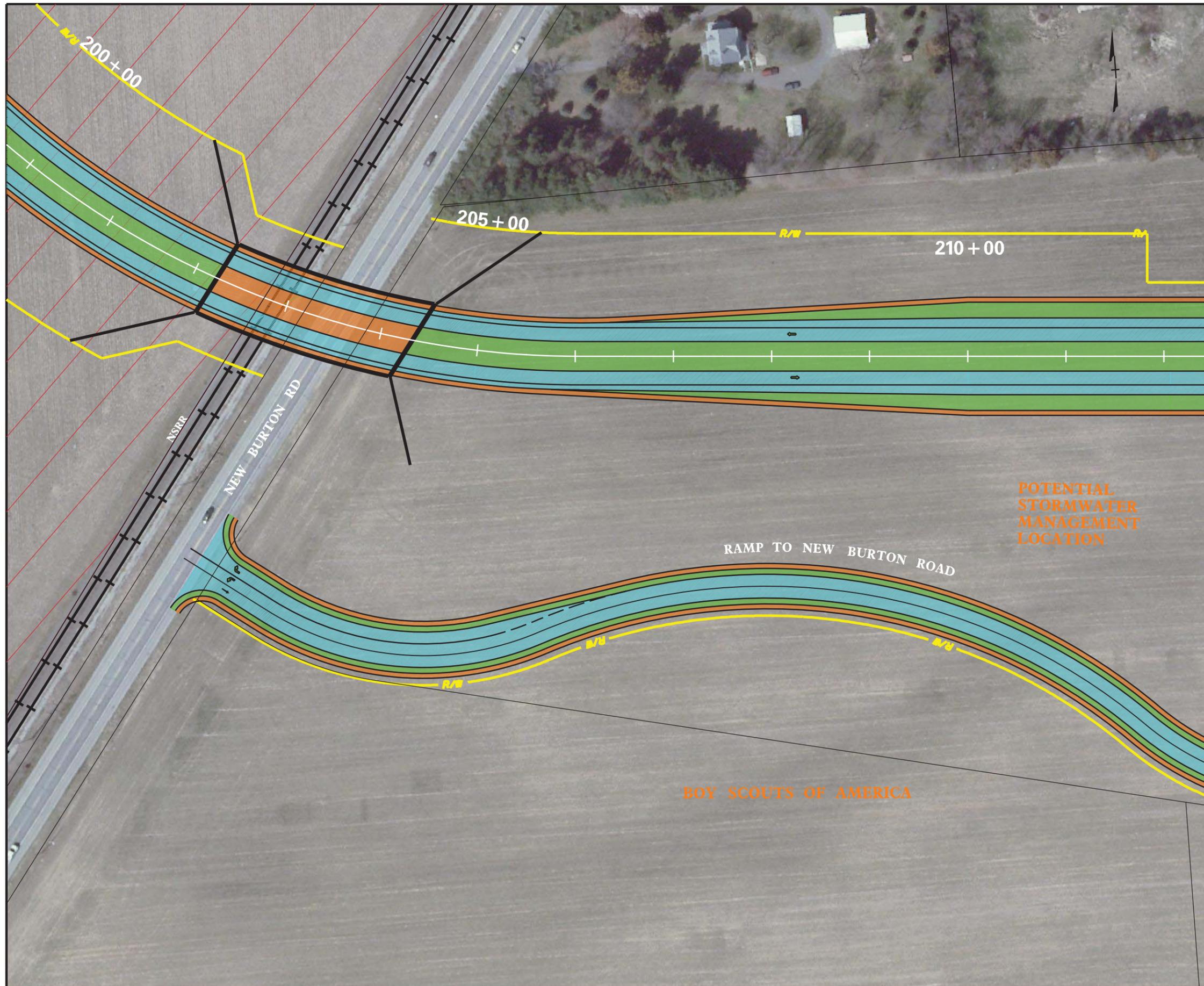
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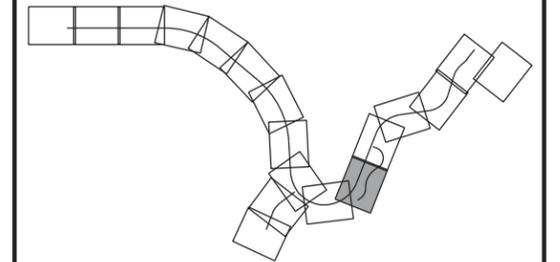
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DECEMBER 2011





WEST DOVER CONNECTOR



LEGEND:

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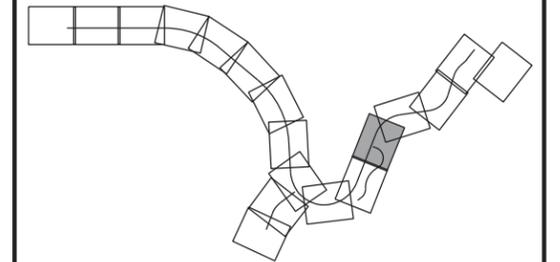
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DECEMBER 2011





WEST DOVER CONNECTOR



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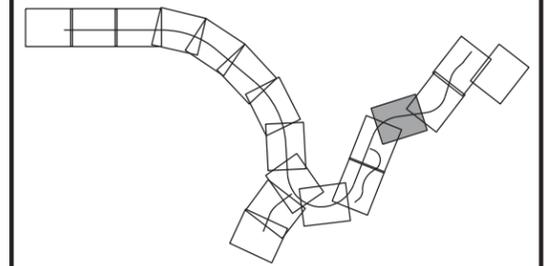
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DECEMBER 2011





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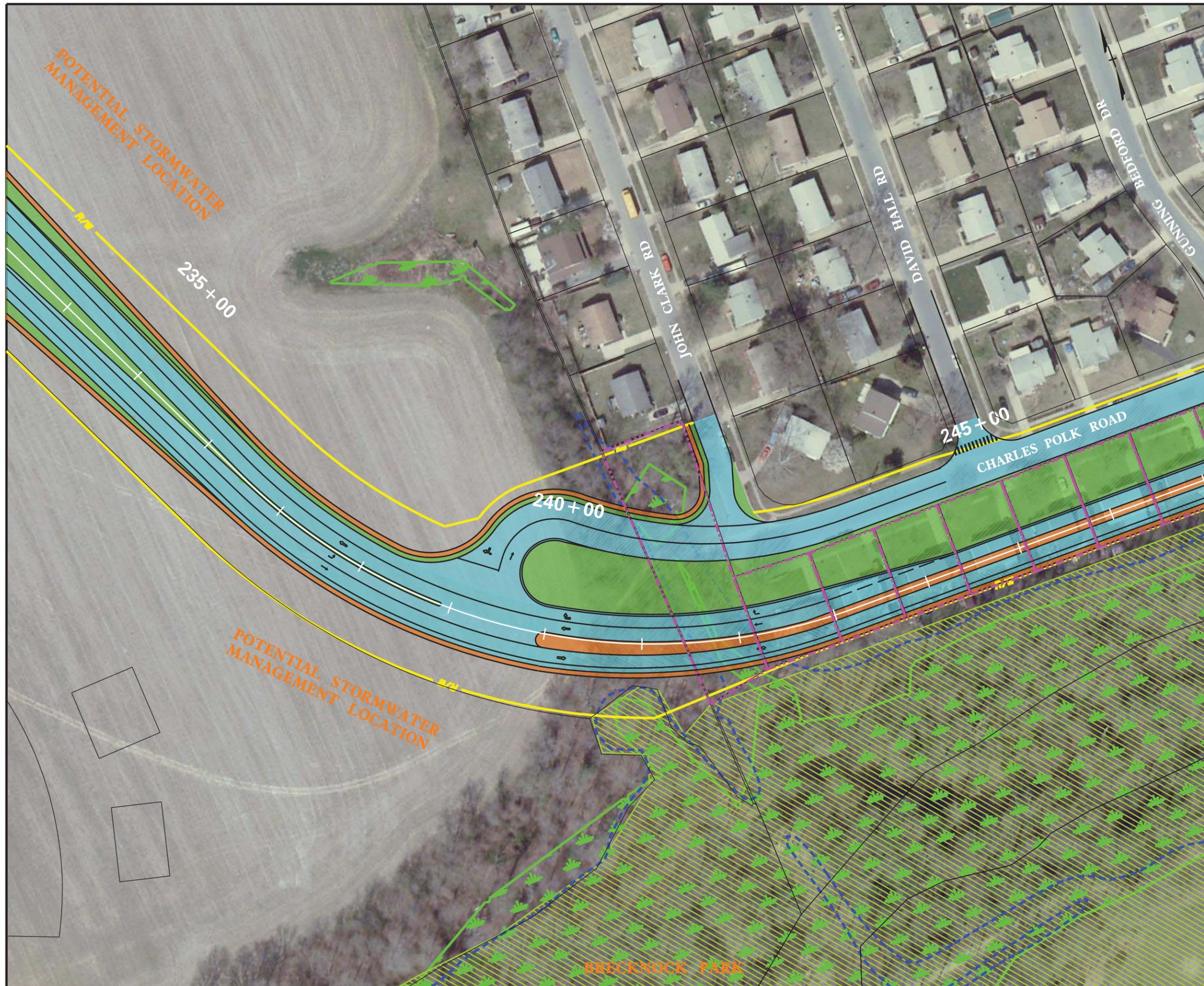
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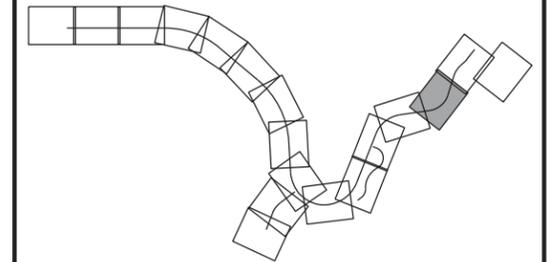
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DECEMBER 2011





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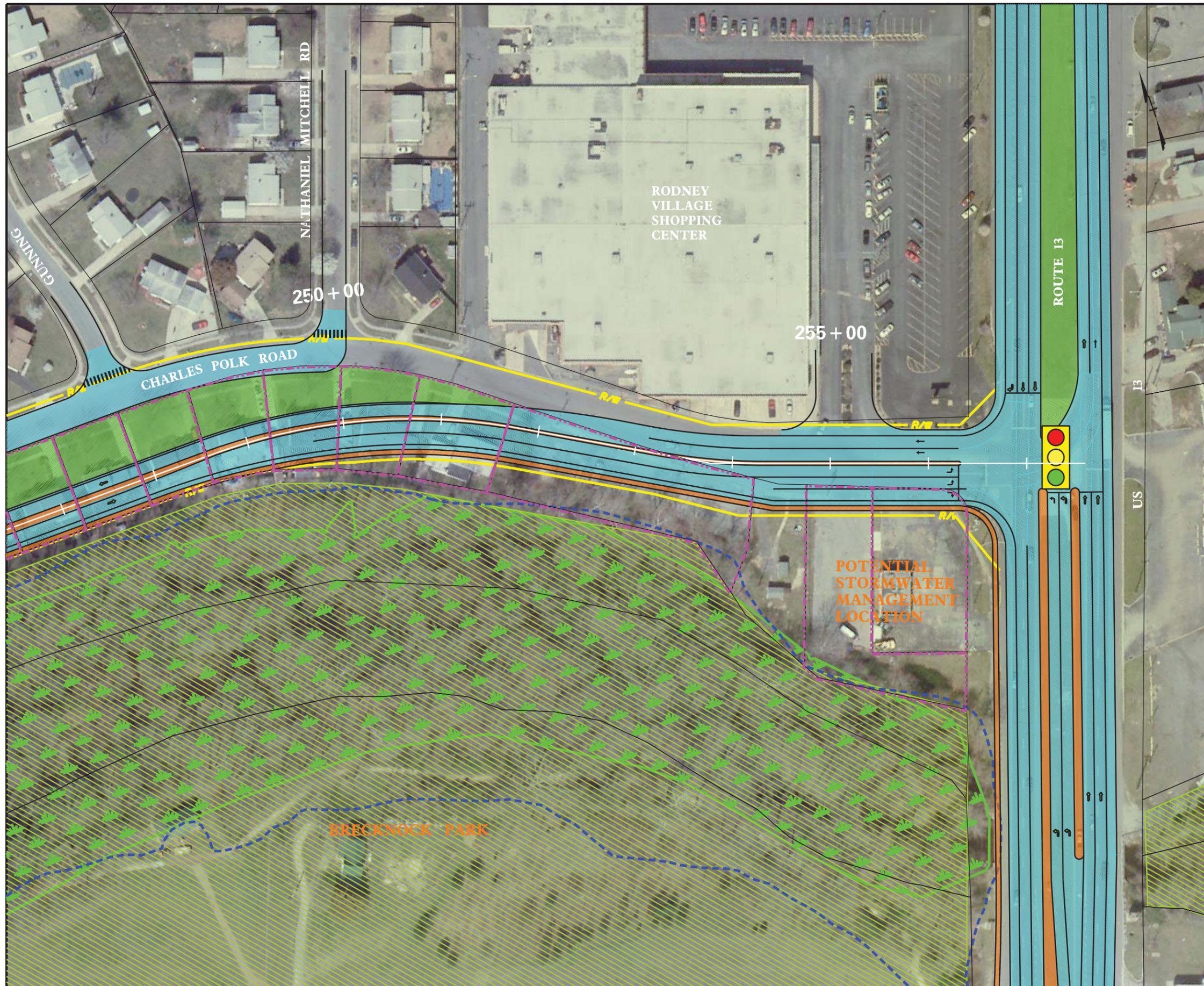
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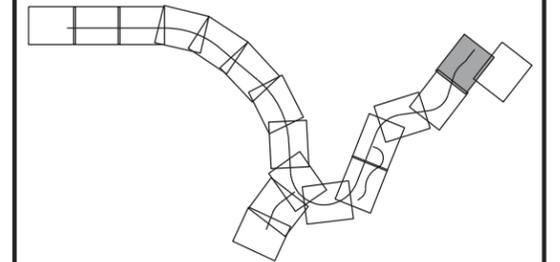
SHEET 16 of 18
PREFERRED ALTERNATIVE

DECEMBER 2011





WEST DOVER CONNECTOR



LEGEND:

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-  LANDSCAPE / MEDIAN BUFFER
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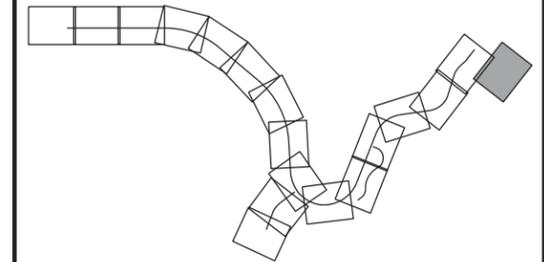
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PREFERRED ALTERNATIVE

DECEMBER 2011





WEST DOVER CONNECTOR



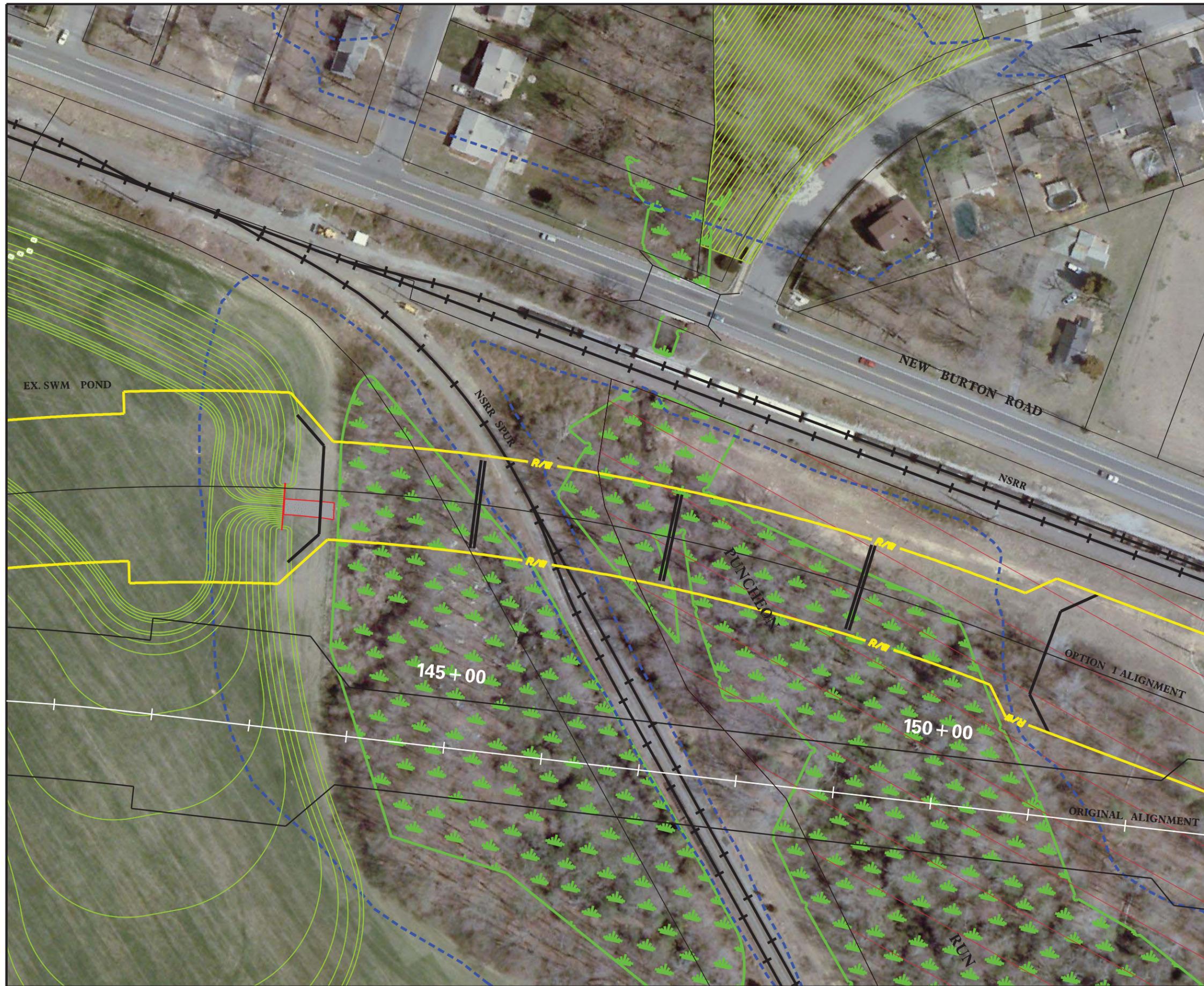
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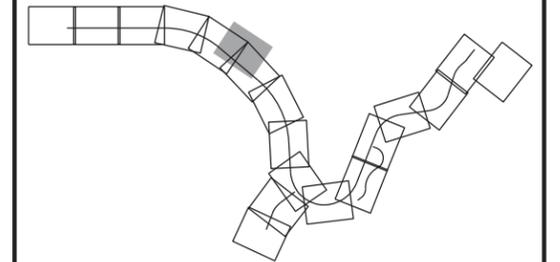
SHEET 18 of 18
PREFERRED ALTERNATIVE

DECEMBER 2011





WEST DOVER CONNECTOR



LEGEND:

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-  PARCEL DISPLACEMENTS
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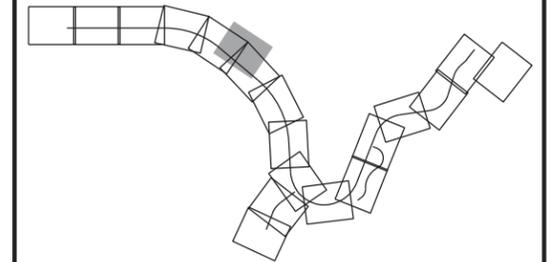
**PUNCHEON RUN CROSSING
OPTION 1
PREFERRED ALTERNATIVE**

DECEMBER 2011





WEST DOVER CONNECTOR



LEGEND:

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-  PARCEL DISPLACEMENTS
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-  HISTORIC PROPERTY

PUNCHEON RUN CROSSING
 OPTION 2
 PREFERRED ALTERNATIVE

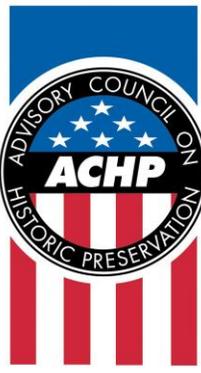
DECEMBER 2011



APPENDIX B

Draft Memorandum of Agreement

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Preserving America's Heritage

November 4, 2011

Therese M. Fulmer
Manager, Environmental Studies
Department of Transportation
800 Bay Road
P.O. Box 778
Dover, DE 19903

Ref: *Proposed West Dover Connector Project*
City of Dover, Kent County, Delaware
State Contract 24-117-01; Federal Aid Number TBD

Dear Ms. Fulmer:

The Advisory Council on Historic Preservation (ACHP) has received the additional documentation transmitted in response to our letter of November 1, 2011, regarding the referenced undertaking. Based upon the information provided, we have concluded that Appendix A, *Criteria for Council Involvement in Reviewing Individual Section 106 Cases*, of our regulations, "Protection of Historic Properties" (36 CFR Part 800), does not apply to this undertaking. Accordingly, we do not believe that our participation in the consultation to resolve adverse effects is needed. However, should circumstances change, and you determine that our participation is needed to conclude the consultation process, please notify us.

Pursuant to 36 CFR §800.6(b)(1)(iv), you will need to file the final Memorandum of Agreement (MOA), developed in consultation with the Delaware State Historic Preservation Office (SHPO), and any other consulting parties, and related documentation with the ACHP at the conclusion of the consultation process. The filing of the MOA and supporting documentation with the ACHP is required in order to complete the requirements of Section 106 of the National Historic Preservation Act.

Thank you for providing us with your notification of adverse effect and the additional information we requested. If you have any questions or require further assistance, please contact Ms. Najah Duvall-Gabriel at 202-606-8585, or via e-mail at ngabriel@achp.gov.

Sincerely,

LaShavio Johnson
Historic Preservation Technician
Office of Federal Agency Programs

ADVISORY COUNCIL ON HISTORIC PRESERVATION

1100 Pennsylvania Avenue NW, Suite 803 • Washington, DC 20004
Phone: 202-606-8503 • Fax: 202-606-8647 • achp@achp.gov • www.achp.gov

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MEMORANDUM OF AGREEMENT (MOA)

AMONG THE FEDERAL HIGHWAY ADMINISTRATION, THE DELAWARE STATE HISTORIC PRESERVATION OFFICE, AND THE DELAWARE DEPARTMENT OF TRANSPORTATION

**REGARDING IMPLEMENTATION OF WEST DOVER CONNECTOR PROJECT
KENT COUNTY, DELAWARE**

STATE CONTRACT NUMBER: T200411701

FEDERAL AID NUMBER: ESTP-2011(17)

WHEREAS, the Federal Highway Administration (FHWA) with the Delaware Department of Transportation (DelDOT) propose to construct approximately 3.5 miles of transportation improvements including, but not limited to, a new transportation corridor, bridge spans and overpasses, and grade intersection improvements along Saulsbury Road/North Street, Wyoming Mill Road, Charles Polk Road, and US 13 in the West Dover area Kent County, Delaware hereon referred to as the “Project”, (see **Attachment A**) and

WHEREAS, the FHWA in consultation with the Delaware State Historic Preservation Office (DESHPO) and DelDOT has established the undertaking’s Area of Potential Effect (APE), as defined in 36 CFR 800.16(d), as those areas within the Limit of Construction (LOC), Temporary Construction Easements (TCE), Permanent Easements (PE), Right of Way (ROW), and adjacent or contiguous properties where visual effects may occur; and

WHEREAS, the FHWA has consulted with the DESHPO in accordance with Section 106 of the National Historic Preservation Act, 16 U.S.C. Part 470, and its implementing regulations (36 CFR Part 800) to resolve any adverse effects that may occur as a result of this Project; and

WHEREAS, FHWA has afforded the public an opportunity to comment on the effects of the Project on historic properties through the National Environmental Policy Act (NEPA) of 1969, as amended; and through DelDOT’s Public Involvement Procedures; and

WHEREAS, FHWA has elected to phase the identification and evaluation of historic properties as provided in 36 CFR 800.4(b)(2), but will ensure that DelDOT completes the process in a timely manner, to allow practical opportunities to avoid or minimize adverse affects to historic properties, as stipulated under this MOA; and

WHEREAS, an Area of Potential Effect (APE) has been identified within the Project (see **Attachment A**) and FHWA and DelDOT have identified and evaluated buildings, structures and districts built in or before 1961; and

WHEREAS, FHWA acknowledges that in the extensive period it will take for DelDOT to complete the Project, additional buildings, structures or districts in the APE will come to meet

the minimum fifty (50) year age criterion for historic properties, and FHWA shall address such properties through the process stipulated in this MOA; and

WHEREAS, FHWA pursuant to 36 CFR Part 800.4 (a)(2), has determined at this time that within the APE, the following properties are listed in or are eligible for the National Register of Historic Places:

Eden Hill Farm (K00125);
Kesselring Farm (K01030);
H. Jenkins Farm (K03205); and

WHEREAS, FHWA, in consultation with the DE SHPO, has applied the criteria of adverse effect to known historic properties; and

WHEREAS, FHWA through DelDOT has determined that the Project will have no effect on:

Eden Hill Farm (00125), and

WHEREAS, FHWA, through DelDOT has determined that this project will have an adverse effect on:

Kesselring Farm (K01030);
H. Jenkins Farm (K03205); and

WHEREAS, FHWA has determined that the Project may also affect as yet unidentified historic properties in areas that have not been subject to prior cultural resource investigations, such as areas that are associated with proposed alignment modifications or other Project-related ancillary activities including, but not limited to, stormwater management facilities, wetland mitigation sites, reforestation areas, staging, stockpiling and access areas, and disposal sites, and that the APE may need to be revised to consider such areas; and

WHEREAS, FHWA and DelDOT has (not yet) notified the Advisory Council on Historic Preservation (ACHP) of the Project's anticipation to adversely affect historic properties. After consultation with FHWA, DelDOT and the DE SHPO, the ACHP acknowledged on (submit date) that they did not wish to participate. However, if through the process outlined in this MOA, the signatories find that other historic properties may be adversely affected later in time, coordination with the ACHP may resume; and;

WHEREAS, FHWA has contacted the Delaware Nation, the Stockbridge-Munsee Tribe, and the Delaware Tribe of Indians hereafter referred to as the Federally Recognized Indian Tribes of their interest as a consulting party for this project. Based on consultations to date for other Delaware projects, the Delaware Nation and Delaware Tribe of Indians have indicated their intent to participate in Delaware projects as a consulting party to the MOA for projects having the potential for discovery of Native American burials. If said discovery or unanticipated effects pertain to resources of Native American affiliation, FHWA and DelDOT shall include the Delaware Nation and the Delaware Tribe of Indians in the consultation and notify the

Stockbridge Munsee of said discovery. DelDOT on behalf of FHWA will advise these Federally Recognized Indian Tribes of Native American archaeological sites, investigations, and treatments as a consulting party as provided for under the stipulations of this MOA, and

WHEREAS, DelDOT participated in the consultation, has responsibilities for implementing stipulations under this MOA, and has been invited to be a signatory to this MOA, pursuant to 36 CFR Part 800.6(c)(2); and

NOW, THEREFORE, FHWA, DE SHPO, and DelDOT agree that the undertaking shall be implemented in accordance with the following stipulations in order to take into account the potential affect of the undertaking on historic properties, and if need be, to mitigate for the potential Adverse Effect.

Stipulations

FHWA shall ensure that the following actions will be carried out:

I. Archaeological Resources

A. Identification/Evaluation

DelDOT in consultation with the DE SHPO shall conduct identification (Phase I) archaeological surveys within the APE for the project, and will determine if identified sites will require a Phase II level archaeological survey to evaluate their National Register of Historic Places eligibility. Evaluation Studies (Phase II) may require additional background research and/or additional field excavations.

DelDOT shall prepare reports on findings of the archaeological identification/evaluation surveys and shall submit the reports to the DE SHPO for their review and concurrence. Upon receipt of the document, the review period will be thirty (30) days. FHWA and DelDOT will take into account comments and will recommend any next steps.

During the Evaluation Studies (Phase II), FHWA and DelDOT shall apply the National Register criteria (36 CFR 60.4) in accordance with 36 CFR 800.4 (c), taking into account applicable historic contexts and management plans developed for Delaware historic and prehistoric archaeological resources.

If FHWA and DelDOT determine that any of the National Register criteria are met, and the DE SHPO agrees, as applicable, the archaeological site(s) shall be considered eligible for the National Register.

If FHWA and DelDOT determine that the National Register criteria are not met, and the DE SHPO agrees, as applicable, the archaeological site(s) shall be considered not eligible for the National Register.

Based on the Evaluation Studies (Phase II), should a signatory to this agreement not agree on the eligibility determination of an archaeological site(s), the DeIDOT or FHWA shall obtain a determination from the Secretary of the Interior, pursuant to 36 CFR 800.4(c)(2), 36 CFR 63.2(c) and 63.3(d).

B. Effect Determination/Mitigation

If eligible archaeological sites are identified and affected within the APE, FHWA will consult with the Federally Recognized Indian Tribes. DeIDOT will make a reasonable effort to avoid these sites or to minimize impacts to them. If the eligible sites cannot be avoided, DeIDOT will apply the Criteria of Adverse Effect in accordance with 36 CFR Part 800.5.

If the project will have an adverse effect on archaeological sites, DeIDOT in consultation with the DE SHPO, shall develop a treatment plan. The treatment plan may include elements of data recovery and/or an alternative mitigation plan.

DeIDOT shall submit the treatment plan to the FHWA, DE SHPO, and other interested or consulting parties that may be identified later in time for their review and comment including the Federally Recognized Indian Tribes as defined in 36 CFR 800.16(m), for their review and comment. Upon receipt of the document, the review period will be thirty (30) days. Following thirty (30) days, DeIDOT will take into account any comments, and will recommend any next steps to the FHWA, DE SHPO and Federally Recognized Indian Tribes.

Should data recovery investigations be warranted, DeIDOT and FHWA shall ensure that a data recovery plan is developed in consultation with the DE SHPO, and the Federally Recognized Indian Tribes or other consulting parties or interested parties identified later in time. The plan shall specify, at a minimum:

- the property, properties, or portions of properties where data recovery is to be carried out, and any property that will or may be destroyed without data recovery;
- research questions to be addressed through data recovery, with an explanation of their relevance and importance;
- the research methods to be used, with an explanation of their relevance to the research questions;
- the methods to be used in analysis, data management, and data dissemination, including a schedule;
- a provision for assessing materials that may be in need of conservation;
- proposed disposition of recovered materials and records;
- proposed methods for involving the interested public in the data recovery, and for disseminating the results of the work to the interested public;
- a proposed schedule for the submission of progress reports to the DE SHPO; and

- provisions to meet on-site in order to evaluate the success of the initial fieldwork phase of any data recovery program, and near the end of the fieldwork efforts to validate substantial completion.

When and/or if an alternative mitigation strategy is chosen and approved by the DE SHPO, FHWA, and DelDOT, it may include but is not limited to: acquisition and protection of portion(s) of the site, analysis and synthesis of past data accumulated through either DE SHPO, FHWA, and DelDOT projects, updating the relevant DE SHPO and DelDOT archaeological websites and GIS databases, development of historic and prehistoric contexts and preservation priorities, statewide predictive models, development of travel or informational displays with the cultural resource work for this Project, oral histories from the project APE, documentaries about the history of the APE, virtual tour / website about the archaeological sites being mitigated in the APE, and improved archaeological data management and access for both DE SHPO and DelDOT.

DelDOT will complete all necessary data recovery fieldwork prior to commencing construction in the site areas. Alternative mitigation may or may not be completed prior to commencing construction in the site areas.

DelDOT shall provide all draft and final archaeological reports and public information materials to the DE SHPO for review and comment. DelDOT will take into account any comments received. All final reports shall meet the Secretary of the Interior's standards and Guidelines for Archaeological Documentation (48 FR 44734-37), while also satisfying the DE SHPO's guidelines for archaeological surveys or investigations.

DelDOT will also provide copies of relevant draft and final reports and public information materials to the Federally Recognized Indian Tribes for review and comment, and will take into account any comments the Federally Recognized Indian Tribes provide.

C. Public Involvement:

If mitigation is necessary, FHWA will consult with the Federally Recognized Indian Tribes. DelDOT will prepare a public participation plan and public information materials. Before releasing materials to the public, DelDOT shall submit the proposed action plan(s) with any materials to the FHWA, DE SHPO, the Federally Recognized Indian Tribes, and other consulting or interested parties that may be identified for their review and comment. Upon receipt of the materials, the review period will be thirty (30) days. Following thirty (30) days, DelDOT will take into account any comments received, and will recommend any next steps, if necessary, to the FHWA, DE SHPO and the Federally Recognized Indian Tribes.

The public participation plan may include, but is not limited to archaeological site tours for the public and educational groups. The specific public outreach materials produced will be determined individually for each site for which mitigation is necessary and may include, but are not limited to pamphlets, videos, historical markers, brochures, websites, exhibits, displays for public buildings, booklets on the history or prehistory of the project area, lectures or

presentations at academic conferences, and/or public institutions such as schools and historical societies.

DelDOT shall distribute the public information materials to other consulting parties and interested parties, local schools, historical societies, libraries, senior centers, museums and/or other venues and individuals deemed pertinent in consultation with the DE SHPO, FHWA, and the Federally Recognized Indian Tribes.

D. Registration of Site(s):

After the completion of the data recovery effort, DelDOT shall, in consultation with the DE SHPO, and other interested parties, as deemed appropriate by the FHWA, reevaluate the Site(s) to determine if it has yielded and/or may still yield information important in the prehistory or history of Delaware. If DelDOT and the DE SHPO agree that the Site(s) still meets the Criteria for eligibility to the National Register of Historic Places, then DelDOT shall instruct its qualified cultural resource consultant to prepare a Determination of Eligibility form for possible use as a formal nomination to the National Register of Historic Places for the remaining areas of the site(s), and submit it to the DE SHPO for review and further revision, as necessary.

E. Curation

DelDOT shall ensure that all records and materials resulting from the archaeological investigations will be processed, prepared for, and curated in accordance with 36 CFR Part 79 and the Division of Historical and Cultural Affairs' (the Division) "Guidelines for the Curation of Archaeological Collections" (2001). These records and materials shall be curated at the Division, or its designee, following the policies of the institution, except as may be provided for under the following paragraph.

As part of the Public Involvement efforts outlined in Stipulation I.C. of this Agreement, the FHWA, DelDOT and DE SHPO will consult to determine if any archaeological materials may be loaned to a public museum or other public institution for the purposes of exhibit or research, following the Division's loan policy and procedures. Such loans and exhibits may occur only after the curatorial procedures, referenced in the first paragraph in this stipulation, have been completed. As deemed appropriate by FHWA, DelDOT, the DE SHPO, the Federally Recognized Indian Tribes and other consulting or interested parties identified later in time will be consulted concerning curation and any public exhibition of artifacts.

F. Discovery of and Treatment of Human Remains and Burials

DelDOT Environmental Studies and/or appropriate DelDOT construction engineering staff shall immediately (within 24 hours) notify the DE SHPO and FHWA of the discovery of any human remains encountered during the archaeological investigations or the project construction. DelDOT shall cease all activities that may disturb or damage the remains, and comply with the Delaware Unmarked Human Remains Act (7DE Code Chapter 54).

If the human remains are of Native American affiliation, then FHWA will immediately notify the Federally Recognized Indian Tribes. FHWA and DelDOT will forward information regarding Native American discoveries to the DE SHPO and the Federally Recognized Indian Tribes for review and comments. This will occur as soon as possible, within a period no longer than two (2) weeks. FHWA will request that the parties comment on the information within two (2) weeks of receipt. FHWA will then consult with the Federally Recognized Indian Tribes, the DE SHPO and DelDOT to determine an appropriate course of action in accordance with 36 CFR 800, and taking into account the above cited state law.

The DE SHPO will comply with the Native American Graves Protection and Repatriation Act of 1990 (PL 101-601) with regard to disposition of the remains and/or associated funerary objects, as applicable.

G. Residual Right of Way

The Project will require property acquisition that may or may not involve impacts to archaeological sites. Should existing right of way or lands acquired (for purposes of the Project) be later subdivided and/or declared excess right of way (to be leased, transferred, or sold), preservation covenants for that subject parcel will first be considered by DelDOT, FHWA, and DE SHPO before DelDOT takes any action to divest itself from such lands. The parties will determine if the subject parcel(s) contain, or has the potential to contain, any historic properties, and if so, determine the need for any legal instruments that would ensure long-term preservation of such properties. This will adequately address any reasonably foreseeable adverse effects that could occur due to transfer, lease, or sale of property out of Federal ownership or control without adequate and legally enforceable restrictions to ensure long-term preservation (or mitigation) of historic properties (36 CFR part 800.5(a)(2)(vii)).

II. Historic Buildings

A. Landscaping and Other Amenities

DelDOT in consultation with the property owner will consider and include landscaping or fencing in its design plans for the Kesselring Farm (K01030) and H. Jenkins Farm (K03205). The planting or fencing along rights of ways, around stormwater management pond(s), or on private property will reduce some of the adverse visual and setting effects and will ensure that the Project will not permanently alter conditions at each location in a manner that could result in a greater irreversible adverse effect. DelDOT shall submit any proposed landscaping or fencing concept to the property owners and the DE SHPO for review and comment. The review period will be (thirty) 30 days. DelDOT will take into account any comments received, and incorporate the final concept into the project plans and specifications.

B. Vibration Monitoring

DelDOT, in consultation with the DE SHPO and FHWA has the option to develop and implement a vibration monitoring plan to monitor the effects (or prevent adverse effects) of

Project construction on Eden Hill Farm (K00125), Kesselring Farm (K01030), and H. Jenkins Farm (K03205). Should an agreement be reached to monitor any historic building, DelDOT shall acquire the services of a professional engineer or other qualified expert, as appropriate, that is knowledgeable about the effects of construction vibration on historic buildings, to develop this plan. The plan will include a schedule for documenting the baseline conditions of the historic properties that will be monitored.

During construction, if the monitoring indicates that damage is occurring to historic properties subject to the monitoring plan, DelDOT shall instruct its contractor to cease construction in the immediate area. DelDOT shall then, in consultation with the DE SHPO, FHWA, and the property owners, acquire the services of a professional engineer and/or architect that is knowledgeable about the effects of construction vibration on historic buildings, to:

1. determine the nature and extent of the damage caused by the construction; and
2. alter any construction methods that may have caused the damage; and
3. develop and implement methods to stabilize and/or repair the damage, in accordance with the recommended approaches in the *Secretary of the Interior's Standards and Guidelines* or other agreed upon method.

C. Historic Roads

DelDOT in consultation with the appropriate property owners of the Kesselring Farm (K01030) will query together and consider the naming newly development access or corridor roads under an appropriate historic name related to the Kesselring family, property, and/or its historic function. DelDOT Environmental Studies with FHWA will investigate this process of formalizing name(s) to new corridor or state maintained access roads before any actions is undertaken or considered official.

III. Unexpected Discoveries

In the event that previously unidentified cultural resources are discovered or unanticipated effects to historic properties occur during construction, DelDOT shall instruct the contractor to cease construction in the immediate area, and immediately notify FHWA. FHWA shall comply with 36 CFR Part 800.13 by consulting with the DE SHPO. If said discovery or unanticipated effects pertain to resources of Native American affiliation, FHWA and DelDOT shall include the Federally Recognized Indian Tribes in the consultation. The FHWA will notify the DE SHPO and the Federally Recognized Indian Tribes within one (1) working day of the discovery. The FHWA, DelDOT, and the DE SHPO will meet at the location of the discovery within forty-eight (48) hours of the initial notification to determine appropriate treatment of the discovery prior to resumption of construction activities within the area of discovery. If the affected resource is of Native American affiliation, FHWA shall first consult with the Federally Recognized Indian Tribes before implementing any such treatment option.

IV. Disposal of Project Related Materials

DelDOT shall consult with the DE SHPO concerning the location of the disposal of materials produced by any and all demolition, construction, excavation, and/or dredging associated with the Project. Upon receipt of adequate information, the DE SHPO will have thirty (30) days to review any and all such locations to ensure the disposal will not adversely affect historic properties. DelDOT shall notify the contractor, if the DE SHPO objects to the proposed disposal sites, and request alternative disposal site(s). In turn, this site(s) will be subject to DE SHPO review. DelDOT shall ensure that its contractors do not use any such site(s) if the activity may adversely affect historic properties.

V. Review of Project Plans

DelDOT shall provide copies of the semi-final and final design plans of the Project to the DE SHPO. FHWA will notify the Federally Recognized Indian Tribes of the availability of the plans and provide copies (hard copies, CD's or electronic files depending on size and volume of plans) for their review and comment. DE SHPO and the Federally Recognized Indian Tribes will have thirty (30) days from the receipt of materials to provide comments on the plans. FHWA and DelDOT shall take into account any comments provided.

VI. Subsequent Changes to the Project

If DelDOT proposes any changes to the Project affecting location, design, methods of construction, materials, or footprint of the Project, DelDOT shall provide the DE SHPO, the Federally Recognized Indian Tribes, and other consulting parties identified later in time with information concerning the proposed changes. The DE SHPO and consulting parties will have thirty (30) days from the receipt of this information to comment on the proposed changes. DelDOT shall take into account any consulting party comments, prior to implementing such changes. Should changes or design refinements occur, DelDOT, in consultation with the DE SHPO, may need to redefine the APE beyond the areas depicted in Attachment A. DelDOT shall consult with the DE SHPO to identify and evaluate historic buildings, sites, structures, and/or districts in any newly affected areas, and assess the effects of the project thereafter, following the process outlined for Archaeological Resources in Stipulations I.A. and I.B of this agreement, or as applicable under 36 CFR 800.13.

VII. Administrative Stipulations

A. Personnel Qualifications

All cultural resource work carried out pursuant to this agreement will be performed by or under the direct supervision of a person or persons meeting at a minimum the "*Secretary of the Interior's Standards and Guidelines*" (http://www.cr.nps.gov/local-law/Arch_Standards.htm), formerly 61 CFR Appendix A. DelDOT's Environmental Studies personnel will have direct authority to select and authorize any and all qualified cultural resource management firms or

subconsultants to carry out this work on an as-needed basis throughout the duration of the Project.

B. Survey and Data Recovery Standards

DelDOT shall ensure that any and all cultural resource surveys and/or data recovery plans conducted pursuant to this MOA are done in accordance with the *Secretary of the Interior's Standards and Guidelines for Identification and Evaluation*, and for *Archaeological Documentation*, as applicable, and in accordance with the DE SHPO's *Guidelines for Architectural and Archaeological Surveys in Delaware* (1993).

Survey proposals and data recovery plans shall include a research design that stipulates: objectives, methods, and expected results; production of draft and final reports; and preparation of materials for curation in accordance with Stipulation I.E., including budgeting for initial conservation assessments and treatment. Additional requirements for data recovery plans are found in Stipulation I.B. of this Agreement.

All data recovery plans shall also take into account the Advisory Council on Historic Preservation's guidance for *Recommended Approach for Consultation on Recovery of Significant Information from Archaeological Sites*. Reports will meet professional standards set forth by the Department of the Interior's "*Format Standards for Final Reports of Data Recovery Program*" (42 FR 5377-79).

All data recovery plans, public outreach, or future consultation shall also follow and/or consider any supplemental guidance and provisions provided by, but not limited to, the American Association of State Highway Transportation Officials, FHWA, Transportation Research Boards, National Park Service, ACHP or recognized academic journals or professional organizations as identified by DelDOT and/or the DE SHPO.

DelDOT shall ensure that all draft and final cultural resource reports are provided to the FHWA and DE SHPO within two (2) years of the completion of any fieldwork. Draft and final cultural resource reports relevant to Native American Sites will also be provided to the Federally Recognized Indian Tribes.

VIII. Dispute Resolution

Should any signatory to this Agreement object in writing to any plans, specifications or actions proposed or carried out pursuant to this agreement, FHWA shall consult with the objecting party to resolve the objection. If FHWA determines that the objection cannot be resolved, FHWA shall forward all documentation relevant to the dispute to the ACHP. Within thirty (30) days after receipt of all pertinent documentation, the ACHP will either:

- A. Advise FHWA that the ACHP concurs in FHWA's proposed response to the objection, whereupon FHWA shall respond to the objection accordingly;

- B. Provide FHWA with recommendations, which FHWA will take into account in reaching final decision regarding the dispute; or
- C. Notify FHWA that it will comment pursuant to 36 CFR 800.7(a) and proceed to comment. Any ACHP comment provided in response to such a request will be taken into account by FHWA in accordance with 36 CFR 800.7(c)(4) with reference to the subject of the dispute.

Should the ACHP not exercise one of the above options within thirty (30) days after receipt of all pertinent documentation, FHWA may assume the ACHP's concurrence in its proposed response to the objection.

Any recommendation or comment provided by the ACHP will be understood to pertain only to the subject of the dispute; FHWA's responsibility to carry out all actions under this MOA that are not the subject of the objection will remain unchanged.

IX. Duration

This MOA shall remain in force until its Stipulations have been fulfilled. This time period shall not exceed three (7) years from the date of the final signature. If within six (6) months of the end of this seven year period, stipulations remain unfulfilled, the parties to this Agreement will consult to determine if extension or other amendment of the Agreement is needed. No extension or amendment will be considered in effect unless all the signatories to the MOA have agreed to it in writing.

X. Review of Implementation

FHWA, DelDOT, and the DE SHPO shall review the project annually, to monitor progress of the implementation of the terms of this MOA. By agreement, DelDOT, DE SHPO and FHWA will meet in January of each year to discuss and report progress of active MOA's including this project. FHWA will then notify the Federally Recognized Indian Tribes each year of the status and progress of active projects and MOA's involving consultation with the Federally Recognized Indian Tribes.

XI. Amendments

Any party to this Agreement may propose to FHWA that the Agreement be amended, whereupon FHWA shall consult with the other parties to consider such an amendment, in accordance with 36 CFR Part 800.6(c)(7).

XII. Termination

- A. If the FHWA or DelDOT determines that it cannot implement the terms of this MOA, or the DE SHPO determines that the MOA is not being properly implemented, FHWA, DelDOT, or the SHPO may propose to the other parties to this MOA that it be terminated.

- B. The party proposing to terminate this MOA shall notify all parties to this MOA, explaining the reasons for termination and affording them at least thirty (30) days to consult and seek alternatives to termination. The parties shall then consult.
- C. Should all consultation fail, FHWA or the DE SHPO may terminate the MOA by so notifying all parties in writing.
- D. Should this MOA be terminated, FHWA shall either:
 - 1. Consult in accordance with 36 CFR 800.6(a)(1) to develop a new MOA or;
 - 2. Request the comments of the ACHP pursuant to 36 CFR 800.7(a)

Execution of this MOA by the FHWA, DE SHPO and DelDOT and implementation of its terms is evidence that the FHWA has afforded the ACHP an opportunity to comment on the SR 1 and SR 30 Grade Separated Intersection Project and that the FHWA has taken into account the effects of the undertaking on historic properties.

FOR THE FEDERAL HIGHWAY ADMINISTRATION

By: _____ Date: _____
 Hassan Raza, FHWA Delmar Division Administrator

FOR THE DELAWARE STATE HISTORIC PRESERVATION OFFICER

By: _____ Date: _____
 Timothy Slavin, DHCA Director and State Historic Preservation Officer

DELAWARE DEPARTMENT OF TRANSPORTATION

By: _____ Date: _____
 Natalie Barnhart, DelDOT Chief Engineer

**West Dover Connector
Kent County, Delaware**



- Preferred Alternative (SC Modified)
- National Register Eligible Historic Sites
- National Register Listed Historic Sites
- Area of Potential Effect (APE)
- Tax Parcels

Preferred Alternative,
Area of Potential Effect (APE),
and Historic Properties



September 2011



Attachment A - for West Dover Connector Memorandum of Agreement

APPENDIX C

AGENCY MEETING SUMMARIES

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MEETING SUMMARY

PROJECT NAME:	DelDOT West Dover Connector	JOB NO.	046106061.0001
SUBJECT:	DelDOT's Joint Agency Quarterly Meeting	DATE:	April 8, 2004
<p>(X) Record of Meeting/Conversation Attendees: (Attendance sheet requested for others)</p> <p>Rob McCleary, DelDOT Jay Kelley, DelDOT Terry Fulmer, DelDOT Mike Hahn, DelDOT Richard Hassel, Corps of Engineers Gwen Davis, DESHPO Jackie Winkler, Corps of Engineers</p>			
<p>Jay Kelley and I were first on the meeting agenda and introduced the West Dover project. Jay provided project background, goals, and discussed the traffic analysis and community involvement efforts. I talked about the environmental screening approach, described the study area, and outlined the relationship of the screening effort to the other work. The following comments and questions ensued:</p> <ul style="list-style-type: none"> • Jackie Winkler – If possible, consider expanding the environmental screening area far enough west to allow for a road alignment that could go around the headwaters of Puncheon Run as opposed to across the waterway. Jay and I responded that we would consider doing that. • Gwen Davis – The DESHPO would like the opportunity to review the Phase 1 cultural resources survey scope of work. Terry Fulmer indicated she would forward the scope to Gwen. • Gwen Davis – Locating a road so close to the historic Eden Hill Farm house would have an adverse effect on the building. It should not be a foregone conclusion that the solution to area traffic problems should be an extension of Saulsbury Road on Eden Hill property. Jay indicated that while the idea of extending Saulsbury Road has been “on the books” for many years, the purpose of the current study is to examine the traffic need in concert with a range of issues, and then determine the alternative(s) that make the most sense. • Consider extending the study area north to include the Rt 1/Scarborough Road area, since some southbound traffic on Route 15 originates from there. A larger study area could allow more geographic room for solutions. I responded that the traffic modeling would encompass that area, and that evaluating the environmental study area would consider this comment. • The agencies indicated an interest in a field visit within the next few months to get a sense for the project and be able to provide additional input. Jackie further stated that if the project followed the “merged” process (an agency streamlining procedure), a field visit would be required prior to the agencies signing off on the Purpose and Need. Terry responded that a field trip would be arranged. There was no discussion about whether or not the project would use a “merged” process. 			
Follow-Up Required?	Person: Leslie to inquire regarding merged process applicability and obtain attendees list if available.	Date:	
Copies to:	E. Panichi, Document Control		

MEETING SUMMARY

PROJECT NAME:	DelDOT West Dover Connector	JOB NO.	046106061.0010
SUBJECT:	DelDOT's Joint Agency Quarterly Meeting	DATE:	July 8, 2004
<p>(X) Record of Meeting/Conversation Attendees: (Attendance sheet requested for others)</p> <p>Jay Kelley, DelDOT Terry Fulmer, DelDOT Richard Hassel, Corps of Engineers Jackie Winkler, Corps of Engineers Gwen Davis, DESHPO Leslie Roche, DMJM+HARRIS</p>			
<p>West Dover Connector was first on the meeting agenda. Jay Kelley re-introduced the West Dover Connector project and reiterated that the project is exploring whether or not the extension of Saulsbury Road could alleviate some of the traffic problems in the study area. He spoke about the cut through traffic condition east of New Burton Road caused by traffic from the north trying to get to US 13. Jay reiterated that the owners of Eden Hill Farm intend to sell their land for development, but that the development plans are still unknown. He responded to the question Dan Griffith raised at the April JPR meeting about the geographic extent of the study area by saying that the focus of the study is to examine the pros and cons of extending Saulsbury Road and that this study was not intended to be a regional analysis of traffic problems. Consequently, DelDOT's study area is locally focused. As alternatives are developed and evaluated, the study area will continue to be evaluated and adjusted as needed.</p> <p>Leslie Roche provided a progress report on the environmental screening, identifying key constraints in the study area: waterways, wetlands, floodplains, agricultural preservation easements, cultural resources, the railroad right-of-way, and underground and overhead utilities along New Burton Road. She indicated that, in aggregate, these constraints will be challenging as ideas are developed for alternatives. She stated that data collection is on-going and asked that the agencies continue to provide assistance and information that would be helpful to the study effort. The following comments and questions ensued:</p> <ul style="list-style-type: none"> • Jackie Winkler – Since the April JPR meeting, did we consider expanding the environmental screening area far enough west to allow for a road alignment that could go around the headwaters of Puncheon Run as opposed to across the waterway. Leslie responded that the suggestion had been considered and found to be appropriate considering the Section 404 permitting requirements of any future alternative. The study area has been moved to the west so as to clear the Puncheon Run headwaters. • Gwen Davis – The purpose and need for the project should be carefully written and clear. The environmental study area seems large for an extension of Saulsbury Road. However, a Saulsbury Road extension seems too limiting for the larger geographic scope of traffic issues. To cover the larger geographic scope, it would seem that the study area should be extended northward, at least as far as Route 8. Jay responded with a reiteration of the opportunity presented by Eden Hill Farm, and that if a project develops from this study, it will not resolve all the area traffic problems. • The list of Working Group members was requested, along with an explanation of the selection of members representing minority and low income communities. Jay responded that the information requested would be provided. • An update of the status of Eden Hill Farm was requested. Jay responded that the development plans for 			

the property have not been decided or made know. However, the owners are definitely planning to sell and are considering a number of development ideas.

- Questions were raised about the name of the project with opinions about “West Dover Connector” and “Saulsbury Road Extension” conflicting. Jay explained that because the former seemed to evoke thoughts of a regional bypass, the latter name was added parenthetically to focus the project geographically.

Leslie wrapped up the meeting by asking the agency representatives to select a date and time for a field trip to tour the study area. The date of August 31st was selected. All attendees should meet in the lobby of the North Wing of DelDOT at 9:30 am.

<p>Follow-Up Required? Yes.</p>	<p>Person: Leslie to obtain attendees list if available; Leslie to send an email confirmation about the field trip as well as a mid August reminder to the agencies.</p>	<p>Date:</p>
<p>Copies to: E. Panichi, Document Control</p>		

DRAFT Memorandum of Meeting
Resource Agencies

Meeting Date: August 31, 2004
Time: 9:30 AM
Location: DeIDOT, Clayton Room

Attendees:

Jackie Winkler	Corps of Engineers
Jim Butch	EPA
Dan Griffith	DE SHPO
Gwen Davis	DE SHPO
Bob Kleinburd	FHWA
Tim Goodger	NOAA/NMFS
Joanne Haughey	DNREC
Terry Fulmer	DeIDOT
Joy Ford	DeIDOT
Bob Taylor	DeIDOT
Rob McCleary	DeIDOT
Jay Kelley	DeIDOT
Ralph Reeb	DeIDOT
Andrew Bing	Kramer & Associates
Chris Fronheiser	DMJM+HARRIS
Mayuresh Khare	DMJM+HARRIS
Robert Kramer	Kramer & Associates
Evio Panichi	DMJM+HARRIS
Marge Quinn	DMJM+HARRIS
Leslie Roche	DMJM+HARRIS
Ed Thomas	Kramer & Associates

The purpose of the meeting was to present information to the agencies about the West Dover Connector study and hear their concerns and initial input. The following is a summary of the discussions:

Introductions and Welcome

- Jay Kelly called the meeting to order, thanked everyone for attending, presented the agenda for the meeting, and identified the handout information.

Project History

- Ralph Reeb, DeIDOT's Director of Planning, provided an overview of the state and city involvement in the Eden Hill Farm development and a brief description of the history surrounding the West Dover Connector project.
- Ralph indicated that Eden Hill Farm development and the West Dover Connector are two distinct but related projects, with different goals and processes and that each can proceed without the other.
- Ralph explained that the State and City's involvement in the Eden Hill Farm development was precipitated by the family's decision to sell the farm and the farm's current zoning designation as industrial zone. The family is allowing them to help shape the future of this important part of Dover. The City and State are working together as partners in the rezoning process, historic preservation, and master planning process.

- Ralph stated that the goals of the Eden Hill Farm development are to preserve open space, the historic buildings, setting and views, to provide additional recreational facilities for area residents, ensure that any development reflects the character of Old Dover, and to preserve the character and quality of life of surrounding communities.
- Ralph explained that a property survey has been completed and for an old parcel this is quite an effort. Currently the State and the City are writing a proposed zoning ordinance amendment to allow for a mixed use neo-traditional development. A more definitive land use plan is being developed in conjunction with this new zoning. This effort will be accomplished during the summer.
- Ralph showed a slide that contained a graphic depicting a very general land use concept plan and indicated that right now, the plan is a “crayon” plan, with a more definitive plan currently under development. The intent is to develop the farm as a mixed-use development containing office, commercial and residential with recreational and open-space areas. The roadway entering the site will extend from Saulsbury Road at North Street, as this is what the Department will require as part of site access. Where and if this roadway connects to adjacent lands and other roadways, is the mission of the West Dover Connector study.
- Ralph explained that ideas for a West Dover Connector have been part of comprehensive and master plans of the City of Dover, Kent County and the Dover/Kent County MPO for a number of years. The state legislature has appropriated funds for the study effort and the planning work has begun, as represented by the formation of the Working Group and the assembly of the project team.

Questions to Ralph:

- Jim Butch asked about the size of Eden Hill Farm. Ralph answered that the parcel is 272 acres.
- Dan Griffith asked whether DeIDOT has the development plan for the Eden Hill farm. Ralph indicated that it is still being worked on by the family. They will propose the development plan in their master subdivision plan to the City.
- Gwen Davis asked whether DeIDOT has a building plan. Ralph replied yes, but it is conceptual only. The size, shape and context of the buildings are still to be determined.
- Gwen Davis asked why the state is not paying to purchase the right of way for the future roadway to service the residential development. Ralph replied that as with normal development projects, any area of public right of way required for access to the parcel would be handled through deed restriction.
- Jackie Winkler asked Ralph to explain what the recreational and open space will be. Ralph explained that the current zoning for that land could have permitted industrial warehouse development, but we didn't feel that was in keeping with the area. He indicated that it will be some type of park space, but it is not well formed. The family wants no buildings on portion of the Eden Hill Farm parcel.
- Dan Griffith asked about the size of proposed open space and recreational area on the Eden Hill Farm parcel. Ralph replied that it is 62 acres.
- Dan Griffith asked what criteria are the City and planners using for context sensitive development. Ralph replied that DeIDOT don't know that yet. But the family will submit a pattern book to the City for their review which will include those details. The content of the book is likely to be discussed at the upcoming 9/16 meeting.
- Gwen Davis asked who has been working on the Eden Hill Farm development effort. Ralph indicated that the team that has worked on Eden Hill Farm development is very broad and includes the state, city, county and legislatures. The urban design firm, Wallace, Roberts and Todd (WRT) has played a key role as well.
- Dan Griffith asked what is the connection of Eden Hill Farm to the West Dover Connector project. Ralph replied saying that Saulsbury Road will be extended to serve as a major access point to new development as part of the Eden Hill Farm project. There has been discussion about extending

Saulsbury Road that goes back 30 years. WDC was included in Long Range Transportation Plan and legislature provided money to study how it might work.

Background on Purpose and Need for the West Dover Connector

- Evio Panichi, DMJM+HARRIS Project Manager, briefly identified the components of study that have thus far provided input to the purpose and need statement, including studies of cut through traffic, heavy vehicle traffic, existing traffic operations, demographic trends, new development and trip generation, and planning level traffic forecasts for 2015 and 2030. Evio presented and described the traffic study area.
- Marge Quinn presented the results of the traffic and demographic studies conducted to date. She explained the results of a license plate survey conducted in the study area which confirms that cut-through traffic is using many east-west routes in the study area to get to destinations north and south of the study area. She further pointed out that existing heavy vehicle traffic percentages (between 5% and 12%) on roads in the study area are higher than the ranges that would typically be expected for similar classification of roadways (typically between 3% and 6%). Marge also explained that under existing conditions failing levels of service occur at numerous intersections (5) in the study area and some movements at other intersections are also experiencing poor levels of service.
- Marge presented adopted forecasts for population, households, and employment which show rapid growth in the area in the next decade. She explained that the area west of New Burton Road would experience the maximum growth in population and households while the area east and north of New Burton Road would experience maximum growth in employment. She presented future “pipeline” development (i.e., approved land development, land development under review, and land development under construction). She explained that this development will lead to an estimated 5,040 new PM peak hour vehicle trips in the study area. This estimate of PM peak hour trips is equivalent to the number of PM peak hour trips that would be generated if six discount department stores such as Wal-Mart were located in the study area.
- Marge explained that the estimated new trip data from development as well as estimates for background traffic growth was input into the traffic simulation model for the study to forecast the effect at intersections in the study area. In 2015, the modeling results show level of service failures at seventeen out of twenty intersections and lengthy queues. She demonstrated these findings at the intersections of West Street and North Street, Wyoming Mill Avenue and North Street, and US 13 and Camden-Wyoming Avenue.
- Marge explained the modeling results for intersections in the study area in 2030. Twenty-four out of the twenty-five intersections studied would fail in 2030 and queues would be extensive.

Public Involvement Process

- Robert Kramer, Kramer and Associates’ Project Manager provided a brief overview of the public outreach effort for this project. He explained that the on going outreach effort for this project was comprehensive and included listening tour interviews and interview with stakeholders, presentations to community associations in affected areas, environmental justice outreach particularly in Rodney Village, public workshops, community working group meetings, and updates on the project website.
- Bob explained the purpose and role of the Working Group. Its purpose and role is to provide advice to DeIDOT in traffic issues and the group will help develop consensus and acceptance among the general public and agencies. This was followed by a brief review of working group members.

Goals and Objectives

- Bob discussed the development of the goals and objectives. He explained that the goals and objectives were developed based on information from varied sources including the criteria employed by Working Group Members to evaluate alternatives, inputs from listening tour, planning workshop, and Mayors, review of various comprehensive and long range plans and from State policy directives .
- Bob presented a brief overview of the objectives including land use planning, economic growth and development objectives, environmental objectives, aesthetic consideration and finally public outreach objectives. He stated that the objective of reducing cut through traffic through neighborhoods was the important point of concern to the residents, followed by safety issues for kids trying to reach parks and connectivity between parks.

Field Tour

1. At Eden Hill Farm, questions were asked about the allees on the property. It was explained that there are two allees on the property, which are parallel rows of trees. The old allee extends from the front of the house to Water Street, and at one time framed a view down Water Street. The old allee is overgrown so that no view is currently possible. The new allee extends from the house along the existing driveway to North Street. Both allees, as well as the house and its immediate environs, are included in the Eden Hill Farm preservation area to be acquired by the City of Dover. The City would retain both allees and it is envisioned that the old allee and the view down Water Street would be restored.
2. Along Governors Avenue, Rob McCleary mentioned the plan to rebuild the road. Construction of a new culvert under the road may or may not solve flooding problems as many of these problems were induced by constructing homes in the Puncheon Run floodplain. Jim Butch echoed this comment by saying that the cause of most flooding issues pre-date the West Dover Connector study when there were no regulations regarding construction in and near waterways, and the study will not resolve the flooding problems. The Project Team stated that the West Dover Connector project will include stormwater management facilities to retain all additional runoff as a result of the project. The Team also stated that this project will not add to the current flooding problems.
3. At the Charles Polk Road stop, a question was asked about the sentiment of the residents toward the idea of a new road impacting their neighborhood. It was explained that the neighborhood representatives on the Working Group have been actively involved and, although they are concerned, they see the road as a possible benefit to them.
4. At the Charles Polk Road stop, Dan Griffith mentioned that the artificial berm west of John Clark Road and perpendicular to Isaac Branch was the remains of a mill impoundment.
5. At the Camden-Wyoming Fire Hall, a question was asked why the tour wasn't traveling down Front Street and acknowledging the traffic issues there. It was explained that similar traffic issues occur along Front Street and are of concern to this project, particularly considering the schools and residential nature of land use along the road. It was only for logistical and time reasons that the tour did not specifically travel the route of Front Street.

Questions and Comments

- Jim Butch indicated his opinion that based on the information provided and his observations, the project appears as though it won't encounter environmental issues that cannot be avoided or adequately mitigated.
- Bob Kramer responded that there are quite a few issues in the study area and that the issues would be subject to detailed evaluation as alternatives are developed and analyzed. Bob also stated that there are some issues, such as flooding conditions in the communities along Puncheon Run, which pre-date the West Dover Connector study. This study may or may not be able to resolve such pre-existing issues. In the case of the flooding issue, it is the direct result of

development within a floodplain that occurred prior to there being regulations discouraging such development.

- Jackie Winkler asked whether DeIDOT would be submitting a concurrence for on purpose and need. Jay Kelly and Rob McCleary responded that this study is early in the process. The concurrence process would come at a later phase when alternatives are known. Rob stated that he would not be doing this presently.
- Jackie stated that the Corps would be interested in seeing alternatives generated that would avoid natural environment impacts wherever possible. Although this is an early study phase, it is important to keep in mind that the Corps will eventually want to see an alternatives analysis that includes examination of alternatives that would avoid environmental impacts.
- Dan Griffith indicated he would be interested in seeing alternatives that would not increase traffic on cut through streets.
- Dan also gave his opinion that a connection through Rodney Village from existing Wyoming Mill Road might make more sense than an extension of Saulsbury Road to a new corridor through Rodney Village.
- Dan asked whether it may be possible to examine ways of making the existing streets used as cut through routes to work better given the fact that Norfolk-Southern is reticent to allow new railroad crossings.
- Bob Kramer explained a recent situation in which Norfolk-Southern was doing track work that blocked the at-grade crossings, creating traffic problems. He indicated that the absence of a southerly crossing route is a public safety concern.
- There was some discussion about whether the project goal statement should be re-worded as it is currently limited to north-south travel movements. The project need appears to be rooted in better accommodating local travel movements. East-west travel would be accommodated if a connection was made to US Route 13, which then provides again for north-south movements. The Project Team will consider re-wording the project goal statement as discussed.
- Gwen Davis questioned whether we would be looking at alternatives other than extending Saulsbury Road to address the purpose and need? Bob Kramer indicated that the Working Group has generated some ideas to date that would not extend Saulsbury Road and that all ideas are currently being considered.
- Joanne Haughey expressed a concern that impacts to stream corridors are avoided. She suggested that as the project progresses, there may be opportunities to consider stream corridor enhancement.

Rob McCleary concluded the meeting by indicating that the resource agencies would be kept apprised of and involved in the West Dover Connector study. He indicated that it may be desirable to have a session with the agencies similar to the second Working Group meeting. At such a meeting, the agencies would have an opportunity to develop their ideas for solutions to the traffic issues. Completing such a meeting this fall, before the next public workshop, would be advantageous. Rob indicated that the agencies would be contacted about having such a meeting.

Memorandum of Meeting
Quarterly Agency (JPR)

Meeting Date: October 14, 2004
Time: 11:00 AM
Location: DeIDOT

Attendees:

Jackie Winkler	Corps of Engineers
Jim Butch	EPA
Gwen Davis	DE SHPO
Bob Kleinburd	FHWA
Tim Goodger	NOAA/NMFS
Bob Zepp	USFWS
Joanne Haughey	DNREC
Trish Arndt	DNREC
Terry Fulmer	DeIDOT
Mike Hahn	DeIDOT
Jay Kelley	DeIDOT
Darren O'Neill	DeIDOT
Monroe Hite	DeIDOT
Chris Fronheiser	DMJM+HARRIS
Mayuresh Khare	DMJM+HARRIS
Evio Panichi	DMJM+HARRIS
Marge Quinn	DMJM+HARRIS
Leslie Roche	DMJM+HARRIS
Robert Kramer	Kramer & Associates

The purposes of participating in the JPR meeting were 1) to present the concepts developed as a result of the Working Group meetings and 2) hear the agencies comments and ideas. The following is a summary of the discussions:

Introductions and Welcome

- Jay Kelley presented the agenda for the meeting, and described the Working Group process to date, explaining that the Working Group had developed ideas which culminated in ten (10) concepts. The concepts would be presented to the agencies today as well as at the upcoming November 10 Public Workshop. Jay indicated that detailed study would be undertaken after November 10 with the expectation of refining and paring the concepts to yield a preliminary set of alternatives.

Concepts Presentation

- Chris Fronheiser presented and described each of the 10 concepts, reminding the agencies that copies of each concept were provided in a handout package they received at the beginning of the presentation. Evio Panichi summarized the likes and dislikes data collected from the Working Group, including a summary statement as to whether the concept seemed to have strong, moderate, or limited support from the Working Group in terms of advancing it to detailed study.
- Chris indicated that Concept 1 (No Build) is required as part of the planning process. It is the same “do nothing” concept that Ralph Reeb had explained at the August 31, 2004 agency meeting on this study.

- Chris described Concept 2 which involves 4 alternative connections, all of which would terminate at New Burton Road.
- Jackie Winkler asked if the Working Group had been given information about the natural resources features and constraints in the concept corridors. Chris responded that such an explanation had been provided, including an explanation of the need to consider avoiding or minimizing impacts.
- Gwen Davis asked whether the issue of Eden Hill Farm as a National Register historic property was explained to the Working Group. Marge Quinn responded that, yes, the information had been provided to them. Marge pointed out that the Working Group input to date focuses primarily on community issues. However, we are informing and reminding them that there are other natural and cultural resources issues as well.
- Bob Kleinburd asked what the status is on the Eden Hill Farm sale. Jay responded that the money for the purchase has been appropriated; however, negotiations are on-going. He noted that the land area to be acquired and preserved is not in the locations where right-of-way might have to be acquired for a West Dover Connector project.
- Gwen stated that it is important for the Working Group to understand that the planned preservation of Eden Hill Farm may not be the only action that has to be considered in assessing the effects of the West Dover Connector project on the National Register property. Jay concurred and indicated that the Working Group has been made aware of this issue. Bob Kleinburd asked that this issue be reiterated to the Working Group. Jay responded that the Working Group would be advised.
- Mike Hahn asked what the boundaries of the National Register Eden Hill Farm property are. Jay stated that the information would be acquired and reported to the Working Group.
- Chris described Concept 3: a connection to Route 13 using Wyoming Avenue. He then explained the conceptual elevations of a bridge over the railroad, explaining that a minimum 30 foot vertical separation would be needed between the top of rail and the deck of the bridge.
- Jackie asked if it could be assumed that a railroad crossing structure would be separate from a Puncheon Run crossing structure in all concepts. Bob Kramer responded that some concepts would not have separate crossings.
- Chris described Concept 4: a connection to Route 13 using Webbs Lane. He pointed out that there is an elementary school along Webbs Lane that is a key concern of many in the Working Group.
- Mike asked whether there is thought to shifting the auxiliary connection in Concept 4 further south to simplify the structure over the railroad. Chris responded that it is possible to shift the location of the auxiliary connection and that other concepts illustrate that more southerly location.
- Chris described Concept 5: a connection to Route 13 using the Kesselring property. He explained the three corridor options, with potential corridors along Charles Polk Road and through Brecknock Park. He acknowledged the lack of Working Groups support for the Brecknock Park corridor, citing the many natural and built environment issues associated with that concept.
- Gwen asked how the terminology summarizing the Working Group likes and dislikes was determined. Bob Kramer explained the Working Group break out sessions, and stated that the Working Group awaits some traffic and environmental information to form more definitive opinions about the concepts. The terminology used in the summary statements Evio presented was based on the number of groups who did or did not want to see each concept go to detailed study.
- Chris described Concept 6: a bypass around Camden and Wyoming. He explained that this concept was found to be unfavorable by the Working Group in the context of the study goals and objectives. The Working Group determined that it should be a separate project.
- Chris described Concept 7: a connection to Route 13 using New Burton Road as part of the corridor. He indicated that New Burton Road would be widened as opposed to constructing a new road.
- Chris described Concepts 8 through 10 as other ideas that would not involve extending Saulsbury Road. He described Concept 8: a connection between Wyoming Mill Road and Route 13 via Webbs Lane. He described Concept 9: a connection between Wyoming Mill Road and Route 13 using

Charles Polk Road. He described Concept 10: widening North Street and realigning the Wyoming Mill Road/North Street intersection.

Questions and Comments

The following questions were asked and comments provided at the conclusion of the presentation:

- Jackie asked whether the information presented constitutes DeIDOT's full range of alternatives. Jay responded by saying that the concepts represent what the Working Group has developed to date, and that DeIDOT is continuing to collect ideas from the Working Group, the public, and the agencies.
- Bob Kramer commented that no other ideas have been developed by DeIDOT or its consultants at this time. He stated that a range of ideas was looked at and dismissed either due to significant natural and/or built environment impacts, or lack of response to the goals and objectives. For example, a route west of the study area was determined to be a bypass idea that does not address the local traffic needs in the goals and objectives. Such an idea would be another project. He concluded by saying that the concepts presented today are the full range of concepts at the present time.
- Bob Kleinburd asked whether DeIDOT will know its right-of-way needs on the Eden Hill Farm property before the Eden Hill Farm agreement is completed? Jay responded that DeIDOT can build a conceptual alignment agreement into the overall agreement.
- Jackie asked if the project team was going to follow the MATE process. If so, the agencies would need to concur on purpose and need before looking at alternatives. If the team is not going to follow the MATE process, then what process are we proposing to use. Jackie asked if we were seeking formal or informal comment. She suggested that DeIDOT consider requesting written comments from the agencies.
- Evio asked whether the agencies are prepared to provide comments or other information that DeIDOT can share with the Working Group for their consideration. Joanne responded that concepts which avoid impacting Puncheon Run, Isaac Branch, historic properties, and Brecknock Park, as well as provide some stream corridor buffering, are the preferable concepts. Concept 7B is one of those concepts.
- Mike indicated the need to define the boundary of the National Register-listed Eden Hill Farm property so that the project can strive to avoid a Section 4(f) taking issue. He also suggested that even though new at-grade railroad crossings are prohibited by current legislation, the study shouldn't necessarily dismiss the at-grade crossing concept. Jay responded by saying that the study is considering enhancement of multi-modal connectivity, particularly between parks, schools, and residential areas. An at-grade crossing idea raises safety concerns for bicycles and pedestrians.
- Gwen stated that DeIDOT appears to be proceeding as though federal funding will occur in the future. Would DeIDOT acquire right-of-way before a preferred alternative is selected or in time to allow an Eden Hill Farm agreement to occur? Jay responded that DeIDOT would not acquire right-of-way before a preferred alternative is selected; the Eden Hill Farm agreement process will not be a timing issue.
- Bob Kleinburd asked whether the study is a Federal-Aid project and had Section 106 consultation been initiated. Terry responded that the study is state-funded. Gwen responded that the Historic Preservation Office received an initiation letter that included a provisional clause for a shift into the Section 106 process in the future.
- Bob Kleinburd stated that if the study becomes or is a Federal-Aid project requiring an Environmental Assessment, it does not seem as though DeIDOT is following MATE because there is no purpose and need statement. He indicated that if federal aid is anticipated at some future date, a purpose and need statement must be developed and concurrency sought. Monroe Hite responded that the WDC study is in an earlier phase of study compared, for example to the US 113 project, and that the MATE process had not yet been initiated for the WDC study. The WDC study

is still in the initial transportation planning phase; a purpose and need statement has not yet been developed. What was presented today by DeIDOT and its consultants was a set of concepts that **DMJM+HARRIS** the Working Group had developed to date, not alternatives.

Submitted:

The above represents the writer's understanding of the discussions and a complete and accurate record of the decisions and agreements made. Amendments to this record shall be made in writing to the author.

cc: Attendees
DMJM+HARRIS Job No.: 046106061

Draft Memorandum of Meeting
Resource Agency (JPR)

Meeting Date: April 14, 2005
Time: 11:30 AM
Location: DeIDOT

NEXT Resource Agency Meeting
Thursday July 14, 2005
DeIDOT

Resource Agency Attendees:

Tricia Arndt	DNREC
Jim Butch	US Environmental Protection Agency
Gwen Davis	DE SHPO
Richard (Dick) Hassel	US Army Corps of Engineers
Joanne Haughey	DNREC
Bob Kleinburd	FHWA
Milton Melendez	Delaware Department of Agriculture
Bill Whitman	DNREC
Bob Zepp	US Fish and Wildlife Service

Project Team and DeIDOT Attendees:

Terry Fulmer	DeIDOT
Mike Hahn	DeIDOT
Rob McCleary	DeIDOT
Andrew Bing	Kramer & Associates
Mike Girman	DMJM Harris
Mayuresh Khare	DMJM Harris
Bob Kramer	Kramer & Associates
Marge Quinn	DMJM Harris
Leslie Roche	DMJM Harris

Introduction

Rob McCleary welcomed the resource agencies to the West Dover Connector portion of the meeting. Rob provided a brief overview of what would be presented and discussed: the project origins, the localized nature of the study, prior long-range planning that identified the need to look at improving mobility in the west Dover area, the traffic and demographic analyses undertaken, the public involvement program made up of a listening tour, Working Group and public workshops. Rob stated that a project level Purpose and Need has been developed with localized goals, that the project team is in the process of gathering and evaluating ideas and refining them into concepts, and that those concepts will be presented at today's meeting. Rob explained that the team believes a full range of alternatives has been developed, with provision for any ideas the resource agencies may have. Rob indicated that the project team would like to return to the resource agencies at their regularly scheduled July JPR meeting with a recommendation as to the alternatives to be retained for detailed study.

Rob acknowledged that a recent article in the Delaware State News gave the indication that alternatives were being eliminated by the Working Group. He clarified that only Concepts that did not meet the Purpose and Need were recommended by the Working Group to be dropped from further study.

Mike Girman updated the resource agencies by stating that the Cooperating Agency letters were sent to the resource agencies in March. He further stated that the project level Purpose and Need Statement received concurrence from the Federal Highway Administration in February and was sent to the

resource agencies for their comment. Mike offered that if any resource agency representatives have not seen the Cooperating Agency letter and/or the Purpose and Need they should let DeIDOT know.

Mike Girman stated that the project team has consulted with Terry Fulmer and Bob Kleinburd as to the level of documentation for the West Dover Connector and both concurred that an Environmental Assessment (EA) would be appropriate. Mike stated that the project is intended to address specific localized issues and that an EA level of documentation, as opposed to an Environmental Impact Statement (EIS), is appropriate.

Dick Hassel asked when the project team expects concurrence from the resource agencies on the Purpose and Need. Mike responded by asking that the resource agencies strive to provide DeIDOT with their comments no later than May 15th so that the Working Group can have the benefit of agency input at their next meeting on May 25th.

Comprehensive Plans, Livable Delaware, and Growth Trends

Marge Quinn began the presentation portion of the meeting by explaining the origins of the West Dover Connector study. She stated that the idea of a West Dover Connector has been part of the City of Dover Comprehensive Plan since 1996. Additionally she commented that various descriptions of a West Dover Connector have been referenced in comprehensive plans of Dover dating back to the 1960's and the most recent City of Dover Comprehensive Plan called for this specific project development effort. Further, she stated that the Dover/Kent Long-Range Plan calls for a study of the West Dover Connector. Additionally, she remarked that this long-range transportation plan along with the circulation element of the City of Dover Comprehensive Plan identified the west side of Dover as a future problem area for north-south travel.

With an accompanying map of the Dover area, Marge explained that the project study area is encompassed within the "Growth Area" specified in the Kent County Master Plan. She explained that it is in this area that land development ordinances support more intensive development. Also using the map, she stated that the majority of the project study area is designated "Investment Level 1" in the Delaware Strategies for State Policies and Spending. Being in the Kent County Growth Area as well as the state-designated Investment Level 1 area, the study area and its immediate environs will be seeing continued growth in the foreseeable future and infrastructure improvements are encouraged to accommodate that growth.

Marge Quinn explained that the West Dover Connector study is using MPO adopted demographic forecasts for 2030. These forecasts indicate a 21 percent growth in jobs such that one out of two new jobs in Kent County will be located in the Dover area. By the same measure, 15 percent growth in residents and 19 percent growth in households are forecasted, such that one out of five new households in the County will be located in the Dover area.

Marge explained that information on approved land development, land development under review and land development under construction, i.e., development that is already in the pipeline, was gathered from the land use agencies in the region. Comparison of the household forecast for 2030 and pipeline development data shows that the number of new dwelling units in the pipeline (3,380 units) already exceeds the MPO forecast for growth in households between 2000 and 2030 (2,907 households).

Traffic and Travel Demand Modeling

Mayuresh Khare presented the traffic and travel demand modeling portion of the presentation. He explained that the project team is using DeIDOT's travel demand model which is the accepted planning

tool for travel analysis throughout the state of Delaware. Input factors include the adopted MPO forecasts, existing local traffic patterns as determined by traffic counts undertaken by the project team, and the use of refined Traffic Analysis Zones (TAZ), links, nodes, and centroids that were developed to better represent the transportation network for the study area. The model was calibrated and validated to best replicate study area traffic. Mayuresh explained that the model output included traffic volumes and patterns distributed over the roadway network for 2015 and 2030.

Mayuresh Khare explained data collected on existing conditions and the travel demand modeling results identified four (4) primary areas of existing and foreseeable local issues in the study area: traffic congestion, deficiencies with respect to system linkage and continuity, constraints regarding emergency service accessibility, and safety concerns.

In terms of traffic congestion, Mayuresh explained that failing movements occur at 5 out of 25 intersections in the study area under existing conditions. Long queues (back-ups) form during existing peak hours on approaches to intersections, including: Wyoming Mill Road at North Street, North Street at West Street, and Queen Street at West Street. In the future No-Build condition, substantial deterioration in level of service and queuing will occur at most study area intersections. In 2015, 16 out of 25 intersections will have failing levels of service. By 2030, 22 out of 25 intersections will have failing levels of service.

Mayuresh demonstrated existing and foreseeable queuing at the afore-mentioned intersections with screen shots from the simulation modeling conducted in the study. At the West Street/North Street intersection, northbound queuing in 2015 will extend to the intersection of West and Queen Streets and will affect performance at both intersections. At the intersection of Wyoming Mill and North Street, queuing on northbound Wyoming Mill Road will extend to the Wyoming town line. At the US 13/Camden-Wyoming Avenue intersection, the level of service is near failure now and will fail in 2015. Queues in all directions will be long, particularly in the southbound direction.

Mayuresh presented the portion of the Functional Classification Map approved by the FHWA on 11/9/2001 that depicts the study area. He indicated that, under existing conditions, the roadway system in the study area does not efficiently collect and distribute traffic from local streets to the collector roadways and to the regional arterial system. In the study area, through traffic uses local streets to access higher order arterials. He explained that the roadway system lacks the continuity of a grid system west of New Burton Road. Saulsbury Road terminates at North Street, dispersing traffic onto local streets. As a result, conflicts exist in the use and function of local roadways. These conflicts will worsen in the future. Mike Girman added that through truck traffic is an issue in the study area.

Mayuresh further explained that a significant number of turning movements occur at the North Street intersection because of its T-intersection configuration. Heavy turning movements impede intersection safety and performance. This situation will worsen in the future.

With regard to emergency service accessibility, Mayuresh Khare explained that mobility and access across the Norfolk Southern railroad is limited due to the need to cross the railroad at grade. He pointed out that an at-grade railroad crossing occurs at North Street. The next railroad crossing to the south is at Front Street, a distance of 2.9 miles from the North Street crossing. He presented a map showing that the 2.9 mile distance between the at-grade crossings essentially bisects the study area. He explained that the distance between crossings adds travel time and distance on either side of the railroad.

Mayuresh explained that safety is an issue at the railroad grade crossings, at roadway intersections, and is a concern with respect to bicycle and pedestrian activities. With regard to railroad crossings,

Mayuresh explained that of the 28 railroad grade crossings in Kent County, the four in West Dover are ranked high in terms of collision prediction value:

- Southern Boulevard ranks 4th
- North Street ranks 7th;
- Camden-Wyoming Avenue ranks 8th; and,
- Front Street ranks 11th.

Mayuresh defined “collision prediction value” as the probability that a collision between a train and a highway vehicle will occur at a crossing in a given year. Factors include but are not limited to: frequency of train operation, extent of vehicular traffic at the crossing, geometry of the crossing, and type of warning device at the crossing. Mayuresh explained that new development will increase traffic; thus, safety at grade crossings will be a greater concern. Marge Quinn elaborated that the prediction value for each of the crossings was not developed by the team but instead was developed by the Federal Railroad Administration.

At roadway intersections, Mayuresh stated that a significant number of accidents occur at the intersection of Saulsbury Road and North Street due to heavy turning movements. He explained that new development will increase traffic; thus, safety at intersections will be a greater concern.

In terms of bicycle and pedestrian activities, Mayuresh stated that a lack of continuous bicycle and pedestrian facilities occurs in the study area as many sidewalks have missing links and sections of roadway lack shoulders. Moreover, he noted that a lack of compatible bicycle and pedestrian facilities occurs in the study area (appropriate shoulder widths, bicycle lanes, and multi-use trails). He stated that bicycle and pedestrian facility connections are lacking between parks, schools, and other community facilities in the study area. Rob McCleary added that the public identified the need for connections between the parks in the study area. As well, the public would like any project developed from this effort to improve the study area’s multimodal system (pedestrian, bicycle, and bus).

Purpose and Need

Leslie Roche presented the Purpose and Need portion of the presentation by stating that the foregoing issues of forecasted growth and current and future localized local traffic issues form the basis for the project Purpose and Need. She stated that there is a need in the study area to:

- Reduce congestion at key intersections;
- Improve mobility across the Norfolk Southern railroad; and,
- Improve connectivity for localized travel.

Leslie presented the Study Area Map and reiterated that the concerns which are the basis for the Purpose and Need are contained within the bounds of North Street, US 13/Governors Avenue, Wyoming Mill Road, and Camden-Wyoming Avenue. She stated that the focus of the West Dover Connector study is on addressing localized mobility issues.

Leslie reminded the agency representatives present at the meeting that a copy of the project Purpose and Need statement was distributed to the resource agencies for their review and comment. She explained that DeIDOT had obtained FHWA concurrence on the project Purpose and Need. Leslie explained to the agencies that DeIDOT requests and welcomes their formal comments as they will enhance project understanding and appropriate decision-making.

Dick Hassel asked what the timeframe is for providing agency comments on the Purpose and Need. Mike Girman responded that a deadline of May 15th would be desirable as the team would like to report input from the agencies to the Working Group at the May 25th meeting. Leslie Roche added that it would be very helpful to have the agencies' comments by May 15th, but that the team would accept comments later if needed as having input from the agencies is of greatest importance.

Concepts and Preliminary Alternatives

Mike Girman led the next portion of the agency meeting by presenting the concepts and alternatives. He explained that the Working Group, the agencies and the public are sources of ideas to address the Purpose and Need. Ideas received are and have been developed into Concepts and compared to the Purpose and Need (Step 1) through the use of DeIDOT's travel demand model. Concepts that were found to meet the Purpose and Need were conceptually engineered into Preliminary Alternatives. These Preliminary Alternatives were then screened for impacts to the natural and built environment (Step 2). The findings from Steps 1 and 2 have been tabulated on scoring and data sheets provided in Tab 3 of the handout for today's meeting.

Mike Girman proceeded to explain each concept and alternative. He stated that the No-Build alternative is a "do nothing" alternative that will be carried through the process. He explained that many of the Preliminary Alternatives originate from the end of a proposed road to be built as part of the Eden Hill Farm development. This proposed road would form the fourth leg of the North Street/Saulsbury Road intersection and would extend southward along the boundary of the Eden Hill Farm property and Kraft Foods property.

Joanne Haughey asked for clarification of the meaning of the colored lines on the alternative maps. Mike Girman explained that the yellow bandwidths are the conceptual rights of way within which construction would occur. The blue lines denote the location of retaining walls.

Regarding Preliminary Alternative 2A, Mike Girman explained that the alignment would cross Puncheon Run at the same location as the existing bridge. No new bridge would be required. Mike explained that of all the Preliminary Alternatives, the traffic benefits of Preliminary Alternative 2 are limited. Preliminary Alternative 2 is the worst performer in terms of the project Purpose and Need.

Several attendees asked how Preliminary Alternatives 2A, 2B, 2C, and 2D would get traffic to US 13. Mike Girman responded that these alternatives would not provide a connection to US 13 and that the Working Group is not recommending further consideration of these preliminary alternatives. Rob McCleary explained that the public has expressed concern for existing traffic problems on Governors Avenue. Any action DeIDOT takes in this project would have to consider effects on US 13 and Governors Avenue.

Rob McCleary noted that the public is concerned about flooding along Puncheon Run. He explained that most flooding issues are downstream of New Burton Road. Rob indicated that any action DeIDOT ultimately takes in this project would not create or exacerbate downstream flooding conditions.

In discussing Preliminary Alternative 3, Joanne Haughey asked whether Wyoming Avenue is a residential road. Mike Girman responded that Wyoming Avenue is a residential road. He explained that Preliminary Alternative 3 would require improvements to Wyoming Avenue, including possible widening.

Regarding Preliminary Alternative 5A, Rob McCleary commented that the Rodney Village residents became interested in the West Dover Connector study when 5A was brought to their attention as 5A would use Charles Polk Road to access US 13.

In discussing Preliminary Alternative 5C, Rob McCleary explained that all farm properties in the study area are being considered for development by their owners with the exception of the Papen Farm. The existing owners are not interested in farming over the long term. Rob explained that the Eden Hill Farm development plan is the most advanced in terms of the time schedule for development. The Eden Hill Farm property owners plan to apply for a zoning change from Industrial to the new Neighborhood Development designation in June.

Terry Fulmer asked whether the Kesselring farmstead on the west side of New Burton Road is National Register eligible. Mike Girman responded that the farmstead is identified in the State Historic Preservation Office (HPO) records as an inventoried property. The determination of eligibility will be ascertained during detailed study.

Rob McCleary stated that the resource agencies had input on the Eden Hill Farm development plan. He cited Ms. Anne McCleave of the State Historic Preservation Office as having reviewed the plan and provided specific input. Rob added that the proposed road forming the fourth leg of the North Street/Saulsbury Road intersection is part of the Eden Hill Farm development plan.

Regarding Concepts 5C Spur and 7C Spur, the resource agencies concurred that crossing Isaac Branch and impacting Brecknock Park is an unacceptable idea from the perspectives of impacts to the natural environment (wetlands, waterway, possible threatened and endangered species habitat, and floodplain), the historic Brecknock property, and the protected parkland. Terry Fulmer identified any crossing of Isaac Branch into Brecknock Park as fatally flawed. Mike Girman commented that the concept is one that many in the Rodney Village community prefer as it would avoid impacts to their neighborhood.

In presenting Concept 6, Mike Girman re-stated the fact that among the ideas developed into concepts, some did not meet the project Purpose and Need. Concept 6 is one of those ideas, as are Concepts 8, 9, and 10 and that the Working Group has recommended no further study on these concepts. He explained that the others, 2, 3, 4, 5, 7 and 11 meet the project Purpose and Need in varying degrees and were refined into Preliminary Alternatives.

Regarding Concept 8, Terry Fulmer asked whether the New Burton Road crossing could be a bridge. Mayuresh Khare responded that bridging New Burton Road was possible; however, Concept 8 does not meet the project Purpose and Need.

In discussing Concept 10, the resource agencies noted that any widening of North Street would result in impacts to historic resources.

In presenting Preliminary Alternative 11, Mike Girman explained that the intersections highlighted in yellow are the ones that could be improved by implementing Transportation System Management strategies. Mayuresh Khare explained that all intersections in the study area were examined to determine which ones would experience acceptable levels of service (LOS) in 2030 if TSM improvements were in place. The results of this analysis determined that only the intersections highlighted would experience an improvement in LOS to acceptable levels by 2030.

Mike Girman presented Concept 12 to the agencies noting that relocating the railroad would provide additional right of way along New Burton Road such that the road could be widened to the west rather

than to the east. The ability to widen to the west would minimize community impacts along New Burton Road. This is a key difference between Concept 12 and Preliminary Alternative 7.

Mike introduced and described Concept 13, explaining that it was developed from a proposal provided by the Planning Committee of the Rodney Village Civic Association. Mike noted that Concept 13 resembles Concept 6, but provides a specific alignment. Several resource agency representatives commented that Concept 13 would not address the Purpose and Need and would introduce a large area of new road and additional environmental impacts.

Mike Girman summed up the activities of the April 6, 2005 Working Group meeting by explaining that Working Group members made a unanimous recommendation to eliminate Preliminary Alternative 2 as well as Concepts 6, 8, 9, and 10. He explained that the Working Group would take no action regarding Concepts 12 and 13 until the upcoming May 25th meeting.

Gwen Davis asked whether eliminating Concepts 6, 8, 9, and 10 is also the team's recommendation. Mike Girman responded that the team concurs. Rob McCleary explained that at this time the team does not recommend eliminating Preliminary Alternative 2 as it has some benefit with respect to the project Purpose and Need. He explained that only concepts that clearly do not meet the project Purpose and Need or concepts with obvious fatal flaws, such as the 5C Spur and 7C Spur, are being recommended for elimination.

Joanne Haughey stated that the remaining Preliminary Alternatives appear to go through neighborhoods. Mike Girman concurred. Bob Kramer stated that the presence of the school on Webbs Lane is a major concern of the Working Group for any alternatives that would use Webbs Lane.

Joanne Haughey asked whether the location of the New Burton Road crossing matters from a traffic perspective. Mayuresh Khare responded that whereas a northern crossing has some merit, the southern crossings provide greater traffic benefit especially in the reduction of through traffic on local streets.

Bob Kramer reminded the resource agencies that the team would like to receive input from the agencies prior to the upcoming May 25th Working Group meeting so that the Working Group can have the benefit of agency input.

Mike Hahn asked when the detailed environmental study will be started. Mike Girman responded that a screening level of environmental review has been conducted. The detailed study in terms of wetlands delineation and cultural resources survey is being initiated.

Gwen Davis stated that the cultural resources data should be added to the parameters that the Working Group considers when evaluating the alternatives. Mike Girman responded that the Working Group has been told that the detailed study phase will include other issues not addressed in the screening phase. Gwen suggested that the Working Group be provided a list of those other parameters so that they know the full array of factors. At a minimum, she indicated the screening matrix should have a blank column for cultural resource data.

Next Steps

Mike Girman explained to the resource agencies that all remaining Preliminary Alternatives will be discussed at the next Working Group meeting which is on Wednesday, May 25, 2005 at the Modern Maturity Center at 5:30 in the DuPont Ballroom. The meeting will include further discussion of the Preliminary Alternatives and Concepts. The Working Group will discuss and will entertain motions

regarding Concepts 12 and 13, along with the remaining Preliminary Alternatives. The project team will report the results of today's resource agency meeting. The Working Group will not choose a Preferred Alternative at the next Working Group meeting but only make further recommendations of concepts and preliminary alternatives that do not merit further study.

Mike Girman explained that the team plans to update the resource agencies on the West Dover Connector study at their regularly scheduled **July 14, 2005 JPR meeting**. At that time, the project team will make their recommendation as to the alternatives to be retained for detailed study.

Action Items

The following action items resulted from today's meeting:

1. The resource agencies have been asked to provide the team with comments on the project Purpose and Need on or before May 15.
2. The resource agencies have been asked to provide the team with any new concepts/alternatives for consideration.
3. Add a column for cultural resources data to the screening matrix, even if it is blank at this point.
4. DMJM Harris will develop a complete list of the parameters to be used in detailed study of the alternatives. This list will be provided to the Working Group.

Memorandum

Date: July 18, 2005
To: File
From: Leslie Roche
Subject: West Dover Connector
Memo of July 14, 2005 Quarterly Agency (JPR) meeting

Attendees: Kevin Magerr, EPA
Jackie Winkler, ACOE
Bob Zepp, USFWS
Milton Melendez, DE Dept of Agriculture
Gwen Davis, DE SHPO
Tricia Arndt, DNREC
Jackie Meyer, DNREC
Joanne Haughey, DNREC
Jay Kelley, DeIDOT
Rob McCleary, DeIDOT
Terry Fulmer, DeIDOT
Joy Ford, DeIDOT
Mike Hahn, DeIDOT
Kevin Cunningham, DeIDOT
Bob Kramer, Kramer & Associates
Mike Girman, DMJM Harris
Chris Fronheiser, DMJM Harris
Leslie Roche, DMJM Harris

The purpose of making a presentation to the JPR was to update the resource agencies on work completed since the April 14, 2005 JPR meeting, distribute and discuss the information contained in the Draft Preliminary Alternatives Analysis Report, and briefly discuss the next project steps.

Jay Kelley started the meeting noting that the West Dover Connector project, like most other DeIDOT projects, will be affected by recent budget cuts. He stated that DeIDOT has a fixed budget to complete concept development, select a Preferred Alternative and complete an EA.

Mike Girman summarized the content of the last two Working Group meetings and stated that the Project team had recently completed and submitted to DeIDOT a Preliminary Alternatives Analysis Report. He noted that the team is moving into detailed study in advance of starting an EA and selecting a preferred alternative.

Leslie reminded the agencies that DeIDOT is looking for their comments and federal agency concurrence on the Purpose and Need statement. She asked for those responses by July 28.

Leslie stated that the project team had provided the following information to the Working Group at the request of the resource agencies:

- Agency preference to minimize impact to Puncheon Run;
- A wide range of environmental factors would be examined in the EA phase;
- The 5C and 7C Spur alternatives would Impact Isaac Branch and Brecknock Park and are considered by the agencies to be fatally flawed.

Leslie updated the agencies on the status of environmental field work by saying that the wetlands delineation work is completed and the cultural resources survey work is beginning.

Leslie and Mike Girman presented the alternatives the Project Team is recommending that DeIDOT retain for detailed study. They stated that the Draft Preliminary Alternatives Analysis Report contains what the Project Team believes to be the full range of alternatives.

The following questions and comments were discussed:

1. Which alternative would not impact Puncheon Run? Preliminary Alternatives 3 and 7 would not.
2. Gwen Davis stated that Working Group probably knows there will still be cut-through traffic. She asked whether the team has demonstrated that metric will be reduced? Yes. See page 38 in the Preliminary Alternatives Analysis Report.
3. Terry Fulmer stated that there are public concerns about potential impacts in the vicinity of the Reilly Brown School and near Wyoming Avenue with some alternatives.
4. Milton Melendez asked for a clarification between agricultural preservation and agricultural land which was provided.
5. Terry Fulmer stated that due to the volume of project involvement by agency personnel, it would be appropriate for DeIDOT to set a priority of its projects for the agencies.
6. Jackie Winkler stated that she hadn't seen the request for concurrence letter. Mike Girman responded that the letters were sent out the week of June 28.
7. Jackie Winkler indicated she was pleased to see we had gone a long way to reduce impacts to natural resources.
8. Gwen Davis asked for confirmation that the team believes they have a full range of alternatives? Mike responded yes, the report contains the full range as well as the team recommendations for alternatives to be retained for detailed study. She asked about the reasons for rejecting the other concepts and alternatives. Mike responded that the report contains all the rationale for the team's recommendations. The impacts are presented in the document.
9. Gwen Davis acknowledged that she had the opportunity to review A.D. Marble's updated cultural resources scope of work and would provide those comments to DeIDOT.

Memorandum

Date: October 13, 2005
To: File
From: Leslie Roche
Subject: West Dover Connector
Memo of October 13, 2005 Quarterly Agency (JPR) meeting

Attendees: Bob Kleinburd, FHWA
Laura Herr, DNREC
Milton Melendez, DE Dept of Agriculture
Gwen Davis, DE SHPO
Tricia Arndt, DNREC
Kevin Magerr, EPA
Jim Butch, EPA
John Gaines, DeIDOT
Rob McCleary, DeIDOT
Joy Ford, DeIDOT
Mike Hahn, DeIDOT
Ken Dunne, DeIDOT
Mike Girman, DMJM Harris
Leslie Roche, DMJM Harris

The purpose of making a presentation to the JPR was to let the agencies know that DeIDOT is ready to move forward with several alternatives to the detailed study phase and to seek comments and input from the agencies on all project information they have been provided to date.

Presentation

Rob McCleary opened the meeting by introducing John Gaines, DeIDOT's new Project Manager for the West Dover Connector Study. Rob then briefly highlighted key project activities completed to date:

- The history of the West Dover Connector in local and regional plans;
- The impending development of Eden Hill Farm and other area farms;
- The transportation study undertaken by DMJM Harris for West Dover Connector;
- Input received from the Working Group and public in terms of transportation issues: congestion, safety, cut-through traffic, park connectivity, etc.
- Circulation of the Purpose and Need statement citing particular needs for safe access across the railroad, congestion reduction, interconnectivity, etc.
- Environmental screening that identified key natural and built environment issues

Regarding the latter, Rob indicated that the cultural resources studies are being initiated and will continue during detailed study. He noted that preliminary inquiries have been made to federal and state agencies regarding threatened and endangered species. In response, no federally regulated species are known to occur in the study area. One state-endangered bird (red-headed woodpecker) has been reported at Breck Nock Park. As well, one rare bird (black vulture) was observed at the same location. Two rare fish (mud sunfish and ironcolor shiner) are known to live in Moore's Lake, downstream from the study area.

Rob stated that DeIDOT has reviewed and considered all the technical information provided by DMJM Harris and input from the resource agencies, Working Group and public. DeIDOT is ready to select alternatives for detailed study. Those alternatives would include 1, 4, 5C, 7C, and 7D. These alternatives embody the range of ideas found in the full range of alternatives; they are a subset of the full range.

Rob noted that none of the selected alternatives includes an alignment along Wyoming Avenue. The Wyoming Avenue alternatives are relatively weak in meeting the Purpose and Need. The Working Group and Public expressed many concerns about a Wyoming Avenue alignment, including potentially significant circulation impacts. As well, DeIDOT recalls Gwen Davis mentioning the potential for an historic district in that location. For all of these reasons, the Wyoming Avenue option, Alternative 2, was not among the alternatives selected for detailed study.

Rob continued by reminding the agencies that Concepts 6, 8, 9, 10, 13, and 14A did not meet Purpose and Need and have not been considered in the selection of alternatives.

Rob stated that DeIDOT has asked for ideas from the agencies, Working Group, and Public and has received some. At this point, DeIDOT believes they have the full range of alternatives. The detailed study phase will be the time to refine alternatives.

Rob provided information to the agencies regarding other area projects:

- Eden Hill Farm received approval for a zoning change to “traditional neighborhood development” this past summer. The site plan went to the PLUS meeting and is headed for City Site Plan review.
- The developer of the Kesselring Farm west of the railroad presented a concept plan at the PLUS meeting this past summer. The concept plan included Alternative 5C, what the developer believes would be the worst case West Dover Connector alternative for their plan. The farm house would not be preserved by the concept plan.
- The owner of the Kesselring Farm east of the railroad has been talking to Kent County about their desire to permanently preserve land along Isaac Branch as a legacy to the community.
- Hidden Creek is currently under construction.

Rob summarized by saying that DeIDOT feels a strong need to advance this project while the opportunity exists. Detailed study will begin which means a closer look at design issues and environmental impacts. Mike Girman and Rob McCleary reminded the agencies that the bandwidths used during the screening phase were conceptual. During detailed study, the alternatives would be developed in greater detail, enabling examination of ways to avoid or minimize impacts.

Rob stated that DeIDOT will be sending a letter to the agencies requesting their concurrence on the alternatives selected for detailed study.

Questions and Comments

- Mike Hahn asked when the next public interaction would occur. Rob responded that the next Working Group meeting would be on November 2, 2005. At that meeting, the project team will share DeIDOT’s selection of alternatives for detailed study.
- Gwen Davis stated that she will be reviewing the cultural resources scope of work as well as the extent to which the selected alternatives overlap the full range of alternatives. She indicated she would not be able to comment until those two tasks were completed. She advised the team that the Purpose and Need statement should be sound.
- Kevin Magerr stated that in addition to natural resources concerns, the EPA would also be looking at human health issues like noise and air quality. Rob responded that the project team

would be examining many environmental and community issues. He cited the example of school children and pedestrian safety along Webbs Lane. Mike Girman and Rob reminded the agencies that the West Dover Connector is envisioned as a boulevard type arterial and not a typical multi-lane highway.

- Kevin Magerr asked whether truck traffic was being considered. Rob responded that the public has voiced concern that truck traffic be reduced or redirected. The West Dover Connector would likely redirect traffic; thus, truck traffic will continue to be an issue to be examined.
- Gwen Davis asked that the cultural resources study identify the area within which the proposed railroad crossing could potentially be seen. That geographic area should be encompassed in the Area of Potential Effects. Rob responded that the visual boundary would be identified. Rob further indicated that because there is some flexibility in considering the route of any alternative through the Kesselring farms, the West Dover Connector study will encompass more than just the 150 foot bandwidths presented so far.
- Mike Hahn asked whether the Spurs through Brecknock Park had been eliminated. Rob responded that, yes, they had been eliminated.
- Gwen asked whether there is a separate project along Wyoming-Mill Road. Rob responded that the City of Dover is looking at re-aligning the North Street/Wyoming-Mill Road intersection and adding a signal. That project is in the evaluation stage, but is not included in DeIDOT's FY 2006-2011 Capital Transportation Improvement Plan.

ACTION ITEM

- DMJM Harris will map the geographic area within which a proposed railroad crossing could be seen. This geographic area will be overlaid on the APE map and the latter adjusted as needed. This information will be provided to Gwen Davis.

Memorandum

Date: April 14, 2011
To: Attendees, File
From: Leslie Roche
Subject: West Dover Connector – T200411701
 Memo of April 4, 2011 DeIDOT meeting with FHWA and Resource Agencies

Attendees: Dan Montag, FHWA
 Nick Blendy, FHWA
 Ryan O'Donoghue, FHWA
 Kevin Magerr, USEPA
 Ed Bonner, USACE
 Joanne Lee, DNREC
 Matthew Bailey, DNREC
 Gwen Davis, DE SHPO
 Tricia Arndt, DNREC
 John Gaines, DeIDOT
 Jim Satterfield, DeIDOT
 Terry Fulmer, DeIDOT
 Mike Hahn, DeIDOT
 David Clarke, DeIDOT
 Mike Girman, AECOM
 Leslie Roche, AECOM

The purpose of this meeting was to review and discuss the Preferred Alternative, provide the agencies with an update on the status of the NEPA process and schedule for the project, view the alignment of the preferred alternative in the field, and discuss potential issues and guidance the agencies may have regarding the project as it moves forward.

As listed below, the agencies discussed a range of issues, primarily in the context of developing a complete Environmental Assessment (EA) and Section 4(f) document and identifying means to avoid, minimize and/or mitigate impacts in Final Design. Nick Blendy summed up the field review by saying that, based today's discussion, the natural resource agencies have no objection to the preferred alternative. A Section 106 adverse effect document and draft MOA will still need to be coordinated with the DE SHPO and FHWA.

Key discussion points were as follows:

- John Gaines provided a project status, indicating that the FHWA had accepted the Alternatives Analysis Report and DeIDOT is completing the EA. The project schedule includes DeIDOT's review of the Draft EA beginning in May, completing the EA in December 2011, undertaking ROW activities in FY2012, and constructing in FY2014-16. David Clarke noted that the Phase 1 archaeology scope and budget is imminent from A. D. Marble; that work would be undertaken this summer.
- Nick Blendy noted that the EA should incorporate the following information:
 - Statement of compliance with the expected July 2011 updated noise policy as it relates to the project;
 - Newly available US Census demographic data; this is an important element for the environmental justice analysis and Legal Sufficiency review;

- The Livability/Sustainability discussions in the AA; compliance with the six principles should be described, such as Charles Polk Road as a sustainable neighborhood; and
- The full parcel layout of the Eden Hill Farm development should be shown on the EA graphics as was done in the AA.
- Points of discussion included:
 - The overall connectivity idea of the project in terms of access to parks and greenways is a strong, positive attribute of the project; existing and proposed parklands such as the county-owned land along New Burton Road (north of Isaac Branch) and the state-owned land north of Puncheon Run (former piece of Eden Hill Farm) are important to discuss along with existing parklands.
 - Kevin Magerr emphasized the importance of incorporating ecological enhancements as part of stormwater management designs (for example, providing songbird habitat).
 - Joanne Lee emphasized the need to incorporate water quality protection mechanisms in stormwater management design, such as bio-infiltration.
 - The project provision for access for farm equipment across proposed roadways on Kesselring Farm should be emphasized in the EA and Section 106 Effects Report.
 - Gwen Davis noted that although the project would have no direct effects on the H. Jenkins House, indirect effects are still being evaluated.
 - Ed Bonner stated his desire to move forward with the Jurisdiction Determination (JD); the likely permit for the project would be a Nationwide Permit 14 provided the project can meet its criteria. Nationwide permits are currently undergoing federal re-evaluation. Joanne Lee noted that a Water Quality Certification and Subaqueous Permit would be required as well.
 - Matt Bailey stated he would verify whether there are any Natural Heritage concerns in the project area that might trigger a “critical resource water” designation; this designation would affect potential use of the Nationwide Permit 14.
 - Federal and state agency preference for meeting the project’s compensatory wetlands mitigation obligation is to provide enhancements along Puncheon Run. As part of this effort, the agencies see opportunities to expand flood storage capabilities between the mainline railroad and the project bridge crossing to help address long-standing flooding issues downstream. A potential element of enhancement could be eradication of invasive species. Ed suggested that during the JD field view, potential mitigation sites and concepts could be discussed.
 - Ed Bonner stated his preference for the bridge alignment being at least as far east as it is currently shown or closer to the mainline railroad. He asked that the EA and forthcoming permit application provide a full discussion of the rationale for the location of the alignment and why it cannot be pushed closer to the railroad.
 - Mike Girman noted in response to Ed Bonner’s questions about Puncheon Run bridge construction methods that detailed design of the bridge to determine pier spacing and construction methods (for example, use of spread footings) is yet to be undertaken. In Final Design, Ed’s suggestions to consider minimal permanent and temporary disturbance in regulated areas will be examined. In

particular, the potential to top trees rather than clear and grub will be examined as a way of preserving wetland habitat and maintaining soil stability. DeIDOT's use of that technique on another project will be reviewed as part of the assessment.

- Mike Girman stated in response to Joanne Lee's question about the riparian buffer along Isaac Branch that the project alignment would be within the existing developed properties along the south side of Charles Polk Road. The roadway would be separated from the riparian area by an Eastern Shore Natural Gas ROW.

Action Items:

1. AECOM to follow up with Matt Bailey regarding potential for Natural Heritage concerns.
2. AECOM to incorporate all comments and suggestions into the EA as appropriate.
3. DeIDOT to complete review of the draft Effects Report and provide comments to A.D. Marble.
4. DeIDOT will continue to coordinate with Gwen Davis regarding direct and indirect effects and mitigation for the H. Jenkins House and the Kesselring Farm.

Attachment: Sign-in sheet