



## CATEGORICAL EXCLUSION/ SECTION 4(f) EVALUATION

**NH ROUTE 28/WHITE OAK ROAD/PEACHAM ROAD  
INTERSECTION IMPROVEMENT PROJECT  
BARNSTEAD, X-A001(174), 14121E**

August 28, 2012

**Revised February 3, 2014**



STATE OF NEW HAMPSHIRE  
DEPARTMENT OF TRANSPORTATION

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## List of Exhibits

- Exhibit A: NH Route 28 map
- Exhibit B: Location map
- Exhibit C: Design plan
- Exhibit D: Contamination Site Screening Form
- Exhibit E: CLS Program memo
- Exhibit F: L&WCF memo
- Exhibit G: Environmental Justice memo
- Exhibit H: Invasive Plant Report
- Exhibit I: Drinking Water Source Protection Program memo
- Exhibit J: Natural Heritage Bureau memo
- Exhibit K: Section 106 Adverse Effect memo
- Exhibit L: USFWS NH Generic No Species Present letter
- Exhibit M: Photographs
- Exhibit N: Report of the Commissioner
- Exhibit O: NHDHR memo
- Exhibit P: USDOJ Section 4(f) Evaluation Letter
- Exhibit Q: Section 106 MOA

## Part I: Categorical Exclusion

### Introduction

In accordance with the National Environmental Policy Act (NEPA) of 1969 (42 USC 4332(2)(c)) as implemented in 23 CFR 771(d)(3), this Categorical Exclusion has been prepared using a systematic, interdisciplinary approach to assess the engineering considerations and environmental effects of this proposed undertaking.

### Existing Conditions

New Hampshire (NH) Route 28 is an 85-mile-long north–south highway in eastern NH. It connects the town of Ossipee in east-central New Hampshire with Salem on the Massachusetts border to the south. The project area lies in the central portion of NH Route 28 in Barnstead (*Exhibit B*). At its intersection with Peacham Road and White Oak Road, NH Route 28 consists of two 11-foot travel lanes with 1-foot shoulders. Peacham Road consists of two 11-foot travel lanes with no shoulders. White Oak Road consists of two 10-foot travel lanes with no shoulders. Immediately to the south of these intersecting roads, Yield Road connects NH Route 28 to White Oak Road creating a triangular piece of land. Yield Road has two 10 ½-foot travel lanes. Lake Shore Drive, with a total width of 16 feet, intersects with Yield Road near the Yield Road intersection with NH Route 28 (*Exhibit C*). The side roads are classified as Rural Local Roads, and NH Route 28 is classified as a Rural Minor Arterial roadway. Land surrounding the Peacham Road intersection is primarily forested and residential. Pedestrian/bicycle use at the intersection is limited (*Exhibit M*).

The posted speed limit on these roads is as follows: NH Route 28: 50 miles per hour (mph), Peacham Road: 30 mph, and White Oak Road: 30 mph, with no posted speed on Yield Road and Lake Shore Drive. Yield Road, Peacham Road, and White Oak Road have stop signs at their intersections with NH Route 28.

The Average Annual Daily Traffic (AADT) at the intersection is as follows, as measured in vehicles per day (vpd).

Year	2015 Opening Year	2035 Design Year
NH Route 28	7,370 vpd	8,995 vpd
Peacham Road	1,550 vpd	1,890 vpd
White Oak Road	1,150 vpd	1,400 vpd

Approximately 8% of the vehicles at the intersection are trucks.

## **Purpose and Need**

In August 2009, the Lakes Region Planning Commission, Central NH Regional Planning Commission, and Vanasse Hangen Brustlin, Inc. published the NH Route 28 Corridor Safety Study (*The Study*). *The Study* examined a 24-mile stretch of NH Route 28 from the Alton traffic circle south to the Epsom/Pembroke town line, including the Peacham Road intersection. The intersection at Peacham Road was included in the evaluation. The safety concerns at this intersection are primarily due to the extreme horizontal and vertical alignments on NH Route 28 and the side road approaches. There are also shortened sight lines to and from the intersecting roads, which are well below state standards. In addition, *The Study* also indicated the following concerns:

- A boulder within the clear zone just south of Peacham Road;
- Lack of striping and stop bars on the side roads;
- Poor pavement condition on the east side of NH Route 28; and
- Lack of street lighting; and
- Drainage issues at the base of the Peacham Road hill likely cause spillage onto the roadway at certain times of the year.

Accident data for the period of February 12, 2006 through May 10, 2008 indicates that 13 accidents occurred within 250 feet of the intersection. There were no fatalities reported, one personal injury, and the remaining 12 accidents involved property damage only, which primarily occurred at the intersection or in close proximity to the side street approaches.

Additional observations made in *The Study* include:

- Accidents are reportedly due to several of the above concerns, possibly in combination;
- There are records of rear end accidents on Peacham Road and this is likely attributed to the steepness of the hill, particularly in winter; and
- Northbound right-turning vehicles slow down to a near stop to turn right onto Peacham Road due to the abrupt change of grade;

## **Statement of Purpose**

The purpose of this project is to improve safety at the Route 28/Peacham Road/White Oak Road intersection.

## **Statement of Need**

The need for this project is demonstrated by the accident history at the intersection, and the existing safety issues, which include the steep grades entering the intersection, poor sight distance from the side roads looking north and south along NH Route 28, conflicting/confusing turn movements entering and exiting Yield Road at NH Route 28, and lack of platforms for queuing traffic on Peacham Road and White Oak Road entering NH Route 28.

## **Proposed Action**

This Highway Safety Improvement Program (HSIP) project involves safety improvements at the intersection of NH Route 28, Peacham Road and White Oak Road. The proposed reconstruction of NH Route 28 begins approximately 3,400 feet south of Peacham Road and White Oak Road, and extends north approximately 4,600 feet. Turn lanes will be constructed on NH Route 28 to provide exclusive right and left turn lanes in the northbound direction, and an exclusive left and a shared thru/right lane in the southbound direction. The improvements to Peacham Road extend approximately 800 feet east of the intersection. The improvements to White Oak Road extend approximately 900 feet west of the intersection. In addition, the approaches of White Oak Road, Yield Road, and Lake Shore Drive will be modified to eliminate the connection of Yield Road and Lake Shore Drive with NH Route 28. Instead, these roads will be united just to the west of NH Route 28, with a single connection to White Oak Road. Improvements to Lake Shore Drive extend approximately 300 feet west of its current intersection with NH Route 28 (*Exhibit C*).

The estimated construction cost of the Proposed Action is \$2.5 million.

## **Alternatives to the Proposal**

### **No Build**

The “No-Build” alternative would provide no safety improvements at the intersection. It is not considered viable, as it addresses neither the existing deficiencies, nor the safety concerns at the Peacham Road intersection. Given the projected increase in AADT, accident history, and the existing roadway deficiencies, intersection safety would continue to deteriorate. Therefore, this alternative would not meet the stated project purpose and Need. In addition, the impacts associated with the Proposed Action are not of a magnitude to warrant the selection of this alternative.

## **Flattening the NH Route 28 Curve**

Flattening the NH Route 28 curve at the Peacham Road intersection into the hillside on the east side of NH Route 28 (approx. Sta. 537+00 – Sta. 505+00) (*Exhibit M*) would have improved the sight distance for vehicles entering the intersection, but would have exacerbated the poor approach grades from Peacham Road, making them much more deficient. In addition, this alternative would have required impacts to Parcels 21 and 29 along Ripple Road to an extent that could likely have required complete acquisition and removal of those residences. This alternative would not completely meet the stated project Purpose and Need, and would involve more substantial impacts to residential properties. Therefore, this alternative was not selected.

The estimated cost of this alternative is \$2.85 million.

## **Evaluation of Environmental Effects**

The effects of the project relative to the following social, economic, natural and cultural resources/issues have been reviewed. Resources/issues that are not discussed in the body of the report were investigated; however no impacts were evident. As such, these resources/issues are omitted from discussion in this environmental documentation. The resources and issues deemed applicable for this project are indicated in **bold** type on the following page.

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**Resources/Issues**

**Social/ Economic**

Safety  
 Transportation Patterns  
 Air Quality  
 Noise  
 Displacements  
 Contamination  
 Neighborhoods  
 Business Impacts  
 Land Acquisition  
 Land Use  
 Tax Base  
 Recreation  
 Public Lands  
 Construction Impacts

Farmlands  
 Community Services  
 Energy Needs  
 Utilities  
**Environmental Justice**

**Natural**

**Water Quality**  
**Wetlands/Mitigation**  
 Surface Water  
**Groundwater**  
**Drinking Water**  
 Floodplains/Floodways  
 Wildlife  
 Fisheries  
**Endangered Species**  
**Natural Communities**  
 Wild & Scenic Rivers  
 Stream Rechannalization  
 NH Designated Rivers  
 Forest Lands  
 Coastal Zone  
**Invasive Species**

**Cultural**

**Historical**  
**Archaeological**  
 Stonewalls  
 Aesthetics

Discussions of the effects on resources/issues in **bold** follow.

**Safety/Transportation Patterns**

This project will enhance safety by improving the sight distance at the NH Route 28 intersection with White Oak Road and Peacham Road, eliminating the steep grades and providing platforms for queuing traffic entering the intersection, and eliminating conflicting/confusing turn movements entering and exiting Yield Road at NH Route 28.

Accident data for the period of February 12, 2006 through May 10, 2008 indicates that 13 accidents occurred within 250 feet of the intersection. There were no fatalities reported, one personal injury, and the remaining 12 accidents involved property damage only, which primarily occurred at the interaction or in close proximity to the side street approaches.

Each automobile accident has an associated expense and incurs a societal cost as it relates to increased insurance premiums, emergency response, clean-up, and physical damage. According to the National Highway Traffic Safety Administration (NHTSA), the average fatal automobile accident has a societal cost of approximately \$3 million. The average "injury only" accident costs \$63,000, and the average property damage only accident costs \$2,300. In the year 2000 in New Hampshire alone, the economic cost of motor vehicle traffic accidents was approximately \$1.014 billion. For the accident study period, the societal cost of accidents on

this section of roadway was approximately \$90,600, using the estimators above. Following completion of this project, safety would be improved and it is expected that accidents would be reduced.

## **Air Quality**

Pursuant to the Clean Air Act Amendments (CAAA) of 1990, this project was examined for potential impacts to local and regional air quality. The proposed project is located within an area of the State that is in attainment with respect to the National Ambient Air Quality Standards (NAAQS) for ozone and all other transportation related criteria pollutants (CO, NOx, VOCs, PM10 and PM2.5). The project has been included in the *Statewide Transportation Improvement Program (STIP) 2011-2014* approved January 18, 2011 and amended March 2, 2012. The proposed effort is not considered a "Regionally Significant Project" as defined in the final Transportation Conformity rules (40 CFR 93.101) or in those rules adopted by the New Hampshire Department of Environmental Services in accordance with the interagency consultation provisions required by 40 CFR 93.105.

Although the project involves modifications to the existing intersection, when completed, the project is not expected to result in any meaningful changes in traffic volumes, vehicle mix, location of the existing facility, or any other factor that would cause an increase in emissions impacts relative to the no-build alternative or contribute to violations of the NAAQS. Consequently, this project is exempt from the conformity requirements of the CAAA.

For the above noted reasons, the Federal Highway Administration (FHWA) has determined that this project will generate minimal air quality impacts for CAAA criteria pollutants and has not been linked with any special mobile source air toxics (MSAT) concerns. Consequently, this effort is exempt from analysis for MSAT. Moreover, Environmental Protection Agency (EPA) regulations for vehicle engines and fuels will cause overall MSAT emissions to decline significantly over the next several decades. Based on regulations now in effect, an analysis of national trends, conducted by the FHWA using EPA's MOBILE6.2 model, forecasts a combined reduction of 72 percent in the total annual emission rate for the priority MSAT from 1999 to 2050, while vehicle-miles of travel are projected to increase by 145 percent. This will both reduce the MSAT background level as well as the possibility of even minor MSAT emissions from this project.

Though exempt from the conformity requirements of the CAAA, the National Environmental Policy Act (NEPA) requires consideration of the project's impact on air quality. Of the NAAQS pollutants of concern in New Hampshire, only CO can generally be addressed at the project level. The proposed project does not involve any substantial changes to the existing traffic patterns and vehicle movements for vehicles traveling along NH Route 28 as well as Peacham

Rd. and White Oak Rd. As a result, it can be concluded that this project will not have an adverse impact on air quality. No further air quality review is warranted.

## **Noise**

The NH Department of Transportation's *Policy and Procedural Guidelines for the Assessment and Abatement of Highway Traffic Noise for Type I Highway Projects* (Noise Policy) provides guidelines for assessing noise impacts and determining the need, feasibility, and reasonableness of noise abatement measures for proposed Type I highway construction and improvement projects. As this project does not involve the construction of a new highway, the addition of through traffic lanes or substantial alterations to the vertical or horizontal alignment of the existing roadway, the subject project is not a Type I highway project. Since this project is not a Type I highway project a noise impact assessment is not necessary.

The proposed project is not expected to result in any meaningful changes in traffic volumes, vehicle mix, location of the existing facility, or any other factor that would cause an increase in noise impacts. As a result, this project is not expected to cause a noticeable change in noise levels once construction is completed.

## **Contamination**

A field review of the project area was completed on September 14, 2011. A search of the NH Department of Environmental Services (DES) *OneStop Web Geographic Information System* website was completed on November 30, 2010, April 25, 2012, and January 22, 2014. The field review revealed the presence of two aboveground natural gas tanks on Parcel 19 (at the intersection) used for home heating. In addition, there was some construction debris and used automobiles on site. However, there was no visual evidence that the site is contaminated, and the result of the database search did not reveal any known contamination (*Exhibit D*).

## **Land Use/Land Acquisition/Tax Base**

Today, land use at Peacham Road is a mixture of residential properties, and forested lands. Pedestrian and bicycle use is limited given the high speeds and volume of traffic on the main line of NH Route 28.

The proposed project requires strip acquisitions of right-of-way, and permanent and temporary easements from several parcels as outlined in the table on the following page.

**Table 1: Preliminary Right-of-Way Impacts**

Parcel	ROW Acquisition (square feet)	Easements (square feet)			
		Permanent		Temporary	
		Sight	Drainage	Slope	Drive
6-1	3,310				
7	2,100		4,100	200	175
8	1,350		475	2,100	425
9	3,650		1,775	4,150	400
9-1	50		3,750	9,725	
9-2	4,075		2,825	3,050	
10	2,525		1,250	3,200	425
11	1,175		2,150	2,400	
12	6,200		1,550	6,225	2,575
13	1,875		925	975	150
14	5,075		1,375	2,700	425
15	1,275		1,325	1,400	400
16	5,700		3,950	7,500	100
17	51,125		3,500	16,825	600
18			10,675	6,250	1,025
19			1,025	250	
20	47,850		9,725	9,400	
21	3,050		725	1,000	1,000
22			50	2,825	225
22-1				125	
23	650		275	300	475
24	2,475		275	950	
29	1,475			600	1,000
30	200		925		
31			475		
32				125	
33				625	
34				2,150	
35				1,775	
35A			1,650	275	350
36			500	1,125	
37				1,100	
38				175	
<b>Total</b>	<b>145,185</b>		<b>55,520</b>	<b>89,500</b>	<b>9,750</b>

\* Note that the right-of-way impacts in this plan are based on the impacts shown on the Public Hearing plan, and will be refined during final design.

The total temporary easements (99,250 sf, or 2.28 ac) are needed for slope and/or drive construction. The permanent easements (55,520 sf, or 1.27 ac) are needed for drainage improvements. Permanent right-of-way acquisitions (145,185 sf, or 3.33 ac) are required for shifting NH Route 28, as well as other safety improvements.

The total estimated land area in the Town of Barnstead is approximately 44.0 mi<sup>2</sup>. The total permanent easements and acquisitions associated with this project are minimal when compared with the total land area in Barnstead. It is not anticipated that this project will cause a change in land use in the project area, nor is it expected to have an effect on the tax base. In addition, there will be no relocations required by the construction of this project.

## **Public Lands**

The proposed action has been reviewed by the Office of Energy and Planning, Conservation Land Stewardship (CLS) Program Coordinator, and it was determined that there are no CLS resources within the project area (*Exhibit E*).

The Land and Water Conservation Fund (LWCF) is a program established by Congress in 1964 to create parks and open spaces; protect wilderness, wetlands, and refugees; preserve wildlife habitat; and enhance recreational opportunities. Any alteration or conversion of LWCF properties necessitates a 6(f) conversion of property. Based upon a review of their LWCF files, the Department of Resources and Economic Development (DRED) has advised that there are no Section 6(f) parcels present in the project area (*Exhibit F*).

## **Environmental Justice**

Executive Orders 12898, and 13166, signed in 1994 and 2000 respectively, require that an Environmental Justice (EJ) evaluation be conducted for all transportation projects that are undertaken, funded or approved by the Federal Highway Administration to avoid, minimize, or mitigate disproportionately high and adverse human health and environmental effects, and social and economic effects on minority populations and low income populations. The EJ review for this project shows that, based on 2000 Census data, there is a meaningfully greater percentage of elderly people in the project area (*Exhibit G*). As such, special consideration will be given to any project features that affect pedestrian accessibility. In addition, known agencies and subsidized housing units serving elderly populations have been included in notifications for public meetings. One such housing community exists in the community as *Nighthawk Hollow Seniors*. For these reasons, this project complies with Executive Orders 12898 and 13166.

## **Wetlands/Mitigation/Water Quality**

The wetland resources within the limits of the project were delineated based on the 1987 *Federal Manual for Identifying and Delineating Jurisdictional Wetlands*, produced by the Army Corps of Engineers (ACOE), Wetlands Research Program. In addition, the wetlands were

classified utilizing the *Classification of Wetlands and Deepwater Habitats of the United States* (US Fish and Wildlife Service Manual FWS-OBS-79/31).

There are several wetland areas, under the jurisdiction of the ACOE and the NH Department of Environmental Services (NHDES) that will be impacted by this project. These impacts total approximately 22,000 sf, and are primarily associated with upgrading existing drainage structures, and wetland impacts required by shifting the alignment of NH Route 28 (*Exhibits C and M*). These impacts exceed the 10,000 sf mitigation threshold established by NHDES. As such, all wetland impacts are likely to require mitigation. During the final design process, the Department will contact the Barnstead Conservation Commission to determine if there are any mitigation opportunities in the area of this project. It is possible, however, that mitigation for this project would be completed through a payment into the NHDES Aquatic Resource Mitigation (ARM) Fund.

Phase II of the National Pollutant Discharge Elimination System (NPDES), administered by the US Environmental Protection Agency (EPA) under the auspices of the Clean Water Act amendments, and the EPA Construction General Permit (CGP) mandates that all land disturbing activities involving 1.0 ac or more of disturbance include the preparation of a Storm Water Pollution Prevention Plan (SWPPP) to protect the integrity of surrounding waterbodies and wetlands. Coverage under the EPA CGP would be required for this project. As such, an approved SWPPP would be required prior to the commencement of land disturbing activities. This plan would ensure that all exposed areas, where construction activities are ongoing, are stabilized using appropriate erosion control techniques.

In accordance with Section 303(d) of the Clean Water Act, the NHDES has designated Lower Suncook Lake (Assessment Unit ID # NHLAK700060402-10-01) as impaired for dissolved oxygen saturation. Lower Suncook Lake is located approximately 750 feet south of the project area. A dissolved oxygen impairment can be the result of an excess of organic materials in a surface water. Lower Suncook Lake does not receive direct runoff from the project area, and as such, the proposed action is not expected to further impair this surface water for dissolved oxygen saturation.

The NHDES code of administrative rules Env-Wq Part 1500 requires incorporation of water quality treatment measures into a project design when, in part, land disturbance is greater than 100,000 sf. As construction of this project exceeds that threshold, during the final design phase, provisions for permanent water quality Best Management Practices (BMPs) will be incorporated into the design to the maximum extent practicable in order to achieve the goals of these rules.

In order to maintain water quality during construction, the project Contractor will be required, as a contract provision, to prepare a Storm Water Pollution Prevention Plan (SWPPP) for this project prior to the commencement of construction activities. This plan will ensure that all

exposed areas, where construction activities are ongoing, are stabilized using appropriate erosion control techniques.

### **Invasive Species**

Upland invasive plant species are regulated by the NH Department of Agriculture, Markets and Food (DAMF). NH Code of Administrative Rules Agr 3800 states “No person shall collect, transport, import, export, move, buy, sell, distribute, propagate or transplant any living or viable portion of any listed prohibited invasive plant species, which includes all of their cultivars and varieties” listed in the NH prohibited species list.

Invasive plants were investigated in a field review on September 8, 2011. Several prohibited invasive species were identified along White Oak Road, including Japanese barberry, burning bush and multiflora rose. South of the intersection along NH Route 28 glossy buckthorn was identified on the east side of the road (*Exhibit H*). During final design, the project area will be reviewed again to determine if these populations would be impacted by construction, and if they have spread. All areas of invasive plants will be shown on construction plans. The contractor will be required to prepare an invasive species control and management plan prior to the start of any earth disturbing or clearing activities. This plan will outline Best Management Practices (BMPs) that will be used to prevent the spread of invasive species during construction.

### **Groundwater/ Drinking Water**

The project is located within Pennichuck Water Works aquifer as determined by NHDES. As such, the NHDES Groundwater Bureau typically encourages the use of best management practices, as well as stormwater infiltration where appropriate, to protect groundwater resources. In addition, *Recommendations for Implementing Groundwater Protection Measures When Siting or Improving Roadways* (DES 1995) recommends the use of grassed swales. The proposed action will incorporate all appropriate best management practices during construction and will utilize grass swales where appropriate (*Exhibit I*).

### **Endangered Species/Natural Communities**

The project area was reviewed by the NH Natural Heritage Bureau (NHNHB) for known occurrences of rare plant and animal species and exemplary natural communities on January 22, 2014 (*Exhibit J*). Based on that review the NHNHB has determined that they, “currently have no recorded occurrences for sensitive species near this project area.”

The U.S. Fish and Wildlife Service web-based Section 7 consultation tool indicates that small whorled Pogonia (*Isotria medeoloides*), a Federally Endangered plant, occurs in Belknap County (*Exhibit L*). According to the NHHB's "Natural Communities of New Hampshire" publication and the Endangered Species Information System available online, small whorled pogonia prefers the following habitat conditions in New Hampshire: Skerry fine sandy loams or other soils in which a fragipan exists; 8-15% east-facing slopes; small intermittent streams or old logging roads that provide breaks in the forest canopy; and hemlock-beech-oak-pine forest type. Although there are forested areas within the limits of the subject project, the soils in the project area are predominantly Millsite-Woodstock-Henniker complex soils (480C/D), and Pillsbury sandy loam (647B). Furthermore, the NHHB does not have any records of small whorled pogonia occurring in the project area. Given these conditions, and the lack of known populations in this area, small whorled pogonia is unlikely to occur in the project area (*Exhibit L*).

## **Cultural Resources**

The Department has consulted with the NH State Historic Preservation Office (SHPO) and the Federal Highway Administration (FHWA) to locate and identify National Register of Historic Places listed, or eligible, properties or districts within the area of the proposed project. The proposed project has been reviewed by the SHPO and FHWA based on the Section 106 review process set forth by the National Historic Preservation Act of 1966, as amended, and the Advisory Council on Historic Preservation's *Procedures for the Protection of Historic Properties* (36 CFR 800). The proposed design was presented at the Monthly Cultural Resource Agency Coordination Meetings on July 14, 2011, May 10, 2012, July 12, 2012, and October 10, 2013. This section describes the project impacts on historic properties.

## **Architectural Resources**

The project area form completed for the Barnstead-Alton, 14121 project in the autumn of 2009 identified several properties in the project area as potentially eligible for the National Register of Historic Places. In the spring of 2012 formal determinations of eligibility were completed for the three properties that required more evaluation. As a result, two properties were identified within the project area as eligible for the National Register.

The first property, the Chesley-Aiken House (Parcel 15), is a mid-19<sup>th</sup> century Greek Revival farmhouse with late 19<sup>th</sup> century Victorian details. The current tax parcel is identified as the National Register boundary. The resource includes the buildings, and landscape features such as stone and concrete walls, mature woods and open space. It is unknown when the concrete retaining wall dates to, but it is integral in the access to the basement level entry to the house.

The second property, the White Oak School (Parcel 19), is a converted 1839 school building which was moved to the current triangular lot in 1889 to accommodate educational needs of the community and remained a school structure until 1930. The building retains feeling and association as a schoolhouse despite its conversion into a residence, sufficient to convey the historic context of the Town of Barnstead. Although there may be a discrepancy between the tax parcel/property per tax records, the tax parcel/property per deeds, and the tax parcel/property per the engineering plans, the current tax parcel is identified as the National Register boundary. (See the **Effects on Historic Resources** section below).

## Archaeological Resources

In February 2009, the Department completed an Archaeological Phase IA assessment of the NH Route 28 corridor. The assessment identified several areas within the project limits, as sensitive for archaeological resources. Sensitive areas, and follow-up archaeological evaluation are described below.

The Ayers/Chesley house site is located inside the tree line on Parcel 17, on the east side of NH Route 28 at the intersection approximately 250 ft. south of the NH Route 28 merge with Yield Road, and 600 ft. south of the NH Route 28/White Oak Road/Peacham Road intersection (*Exhibit M*). This house site corresponds to the location of the Mrs. N. Ayers house on the 1860 map and the I. Chesley house on the 1892 map. This site consists of dry-laid field stone foundation with cellar hole (*Exhibit M*). A historic stone-lined well associated with the house site is located at the rear of the foundation. The excavation of ten shovel test pits (STPs) is recommended for this site.

The Hussey/Aikert historic house site is located inside the tree line on the north side of White Oak Road on Parcel 20, approximately 400 ft. west of the NH Route 28/White Oak Road/Peacham Road intersection, and opposite the intersection of White Oak Road with Yield Road (*Exhibit M*). This house site corresponds to the location of the J. B. Hussey house on the 1860 map, and the D. E. Aikert house on the 1892 map. The site consists of a historic house foundation with cellar hole (*Exhibit M*). A stone retaining wall is located to the east of the house foundation and perpendicular to the road and a stone field wall parallels the north side of White Oak Road on the western end of the house site. The excavation of 7 STPs is recommended for this site.

The yard area inside the triangle at the site of the White Oak School (Parcel 19) has the potential to contain archaeological resources. The excavation of 10 STPs is recommended for the triangle inside the historic road intersection. The test pits should be arranged in transects along the southwestern and northern sides of the yard inside the triangle (*Exhibit M*).

The Chesley family cemetery (Parcel 18) is located to the west of the side of NH Route 28 between Yield Road and Lake Shore Drive (*Exhibit M*). The cemetery is 100 ft. south of the merge with Yield Road and 450 ft. south of the NH Route 28/White Oak Road/Peacham Road intersection.

The White Oak Road cemetery is located on the south side of White Oak Road just off the edge of pavement approximately 850 feet west of the intersection of White Oak Road and NH Route 28 (*Exhibit M*).

## Effects on Historic Resources

The effects of this project on historic and archaeological resources were determined by FHWA, in consultation with the SHPO and the Department based on the Section 106 review process established by the National Historic Preservation Act (NHPA) of 1966 and outlined at 36 CFR 800.9.

Impacts to historic and archaeological properties for this project consist of the following:

- Chesley-Aiken House (Parcel 15): The project will have minimal and minor slope work and pavement matching along a portion of the driveway. While a stonewall will be impacted, it will be reconstructed. A short distance of thinned tree line will result from tree clearing, however the viewshed between the currently shielded yard and the roadway will remain primarily blocked, retaining the feel of an enclosed area. These impacts were found to be not adverse.
- White Oak School (Parcel 19): The project will involve slope work, primarily along the north and west sides of the resource, which will alter the topography of the property. These areas will be re-landscaped, though the area along the north side of the property will involve a substantial grade change and installation of a modern retaining wall. Approximately half of the length of the stonewall on the west side of the resource will be disturbed by the project for the reconstruction of Yield Road. Visual, and potentially atmospheric or audible elements may be introduced that would impact the resource. Widened roadways and a larger intersection will border the historic school building, changing the visual association of the building with its setting and community. The rise of the intersection and the new retaining wall will further exacerbate the change, isolating the historic school below the higher intersection.
- The foundation located at the site of the Ayers/Chesley house site will be impacted by the relocation and widening of NH Route 28.

At a meeting on July 12, 2012, it was determined that this project would result in an Adverse Effect on historic properties (*Exhibit K*).

## **Mitigation of Historic Resource Impacts**

Pursuant to the provisions of Section 106 of the National Historic Preservation Act (36 CFR 800), a Memorandum of Agreement (MOA) addressing the proposed action and subsequent mitigation has been developed and executed (*Exhibits O & Q*). The following mitigation opportunities were identified to offset the adverse effects:

- The Department will develop an abbreviated annotated bibliography to provide future researchers in Barnstead information on researching the school houses located within Barnstead.
- Completion of all necessary phases of archaeology, including the recommendations from the Phase IA archeological report, and investigations at impacted dry laid stone foundation of the Ayers/Chesley house site, as outline under the Archaeological Resources section above.
- Limiting impacts to the existing stonewall on the westerly side of Parcel 19, by working with the owner and resetting walls in accordance with the NHDOT Stonewall Policy.
- Working with the owner of Parcel 19 on the design of the new complimentary/compatible retaining wall to be located on the northerly side of the property, adjacent to White Oak Road.
- Altered areas on Parcel 15 will be re-landscaped, which will maintain the character and use of the property despite a short length of thinned tree line
- Archaeological monitoring of any construction associated with this project that occurs within 25 feet of the Chesley Family Cemetery and the White Oak Cemetery.

## **Section 4(f) of the USDOT Act**

Section 4(f) of the US Department of Transportation (US DOT) Act of 1966 (amended by 49 U.S.C. Section 303) provides protection for historic resources, wildlife refuges and publicly owned parks and recreational areas that are open to the public and are considered substantial recreational facilities. The Chesley-Aiken House (Parcel 15), and White Oak School (Parcel 19) are Section 4(f) resources. A Section 4(f) Evaluation has been prepared to demonstrate that there are no prudent and feasible avoidance alternatives to the use of portions of these properties for transportation purposes. See the **Section 4(f) Evaluation** for additional information.

## **Coordination & Public Participation**

Initial and follow-up contact letters were sent to various Federal, State, and local officials requesting input on this project on the following dates:

<u>Agency / Organization</u>	<u>Contact</u>	<u>Date Sent</u>	<u>Input Received</u>
Town of Barnstead			
Board of Selectmen	David Kerr	7/22/2011	-
Road Agent	Chris Carazzo	7/22/2011	-
Planning Board	Dave Murley	7/22/2011	8/13/2011
Conservation Commission	Jim Fougere	7/22/2011	-
Historical Society	Ken Pitman	7/22/2011	-
Emergency Management	Sean Mulcahy	7/22/2011	-
NHDOT Environmental Justice	Jay Ankenbrock	7/22/2011	8/17/2011
NHDES Drinking Water and Groundwater	Sarah Pillsbury	7/22/2011	8/10/2011
NH DRED – LWCF	Jane Carey	7/22/2011	7/22/2011
NH OEP – CLS Program	Steve Walker	7/22/2011	7/22/2011

Meetings were held periodically with various Federal, State and local agencies, as well as with the general public throughout the development of this project. Project review meetings were held on the following dates:

<u>Date</u>	<u>Meeting</u>
November 30, 2010	Public Officials / Public Informational Meeting
July 14, 2011	NHDOT Cultural Resource Agency Coordination Meeting
May 10, 2012	NHDOT Cultural Resource Agency Coordination Meeting
July 12, 2012	NHDOT Cultural Resource Agency Coordination Meeting
August 28, 2012	Public Hearing
October 10, 2014	NHDOT Cultural Resource Agency Coordination Meeting

A Public Hearing was held for this project on August 28, 2012. The Department has responded to all issues and questions from the hearing in the Report of the Commissioner (See Exhibit N). The major concerns were related to drainage, roadway improvements, and noise issues. Where appropriate, relevant sections of this document have been altered from what was contained in the Draft Categorical Exclusion to reflect changes in the Department’s design.

## **Construction Impacts**

Construction of this project is anticipated to cause temporary increases in noise and dust levels within the project area. All standard measures would be employed to ensure such increases are minimized to the extent practicable and limited to the construction period.

Access to all properties would be maintained throughout construction. While through traffic would be maintained during construction, the roadway would likely need to be narrowed in places to a single lane of alternating one-way traffic. In addition, periodic travel on gravel

surfaces would be likely. Any temporary suspensions of through traffic would be held to a minimum.

A Storm Water Pollution Prevention Plan (SWPPP), approved by the Department, would be required prior to the commencement of construction activities.

Standard pollution prevention measures would be employed to assure all negative impacts are avoided and/or minimized to the maximum extent practicable.

## **Environmental Commitments**

The following environmental commitments have been made for this project:

1. The Department of Transportation shall work with the Department of Environmental Services and/or the Barnstead Conservation Commission to ensure that wetland impacts are mitigated to the extent required by the DES Code of Administrative Rules. **(Design/Environment)**
2. All areas of invasive plants shall be shown on construction plans. The contractor shall be required to prepare an invasive species control and management plan prior to the start of any earth disturbing or clearing activities. This plan shall outline BMPs that will be used to prevent the spread of invasive species during construction. **(Design/Environment/Construction)**
3. The Department of Transportation shall develop an abbreviated annotated bibliography to provide future researchers in Barnstead information on researching the school houses located within Barnstead. **(Environment)**
4. All necessary phases of archaeology shall be completed, including the recommendations from the Phase IA archeological report, and investigations at impacted dry laid stone foundation of the Ayers/Chesley house site. **(Environment)**
5. The Department of Transportation shall work with the owner of Parcel 19 on the design of the new complimentary/compatible retaining wall to be located on the northerly side of the property, adjacent to White Oak Road. **(Design/Environment/Construction/Right-of-Way)**
6. Altered areas on Parcel 15 shall be re-landscaped, which will maintain the character and use of the property despite a short length of thinned tree line. **(Design/Environment/Construction/Right-of-Way)**

7. The Department of Transportation shall work with the owner of Parcel 19 in order to limit the impacts to the existing stonewall on the westerly side of Parcel 19, and resetting walls in accordance with the NHDOT Stonewall Policy. **(Design/Environment/Construction/Right-of-Way)**
  
8. Any construction associated with this project that will occur within 25 feet of the Chesley Family Cemetery and the White Oak Cemetery shall be monitored by a qualified archaeologist. **(Design/Environment/Construction/Right-of-Way)**

## **Part II: Section 4(f) Evaluation**

### **Section 4(f) Applicability**

Pursuant to Section 4(f) of the US Department of Transportation Act of 1966, 49 USC 303 as amended, the Secretary of Transportation may approve a transportation program or project requiring the use of publicly owned land of a public park, recreation area, or wildlife and waterfowl refuge of national, state, or local significance, 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, area, refuge, or site) only if:

1. There is no prudent and feasible alternative to using that land; and
2. The program or project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge, or historic site resulting from the use.

The Secretary may also approve such use if the Federal Highway Administration (FHWA) determines that the property will have a *de minimis* impact.

A project could “use” land from a Section 4(f) resource in one of three ways:

1. When land is permanently incorporated into a transportation facility;
2. When there is a temporary occupancy of land that is adverse in terms of the statute’s preservation purpose as determined by the criteria set forth at 23 CFR § 774.13(d); or
3. When there is a constructive use of a Section 4(f) property as determined by the criteria set forth at 23 CFR § 774.15.

If an alternative avoids Section 4(f) resources and is prudent and feasible to construct, then it must be selected. If no prudent and feasible avoidance alternative exists, only the alternative that causes the least overall harm and includes all possible planning to minimize harm to Section 4(f) property may be approved.

### **Project Purpose and Need**

#### **Statement of Purpose**

The purpose of this project is to improve safety at the Route 28/Peacham Road/White Oak Road intersection.

## **Statement of Need**

The need for this project is demonstrated by the accident history at the intersection, and the existing safety issues, which include the steep grades entering the intersection, poor sight distance from the side roads looking north and south along NH Route 28, conflicting/confusing turn movements entering and exiting Yield Road at NH Route 28, and lack of platforms for queuing traffic on Peacham Road and White Oak Road entering NH Route 28.

## **Existing Conditions**

New Hampshire (NH) Route 28 is an 85-mile-long north-south highway in eastern NH. It connects the town of Ossipee in east-central New Hampshire with Salem on the Massachusetts border to the south. The southern terminus is on the Massachusetts state line in Salem. The northern terminus is at its junction with New Hampshire Route 16 in Ossipee (*Exhibit A*).

The project area lies in the central portion of NH Route 28 in Barnstead (*Exhibit B*). At its intersection with Peacham Road and White Oak Road, NH Route 28 consists of two 11-foot travel lanes with 1-foot shoulders. Peacham Road consists of two 11-foot travel lanes with no shoulders. White Oak Road consists of two 10-foot travel lanes with no shoulders. Immediately to the south of these intersecting roads, Yield Road connects NH Route 28 to White Oak Road creating a triangular piece of land. Yield Road has two 10 ½-foot travel lanes. Lake Shore Drive, with a total width of 16 feet, intersects with Yield Road near the Yield Road intersection with NH Route 28 (*Exhibit C*). The side roads are classified as Rural Local Road, and NH Route 28 is classified as a Rural Minor Arterial roadway. Land surrounding the Peacham Road intersection is primarily forested and residential. Pedestrian/bicycle use at the intersection is limited (*Exhibit M*).

The posted speed limit on these roads is as follows: NH Route 28: 50 miles per hour (mph), Peacham Road: 30 mph, and White Oak Road: 30 mph, with no posted speed on Yield Road and Lake Shore Drive. Yield Road, Peacham Road, and White Oak Road have stop signs at their intersections with NH Route 28.

The Average Annual Daily Traffic (AADT) at the intersection is as follows, as measured in vehicles per day (vpd).

Year	2015 Opening Year	2035 Design Year
NH Route 28	7,370 vpd	8,995 vpd
Peacham Road	1,550 vpd	1,890 vpd
White Oak Road	1,150 vpd	1,400 vpd

Approximately 8% of the vehicles at the intersection are trucks.

## **Proposed Action**

This Highway Safety Improvement Program (HSIP) project involves safety improvements at the intersection of NH Route 28, Peacham Road and White Oak Road. The proposed reconstruction of NH Route 28 begins approximately 3,400 feet south of Peacham Road and White Oak Road, and extends north approximately 4,300 feet. Turn lanes will be constructed on NH Route 28 to provide exclusive right and left turn lanes in the northbound direction, and an exclusive left and a shared thru/right lane in the southbound direction. The improvements to Peacham Road extend approximately 800 feet east of the intersection. The improvements to White Oak Road extend approximately 900 feet west of the intersection. In addition, the approaches of White Oak Road, Yield Road, and Lake Shore Drive will be modified to eliminate the connection of Yield Road and Lake Shore Drive with NH Route 28. Instead, these roads will be united just to the west of NH Route 28, with a single connection to White Oak Road. Improvements to Lake Shore Drive extend approximately 150 feet south of its intersection with White Oak Road (*Exhibit C*).

The estimated cost of the Proposed Action is \$2.5 million.

## **Description of Section 4(f) Resources**

There are two (2) Section 4(f) resources in the project area that would be impacted by construction. They are described below.

The first property, the Chesley-Aiken House (Parcel 15), is a mid-19<sup>th</sup> century Greek Revival farmhouse with late 19<sup>th</sup> century Victorian details. The current tax parcel is identified as the National Register boundary. The resource includes the buildings, and landscape features such as stone and concrete walls, mature woods and open space. It is unknown when the concrete retaining wall dates to, but it is integral in the access to the basement level entry to the house.

The second property, the White Oak School (Parcel 19), is a converted 1839 school building which was moved to the current triangular lot in 1889 to accommodate educational needs of the community and remained a school structure until 1930. The building retains feeling and association as a schoolhouse despite its conversion into a residence, sufficient to convey the historic context of the Town of Barnstead. Although there may be a discrepancy between the tax parcel/property per tax records, the tax parcel/property per deeds, and the tax parcel/property per the engineering plans, the current tax parcel is identified as the National Register boundary. See *Exhibit C*

## **Impacts to Section 4(f) Properties**

Impacts to Section 4(f) properties for this project consist of the following:

- Chesley-Aiken House (Parcel 15): The project would have minimal and minor slope work and pavement matching along a portion of the driveway. While a stonewall would be impacted, it would be reconstructed. A short distance of thinned tree line would result from tree clearing, however the viewshed between the currently shielded yard and the roadway would remain primarily blocked, retaining the feel of an enclosed area. These impacts were found to be not adverse.
  
- White Oak School (Parcel 19): The project would involve slope work, primarily along the north and west sides of the resource, which would alter the topography of the property. These areas would be re-landscaped, though the area along the north side of the resource would involve a substantial grade change and installation of a modern retaining wall. Approximately half of the length of the stonewall on the west side of the resource would be disturbed by the project for the reconstruction of Yield Road. Visual, and potentially atmospheric or audible elements would be introduced that would impact the resource. Widened roadways and a larger intersection would border the historic school building, changing the visual association of the building with its setting and community. The rise of the intersection and the new retaining wall would further exacerbate the change, isolating the historic school below the higher intersection.

At a meeting on July 12, 2012, it was determined that this project would result in an Adverse Effect on historic properties (*Exhibit K*).

## **Alternatives Analysis**

This section evaluates alternatives that avoid Section 4(f) resources.

An avoidance alternative is prudent and feasible if it avoids using the Section 4(f) property and does not cause other severe problems of a magnitude that substantially outweighs the importance of protecting the Section 4(f) property. An avoidance alternative is not feasible if it cannot be built as a matter of sound engineering judgment. According to 23 CRF § 774.117, an alternative is not prudent if:

- i. It compromises the project to a degree that it is unreasonable to proceed with the project in light of its stated purpose and need;
- ii. It results in unacceptable safety or operational problems;
- iii. 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;

- d. Severe impacts to environmental resources protected under other Federal statutes;
- iv. It results in additional construction, maintenance, or operational costs of an extraordinary magnitude;
- v. It causes other unique problems or unusual factors; or
- vi. It involves multiple factors in paragraphs (3i through 3v) of this definition, that while individually minor, cumulatively cause unique problems or impacts of extraordinary magnitude.

The following avoidance alternatives were considered in this analysis:

### **“No Build”**

The “No-Build” alternative would provide no safety improvements at the intersection. It is not considered feasible and prudent, as it addresses neither the existing deficiencies nor the safety concerns at the Peacham Road intersection. Given the projected increase in AADT, accident history, and the existing deficiencies; intersection safety would continue to deteriorate. Therefore, this alternative would not meet the stated project Purpose and Need.

### **Flattening the NH Route 28 Curve**

Flattening the NH Route 28 curve at the Peacham Road intersection into the hillside on the east side of NH Route 28 (approx. Sta. 537+00 – Sta. 5050+00) (*Exhibit C*) would have improved the sight distance for vehicles entering the intersection, but would have exacerbated the poor approach grades from Peacham Road, making them much more deficient. In addition, this alternative would have required impacts to Parcels 21 and 29 along Ripple Road to an extent that could likely require complete acquisition and removal of those residences. This alternative is not feasible and prudent as it would not completely meet the stated project Purpose and Need, and would involve more substantial impacts to residential properties.

The estimated cost of this alternative is \$2.85 million.

### **Least Overall Harm Analysis**

A least harm analysis is required when there are no feasible and prudent avoidance alternatives to a proposed action. This section describes the alternatives that were evaluated for this project and evaluates the relative harm of each. The following factors are to be considered when conducting the least harm analysis:

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 remaining harm, after mitigation, to the protected activities, attributes, or; features that qualifies each property for Section 4(f) 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 project purpose and need;
6. After reasonable mitigation, the magnitude of any adverse impacts to resources not protected by Section 4(f);
7. Substantial differences in costs among the alternatives.

While least harm criteria numbers 1, 2, 3, 4, and 6 are the same for the proposed action and the alternative which flattens the NH Route 28 curve into the hillside, each meets the stated Purpose and Need to differing degrees. There are also differences in cost.

### **Proposed Action**

This alternative would reconstruct the NH Route 28 intersection with Peacham Road and White Oak Road. Turn lanes would be constructed on NH Route 28 to provide exclusive right and left turn lanes in the northbound direction, and an exclusive left and a shared thru/right lane in the southbound direction. This alternative would fully meet the stated project Purpose and Need, as described above.

### **Flattening the NH Route 28 Curve**

Flattening the NH Route 28 curve at the Peacham Road intersection into the hillside on the east side of NH Route 28 would improve the sight distance for vehicles entering the intersection, but would have exacerbated the poor approach grades from Peacham Road, making them much more deficient. In addition, this alternative would have required impacts to Parcels 21 and 29 along Ripple Road to an extent that could likely require complete acquisition and removal of those residences. This alternative would not completely meet the stated project Purpose and Need, and would involve more substantial impacts to residential properties.

Table 2: Least Harm Analysis

Alternative	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 remaining harm, after mitigation, to the protected activities, attributes, or; features that qualify each property for Section 4(f) 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 project purpose and need	6. After reasonable mitigation, the magnitude of any adverse impacts to resources not protected by Section 4(f)	7. Substantial differences in costs among the alternatives
<b>Proposed Action/Preferred Alternative</b>	The property owner of Parcel 19 would be provided the opportunity to participate in determining the appearance of the retaining wall required by this alternative	Same for each alternative	Same for each alternative	Same for each alternative	This alternative fully meets the Purpose and Need	Same for each alternative	\$2.5 million
<b>Flattening the NH Route 28 Curve</b>	There would be no retaining wall required by this alternative, however the property would still be isolated well below the intersection as it is today	Same for each alternative	Same for each alternative	Same for each alternative	This alternative would not fully meet the Purpose and Need as it would exacerbate poor approach roadway grades at the Peacham Road/NH Route 28 intersection	Same for each alternative	\$2.85 million

## **Result of the Least Harm Analysis**

Based on Table 2, only the Proposed Action fully meets the Purpose and Need of the project and results in a lower construction cost than the other alternative. Based on the seven factors of the least harm analysis, it has been determined that the Proposed Action results in the least overall harm in light of the statute's preservation purpose.

## **Measures to Minimize Harm/Mitigation**

Measures to minimize harm have been undertaken in all aspects of the preliminary design to date. Measures to mitigate for the proposed impacts include the following, which have been documented in a Memorandum of Agreement (MOA) submitted to the Advisory Council on Historic Preservation, and signed by the SHPO, NHDOT and FHWA (*Exhibits O & Q*).

- The Department of Transportation shall develop an abbreviated annotated bibliography to provide future researchers in Barnstead information on researching the school houses located within Barnstead.
- All necessary phases of archaeology shall be completed, including the recommendations from the Phase IA archeological report, and investigations at impacted dry laid stone foundation of the Ayers/Chesley house site.
- The Department of Transportation shall work with the owner of Parcel 19 on the design of the new complimentary/compatible retaining wall to be located on the northerly side of the property, adjacent to White Oak Road.
- Altered areas on Parcel 15 shall be re-landscaped, which will maintain the character and use of the property despite a short length of thinned tree line.
- The Department of Transportation shall work with the owner of Parcel 19 in order to limit the impacts to the existing stonewall on the westerly side of Parcel 19, and resetting walls in accordance with the NHDOT Stonewall Policy.
- Any construction associated with this project that will occur within 25 feet of the Chesley Family Cemetery and the White Oak Cemetery shall be monitored by a qualified archaeologist.

## **Coordination**

Coordination meetings have been held among the SHPO, NHDOT and FHWA to discuss alternatives and measures to minimize harm to the Section 4(f) resources. The measures to minimize harm have been evaluated and would continue to be incorporated into final design.

Meetings were held periodically with various Federal, State and local agencies, as well as with the general public throughout the development of this project. Project review meetings were held on the following dates:

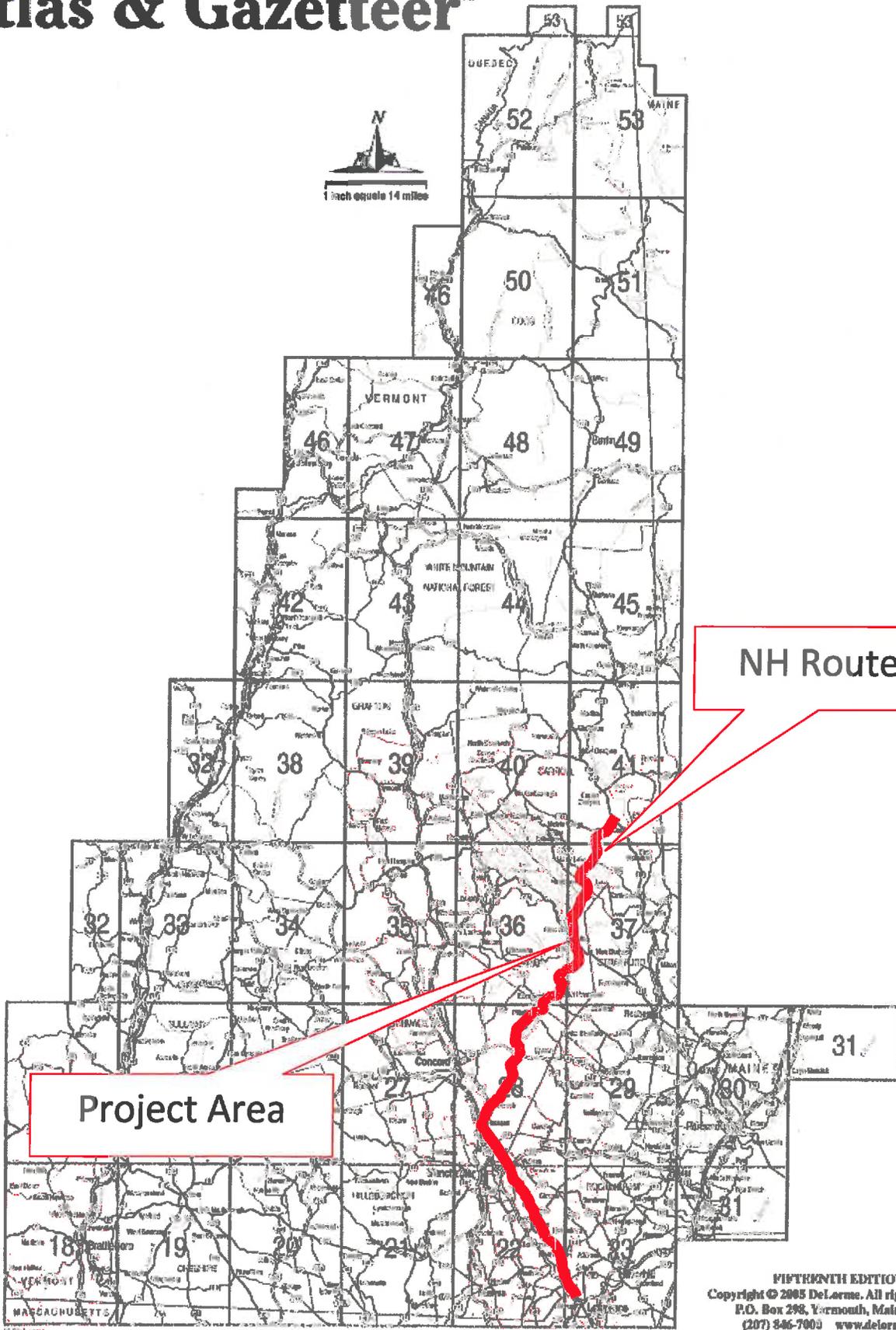
<u>Date</u>	<u>Meeting</u>
November 30, 2010	Public Officials / Public Informational Meeting
July 14, 2011	NHDOT Cultural Resource Agency Coordination Meeting
May 10, 2012	NHDOT Cultural Resource Agency Coordination Meeting
July 12, 2012	NHDOT Cultural Resource Agency Coordination Meeting
August 28, 2012	Public Hearing
October 10, 2013	NHDOT Cultural Resource Agency Coordination Meeting

The US Department of the Interior commented on the Draft Categorical Exclusion for this project on November 14, 2012 (*Exhibit P*). The Regional Environmental Officer requested that a signed copy of the Section 106 MOA be included in the final documentation for this project. The signed MOA is included as *Exhibit Q*.

## Concluding Statement

As has been demonstrated by this document, there are no feasible and prudent alternatives to the use of Section 4(f) property. It has been demonstrated that, "there are unique problems or unusual factors involved in the use of alternatives that avoid these properties or that the cost, social, economic and environmental impacts, and community disruption resulting from such alternatives reach extraordinary magnitudes" (23 CFR 771.135 (a)(2)), especially when considered in relation to the impacts to Section 4(f) properties associated with the Proposed Action. In addition, the Proposed Action includes all possible planning to minimize harm to Section 4(f) properties resulting from such use.

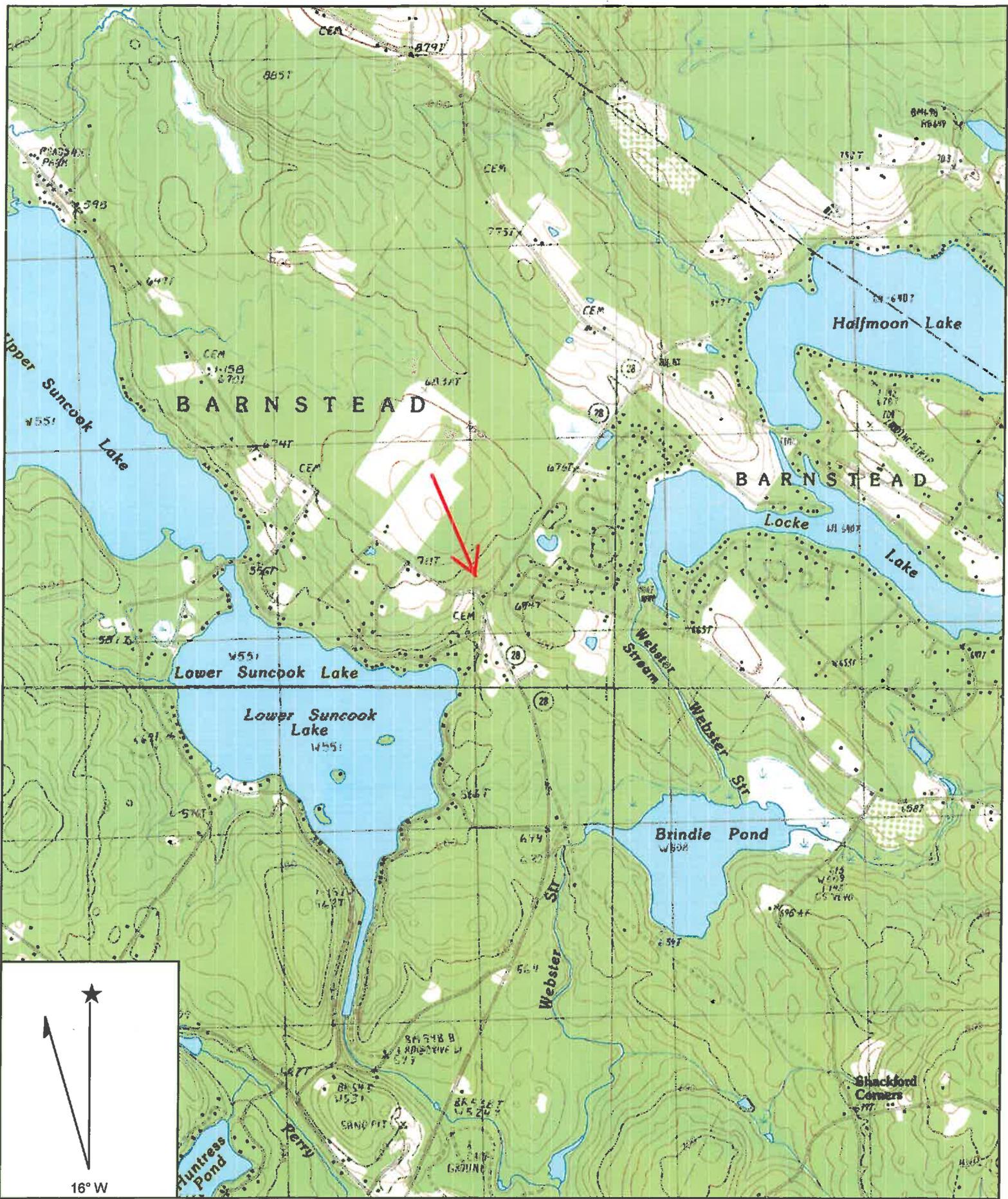
# New Hampshire Atlas & Gazetteer™



NH Route 28

Project Area

FIFTEENTH EDITION  
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(207) 846-7000 www.delorme.com



Name: GILMANTON IRONWORKS  
 Date: 7/22/2011  
 Scale: 1 inch equals 2000 feet

Location: 043° 22' 44.29" N 071° 15' 24.90" W  
 Caption: Barnstead, 14121E

Exhibit B







date: 09/14/11

### Contamination Site Screening

Parent Project Name/Number: Barnstead, 14121E

Parcel Name/Number: White Oak School

Site Description: see at intersection of NH 28, White Oak Rd

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Directions to Access Points: \_\_\_\_\_

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#### Weather Conditions:

Temperature: 70 °F

Precipitation (circle one): None Light Moderate Heavy Type: \_\_\_\_\_

Snow/Ice Cover (circle all that apply): Snow (approx. depth): \_\_\_\_\_ Ice \_\_\_\_\_

Visibility (circle one): Excellent Good Poor

Use/Access:

Number of Access Points: 1

Extent/Type of Access (circle all that apply):

Street Only Exterior Walkover Brief Interior Detailed Interior

Condition of Access Points: Good

Current Use (circle all that apply):

Residential Commercial Warehouse Industrial Recreational  
Undeveloped Gas Station Auto Service (No Gas) Dry Cleaning Other

Notes: \_\_\_\_\_

Evidence of UST's (circle one): Yes No Suspected Unknown

Number of UST's: Present \_\_\_\_\_ Suspected 1 Total 1

Suspected Contents/ UST Size: \_\_\_\_\_

Notes: residential home heating oil 3

Evidence of AST's \*not including small basement heating oil AST's (circle one):

Yes No Suspected Unknown

Number of AST's: Present 2 Suspected \_\_\_\_\_ Total 2

Suspected Contents/ AST Size: \_\_\_\_\_

Notes: CNG

Evidence of Bulk Chemical Storage (circle one): Yes No Suspected Unknown

Number of Storage Areas: Present \_\_\_\_\_ Suspected \_\_\_\_\_ Total \_\_\_\_\_

Suspected Contents/ Storage Area Size: \_\_\_\_\_

Notes: \_\_\_\_\_

Evidence of Dumping/Debris (circle all that apply):

No Minor (< than 5 yds<sup>3</sup>) Major (> than 5 yds<sup>3</sup>) Unknown

Notes: Solid waste (construction debris) + used vehicles on site

Evidence of HazMat Dumping/Debris (circle all that apply):

N/A ACM Drums RR Ties/Utility Poles Paint Other (specify) \_\_\_\_\_

Notes: \_\_\_\_\_

Evidence of Land filling/ Solid Waste (circle all that apply): Yes No Suspected Unknown

Notes: \_\_\_\_\_

Water Sources/Receptors:

Monitoring Wells (circle one): Yes No Number: \_\_\_\_\_

Plans/Location Map Available (circle one): Yes No

Notes: \_\_\_\_\_

Drinking Water Wells (circle one): No On-Site Less than 500 ft Unknown

Number of wells (if applicable): Private \_\_\_\_\_ Public \_\_\_\_\_ Total \_\_\_\_\_

Notes: Suspected

Water Bodies (circle all that apply): No On-Site Less than 250 ft Unknown

Named:

River \_\_\_\_\_ Stream ✓ Lake \_\_\_\_\_ Pond \_\_\_\_\_

Wetland (Marsh, Swamp, Bog etc...): PFO/SS/EM Type/Classification \_\_\_\_\_

Un-named: (note size, location, signs of use, number of, etc... for each)

River 1 2 3 4 (or higher)

Stream unnamed intermittent and adjacent potential

Lake \_\_\_\_\_

Pond \_\_\_\_\_

Vernal Pool(s) ✓

Wetland \_\_\_\_\_ Classification Type: \_\_\_\_\_

Sensitive Human Populations (circle one): No On-Site < than 250 ft Unknown

Number of wells (if applicable): Private \_\_\_\_\_ Public \_\_\_\_\_ Total \_\_\_\_\_

Notes: \_\_\_\_\_

**Corruption of Site Materials:**

Housekeeping (circle one): Poor Moderate Good Unknown

Notes: \_\_\_\_\_

Stained Soils: No Scattered Spots Continuous (>25 ft<sup>2</sup>) Unknown

Type of Soil: \_\_\_\_\_

Notes/Suspected Causes: \_\_\_\_\_

Stained Pavement/Concrete:

No Scattered Spots Continuous (>25 ft<sup>2</sup>) Unknown

Type of Material: \_\_\_\_\_

Notes/Suspected Causes: \_\_\_\_\_

Stressed Vegetation (circle one): Yes No

Type of Vegetation: \_\_\_\_\_

Notes/Suspected Causes: \_\_\_\_\_

**Reviewer Information:**

Reviewer Name: Kevin T. Nyhan Firm/Department (employer): NKDOT

Date of Visit: 09/14/2011

Site Screening Status (circle one): In Progress Complete Pending Review Complete

**General Comments/Observations & Field Notes:** \_\_\_\_\_

Vannie Miller owner

\_\_\_\_\_

**Kevin Nyhan**

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**From:** Walker, Steve [Steve.Walker@nh.gov]  
**Sent:** Friday, July 22, 2011 10:07 AM  
**To:** Kevin Nyhan  
**Subject:** RE: Barnstead, X-A001(174), 14121E

Hi Kevin, There are no LCIP properties in the project area. Stay cool. Stephen

-----Original Message-----

**From:** Kevin Nyhan [mailto:KNyhan@dot.state.nh.us]  
**Sent:** Friday, July 22, 2011 5:50 AM  
**To:** Walker, Steve  
**Subject:** Barnstead, X-A001(174), 14121E

Good Morning Steve ,

The NH Department of Transportation is planning a project to improve safety at the intersection of NH Route 28 and Peacham Road / White Oak Road in Barnstead.

The Department's Bureau of Environment is conducting an environmental study for the subject project. In an effort to ensure that all issues/resources associated with the project are appropriately evaluated, we request your agency's input. Please review this information and comment on the need for further analysis regarding the Conservation Land Stewardship Program and any funds that may have been used in the project area . Any comments you may have concerning this project, or resources within the project area, will assist in the preparation of the environmental document.

Thank you for your assistance.

Kevin T. Nyhan  
Senior Environmental Manager  
NHDOT Bureau of Environment  
John O. Morton Building, Room 160  
7 Hazen Drive, PO Box 483  
Concord, NH 03302-0483  
Tel. 603.271.1553  
Fax. 603.271.7199

<<locus.pdf>>

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"We are defined not only by what we create but by what we refuse to destroy."

- Appalachian South Folklife Center

## Kevin Nyhan

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**From:** Jane Carey [Jane.Carey@dred.state.nh.us]  
**Sent:** Friday, July 22, 2011 10:34 AM  
**To:** Kevin Nyhan  
**Subject:** RE: Barnstead, X-A001(174), 14121E

Good morning Kevin,

I have checked our database and it seems there are no Land and Water Conservation 6 (f) properties in the town of Barnstead, NH. Would you like me to mail to you a memo stating the same please let me know.

Sincerely,

*Jane Carey*  
Program Specialist  
Division of Parks & Recreation  
172 Pembroke Road, PO Box 1856  
Concord NH 03302-1856  
Phone (603) 271-3556 Fax (603) 271-3553  
[Jane.Carey@dred.state.nh.us](mailto:Jane.Carey@dred.state.nh.us)

-----Original Message-----

**From:** Kevin Nyhan [mailto:KNyhan@dot.state.nh.us]  
**Sent:** Friday, July 22, 2011 5:51 AM  
**To:** Jane Carey  
**Subject:** Barnstead, X-A001(174), 14121E

Good Morning Jane,

The NH Department of Transportation is planning a project to improve safety at the intersection of NH Route 28 and Peacham Road / White Oak Road in Barnstead.

The Department's Bureau of Environment is conducting an environmental study for the subject project. In an effort to ensure that all issues/resources associated with the project are appropriately evaluated, we request your agency's input. Please review this information and comment on the need for further analysis regarding Land and Water Conservation Funds that may have been utilized within the project area. Any comments you may have concerning this project, or resources within the project area, will assist in the preparation of the environmental document.

Thank you for your assistance.

Kevin T. Nyhan  
Senior Environmental Manager  
NHDOT Bureau of Environment

Exhibit F

STATE OF NEW HAMPSHIRE  
DEPARTMENT OF TRANSPORTATION  
INTER-OFFICE COMMUNICATION

RECEIVED  
BUREAU OF ENVIRONMENT

AUG 18 2011

NH DEPARTMENT OF  
TRANSPORTATION

**DATE:** August 17, 2011  
**FROM:** *ja* Jay Ankenbrock, Chief of Labor Compliance, Executive Office  
**TO:** Kevin Nyhan, Senior Environmental Manager, Bureau of Environment  
**RE:** Environmental Justice Population Analysis, Project: Barnstead 14121-E

The attached analysis and recommendations are provided pursuant to Title VI of the Civil Rights Act of 1964 and Executive Orders 12898 & 13166. The intent of these statutes is to ensure fair and full participation and the equal receipt of benefits under Federally-assisted programs. Your efforts to accommodate and encourage participation by traditionally underserved groups, where significant, will ensure program access and minimize the potential for disproportionate project impacts on protected groups.

The table entitled "EJ Population Analysis" shows the presence of protected groups that might be impacted by the project. Personnel responsible for project planning/design and the coordination of public meetings/hearings should use this analysis to guide their outreach efforts under Title VI and in support of developing a context sensitive solution. Based on the availability of information and where appropriate, we have included specific outreach recommendations to facilitate public comment from underrepresented groups.

Please note 2000 Census data was used for this analysis, as the 2010 data has not been loaded into the database.

If you have questions regarding this analysis, please contact me @ 271-2467.

Encls: EJ Population Analysis

Cc: Peter Crouch, Traffic Systems Engineer, Bureau of Traffic  
Charlie Hood, Administrator, Bureau of Environment  
Bill Oldenburg; Administrator of Highway Design

## EJ Population Analysis for Project: Barnstead 14121-E

| STUDY AREA                                                                                                                                                                                           | AVG% Elderly Population (P8) | AVG % Minority Population (P6) | AVG % Low-income Population (P87) | AVG% Disabled Sensory (P41) | AVG% Physical (P19) | AVG% LEP |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|--------------------------------|-----------------------------------|-----------------------------|---------------------|----------|
| Impacted Area – Belknap County US Census Tract # 9657, Block Groups 1 & 3.                                                                                                                           | 9.38%                        | 6.05%                          | 4.69%                             | 3.76%                       | 6.43%               | 1.09%    |
| Surrounding Area Belknap County, Census Tract #9657, Block Group 2; Census Tract #9665, Block Group 1; Census Tract #9656, Block Groups 1, 2, &3; Merrimack County Census Tract #350, Block Group 1. | 12.56%                       | 1.55%                          | 5.70%                             | 5.16%                       | 6.91%               | 0.47%    |

**REMARKS:**  
 \* The population percentage identified is meaningfully greater than the surrounding area and constitutes an EJ population. Characteristics of this particular study area indicate that targeted outreach efforts to solicit public participation should be taken.  
  
 LEP Definition: Where there is a population of people who speak English as a second language less than well (“not well” or “not at all” as indicated by the U.S. Census data). When a particular LEP language group constitutes 5% of the impacted population, the Department is required to translate public information meeting notices and take appropriate measures to ensure language access. If this requirement exists, the Project Manager should contact the Title VI Coordinator for further assistance.

**Impacted Area:** The impacted area was defined by the project limits and the area in the immediate vicinity that most closely corresponds to the boundaries of Census Tracts and Block Groups

**Surrounding Area:** All Census Tracts and Block Groups outside of, and immediately adjacent to, the impacted area

**Special Considerations:** Special consideration should be given to any project features that affect pedestrian accessibility. This project constitutes an alteration in accordance with Title II of the Americans with Disabilities Act. As such, minimum ADAAG accessibility requirements apply, unless deemed technically infeasible. For more information, I have provided a link to the Draft Public Rights-of-Way Guidelines (PROWAG). Although these guidelines will not be enforceable until they have been adopted by the US DOJ and US DOT, the FHWA considers them to be the most current recommended best practices in pedestrian facility design: <http://www.access-board.gov/rowdraft.htm#Text>.

**Outreach Recommendations:** In consideration of the populations above, we are providing contact information for all known agencies and subsidized housing units serving the above groups within the project area. These contacts should be included in your notification list for public information meetings and hearings related to this project:

| <u>Resident/Agency Address</u>                                                        | <u>Org/Housing Type</u> | <u>Contact Name/Number</u>     |
|---------------------------------------------------------------------------------------|-------------------------|--------------------------------|
| Nighthawk Hollow Seniors<br>C/O Miriam Burrows<br>58 Sloper Rd<br>Strafford, NH 03884 | Senior                  | Miriam Burrows<br>603-664-2837 |
| *Nighthawk Hollow Seniors is based out of Barnstead                                   |                         |                                |
| Town of Barnstead<br>PO Box 11<br>Barnstead, NH 03225                                 |                         | Karen Montgomery<br>269-4071   |

Barnstead-Alton 14121E

Project Description and Extent: NH 28, Reconstruction from the Alton Circle south approximately 7.0 miles to the improved section in Barnstead. Section E is the intersection with Peacham Rd.

Advertising Date: 10/1/2014

Surveyor Name: Amy Lamb

Survey Date: 9/8/2011

**Invasive Species Observed:**

Barberry

Burning bush

Multiflora rose

*Glossy Buckthorn (possible)*

High-Priority Species

High-priority species are those that are easily spread by DOT activities, difficult to eradicate, and problematic to the transportation infrastructure. These plants include Japanese knotweed, purple loosestrife, spotted knapweed, and phragmites. **None of these plants were found at this site.**

Other Invasive Species

Although no high-priority invasive species are present at this site, other invasive plants of lower concern are present. These species do not pose as great a threat as the high-priority species, especially at this site where there are generally few individuals. However, there are patches of three plants: barberry, burning bush, and multiflora rose.

Barberry is located along White Oak Rd., on the northern side. It is about 15' from the road, growing at the edge of the woods. This plant is unlikely to be impacted by the project.

Burning bush was also found along White Oak Rd., about 15' from the road but on the south side of the roadway. Intersection improvements will not likely impact this plant.

Multiflora rose was found in a similar location to the burning bush and is far enough from the roadway and intersection to avoid impacts.

A small specimen of what appeared to be glossy buckthorn was found south of the intersection. Be aware of this plant along the roadway, and treat it the same as the other invasive species if the invasion expands.

Eradication/BMPs

These plants are located outside of the cleared right-of-way, making impacts unlikely; eradication is not recommended. However, if construction activities will extend beyond the existing right of way, the invasive plants listed above could be impacted.

Barberry, burning bush, multiflora rose, and glossy buckthorn all reproduce via small fruits or berries, which mature in late summer. Cut back any plants that will be impacted, doing so before fruits ripen (winter through early summer.) Or, time any work near these plants to occur before fruits ripen.

If the plants must be handled while containing berries, stems should be cut and carefully stockpiled onsite or disposed of in a way that prevents the spread of berries to new sites (burial, bagging, or incineration). Prevent spread of berries during transport by keeping them contained. If soil near these plants must be excavated, this soil will contain invasive plant seed, and must be reused at the site of infestation or buried on- or off-site.

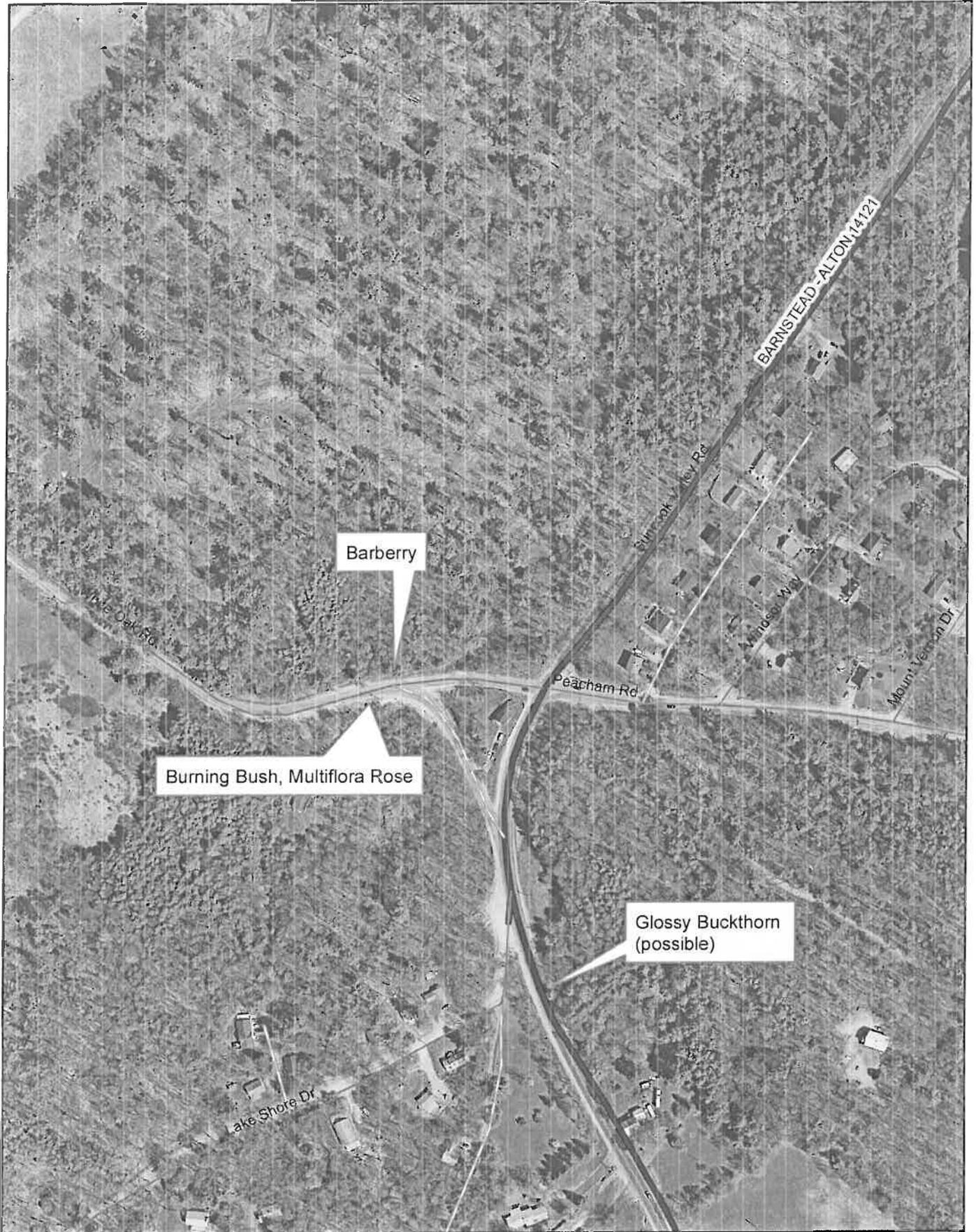
Avoid staging equipment on or near these plants, as this can disturb soil and spread seeds. If equipment must be used in an infested site, use it first in non-infested areas, and lastly in infested areas. Before moving equipment from the site, clean with a brush to remove any berries or seeds.

Minimize bare soil and stabilize any exposed soil as quickly as possible to prevent colonization by invasive plants. This may be done with mulch/hay, seeding, gravel or riprap.

Map: attached

Photos: attached

# Invasive Delineation: Barnstead-Alton 14121 E NH 28 & Peacham Rd.



## Kevin Nyhan

---

**From:** Susca, Paul [Paul.Susca@des.nh.gov]  
**Sent:** Wednesday, August 10, 2011 12:56 PM  
**To:** Kevin Nyhan  
**Cc:** Pillsbury, Sarah  
**Subject:** Highway safety improvements in Barnstead

Hello, Kevin,

This message is in response to your memos to Sarah Pillsbury dated July 22, 2011 regarding Barnstead, X-A001 (174), 1412E and X-A001(180), 16200. Due to distance from the nearest water supply sources and location on the periphery of the mapped aquifer, these projects do not present any particular source water protection concerns. Therefore, I do not see the need for further analysis regarding source water protection. Thank you for the opportunity to comment at this stage in the planning for these projects.

Paul Susca

Supervisor - Planning, Protection & Assistance  
Drinking Water and Groundwater Bureau  
New Hampshire Department of Environmental Services  
PO Box 95  
Concord NH 03302-0095  
(603) 271-7061  
(603) 271-0656 (fax)



## New Hampshire Natural Heritage Bureau

---

**To:** Kevin Nyhan  
PO Box 483, 7 Hazen Drive  
Concord, NH 03303-0483

**Date:** 1/22/2014

**From:** NH Natural Heritage Bureau

**Re:** Review by NH Natural Heritage Bureau of request dated 1/22/2014  
NHB File ID: NHB14-0318

**Applicant:** Kevin Nyhan

**Location:** Tax Map(s)/Lot(s):  
Barnstead

**Project Description:** Intersection safety improvements

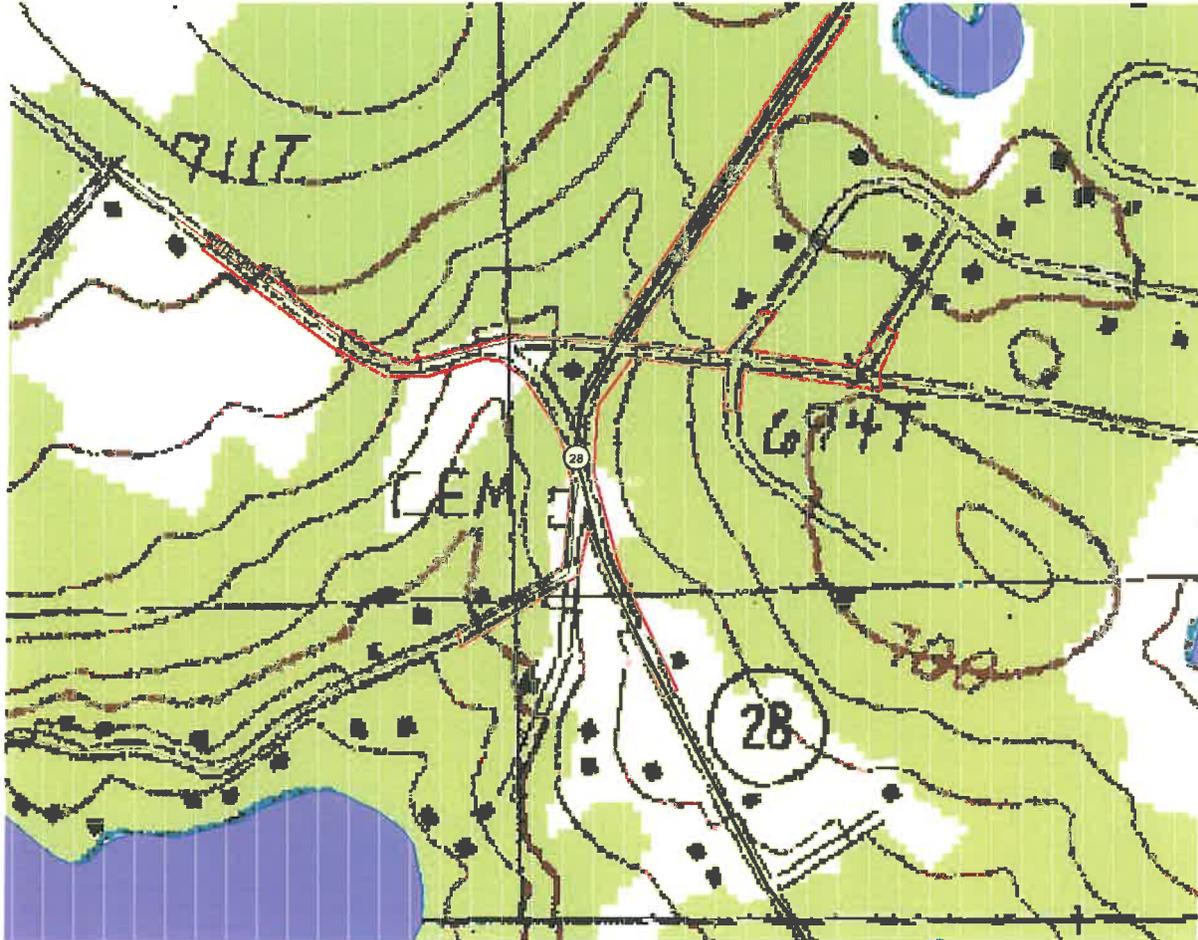
The NH Natural Heritage database has been checked for records of rare species and exemplary natural communities near the area mapped below. The species considered include those listed as Threatened or Endangered by either the state of New Hampshire or the federal government. We currently have no recorded occurrences for sensitive species near this project area.

A negative result (no record in our database) does not mean that a sensitive species is not present. Our data can only tell you of known occurrences, based on information gathered by qualified biologists and reported to our office. However, many areas have never been surveyed, or have only been surveyed for certain species. An on-site survey would provide better information on what species and communities are indeed present.

This report is valid through 1/21/2015.



MAP OF PROJECT BOUNDARIES FOR NHB FILE ID: NHB14-0318





CHRISTOPHER D. CLEMENT, SR.  
COMMISSIONER

THE STATE OF NEW HAMPSHIRE  
DEPARTMENT OF TRANSPORTATION



JEFF BRILLHART, P.E.  
ASSISTANT COMMISSIONER

BARNSTEAD  
X-A001(174)  
14121E

Adverse Effect Memo

Pursuant to meetings and discussions on July 14, 2011, May 10, 2012 and July 12, 2012, and for the purpose of compliance with regulations of the National Historic Preservation Act, as amended, and the Advisory Council on Historic Preservation's *Procedures for the Protection of Historic Properties* (36 CFR 800), the NH Division of the Federal Highway Administration and the NH Division of Historical Resources have coordinated the identification and evaluation of historic and archeological properties with plans to improve the intersection of NH Route 28, Peacham Road and White Oak Road in Barnstead, New Hampshire.

Based on a review pursuant to 36 CFR 800.4 of the architectural and/or historical significance of resources in the project area, we agree that the former White Oak School at 5 Yield Road (NH DOT Parcel 19, BAR0015) and the Chelsey-Aiken House at 1089 Suncook Valley Road (NH DOT Parcel 15, BAR0014) are eligible for listing on the National Register of Historic Places. A detailed description of the properties is on file at the New Hampshire Division of Historical Resources in Concord, New Hampshire.

Applying the criteria of effect at 36 CFR 800.5, we have determined that the project will have an adverse effect on the former White Oak School, 5 Yield Road, due to slope impacts, roadway widening along NH Route 28 and White Oak Road, grade changes surrounding the resource and associated introduction of a new retaining wall, and impacts to the existing stone wall along Yield Road. The introduction of wider roadways, along with raising the intersection, changes the visual association the schoolhouse had to its setting and community.

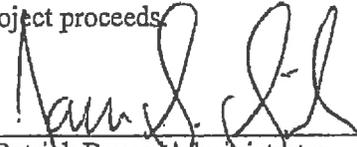
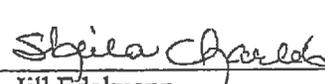
Some of these impacts will be minimized by working with the property owner on a complimentary design of the proposed retaining wall, limiting the impacts to the existing stone wall by minimizing grade changes, and rebuilding any portions of the stone wall being impacted.

The NHDOT will work with the Town to discuss possible measures to mitigate the visual and potential atmospheric changes to the landscape and setting of the former school house, that impact its historical association to the educational context of the Town. NHDOT will research the possibility of gathering contextual information on the historic school districts in Barnstead for public distribution (i.e. pamphlet or website), and work with the Town, the historical society and the Oscar Foss Memorial Library on content, format and distribution. Final mitigation measures will be stipulated in the Memorandum of Agreement.

Applying the criteria of effect at 36 CFR 800.5, we have determined that the project will not have an adverse effect on the Chelsey-Aiken House, 1089 Suncook Valley Road, because minimal and minor slope impacts will not be obvious on the landscape post-construction, altered areas will be re-landscaped, the character and use of the property will be maintained despite a short length of thinned treeline, and the NHDOT will work with the property owner to reconstruct the stonewall that will be impacted due to the minimal slope work and tree clearing.

All necessary phases of archacology will be completed prior to any ground disturbance. The Chelsey Family cemetery, located on Yield Road will be monitored by a 36 CFR 800 qualified archaeologist during construction.

In accordance with the Advisory Council's regulations, consultation will continue, as appropriate, as this project proceeds.

|                                                                                   |         |                                                                                    |           |
|-----------------------------------------------------------------------------------|---------|------------------------------------------------------------------------------------|-----------|
|  | 8/17/12 |  | 8/17/2012 |
| for Patrick Bauer, Administrator<br>Federal Highway Administrator                 | Date    | Jill Edelman<br>Cultural Resources Manager                                         | Date      |

Concurred with by the NH State Historic Preservation Officer:

 8/14/12  
Elizabeth H. Muzzey  
State Historic Preservation Officer  
NH Division of Historical Resources

c.c. Jamie Sikora, FHWA                      Don Lyford, NHDOT  
Christine St. Louis, NHDHR              Kevin Nyhan, NHDOT

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# United States Department of the Interior



## FISH AND WILDLIFE SERVICE

New England Field Office  
70 Commercial Street, Suite 300  
Concord, NH 03301-5087  
<http://www.fws.gov/newengland>

January 7, 2014

To Whom It May Concern:

This project was reviewed for the presence of federally listed or proposed, threatened or endangered species or critical habitat per instructions provided on the U.S. Fish and Wildlife Service's New England Field Office website:

*<http://www.fws.gov/newengland/EndangeredSpec-Consultation.htm>*

Based on information currently available to us, no federally listed or proposed, threatened or endangered species or critical habitat under the jurisdiction of the U.S. Fish and Wildlife Service are known to occur in the project area(s). Preparation of a Biological Assessment or further consultation with us under section 7 of the Endangered Species Act is not required. No further Endangered Species Act coordination is necessary for a period of one year from the date of this letter, unless additional information on listed or proposed species becomes available.

Thank you for your cooperation. Please contact Maria Tur of this office at 603-223-2541 if we can be of further assistance.

Sincerely yours,

Thomas R. Chapman  
Supervisor  
New England Field Office

# Photographs



NH Route 28 (looking south)



Chesley-Aiken House



White Oak School parcel



**Chesley family cemetery**



Hussey/Aikert historic house site



Hussey/Aikert historic house site



Ayers/Chesley house site

## REPORT OF THE COMMISSIONER

BARNSTEAD, X-A001(174), 14121E

NH ROUTE 28/ PEACHAM ROAD/ WHITE OAK ROAD

Commission

PUBLIC HEARING

August 28, 2012 -- Barnstead Fire Rescue Building -- 7:00 PM

The following decisions are the Department's resolution of issues as a result of the testimony presented at the August 28, 2012 Public Hearing and written testimony subsequently submitted for the Barnstead, X-A001(174), 14121E, project described as:

Reconstruction of the intersection of NH 28, Peacham Road and White Oak Road and widen a segment of NH 28 to improve safety. The proposed reconstruction of NH 28 will begin approximately 3,400 feet south of Peacham Road and White Oak Road and extend north approximately 4,300 feet. Turn lanes will be constructed on NH 28 at the Peacham Road/ White Oak Road intersection. The improvements to Peacham Road will extend approximately 750 feet east of NH 28. In addition, the approaches of White Oak Road, Yield Road, and Lake Shore Drive to NH 28 will be modified.

1. Barnstead Selectmen, suggested the proposed pavement match between Yield Road and Lake Shore Drive be extended approximately 150 feet so the transition doesn't occur in the middle of the hill. They also suggested the work on Oak Hill Road be extended westerly approximately 500 feet to be able to reduce the grade and re-align the roadway.

*Response:* The Department agrees with extending the proposed pavement match on Yield Road approximately 150 feet so the transition does not occur on the steeper part of the grade. The intent would be to only pave the existing roadway, any additional work such as drainage improvements would be the responsibility of the Town.

The Department agrees with extending work on Oak Hill Road approximately 500 feet to rebuild the road surface and improve roadside drainage. Additional curve warning signs would also be recommended. However, changes to the grade and alignment of this section of White Oak Road are outside of the scope of this project so would not be pursued by the Department.

2. Lyla Adkins, parcel 18, noted problems with drainage on either side of her driveway on White Oak Road.

*Response:* The Department will be making improvements to the White Oak Road drainage and anticipate addressing these concerns.

3. Sean Dunne, Martin Granville, Rodney Boyd and others, expressed concern with the existing NH 28 posted speed in this section and suggested the speed limit should be lowered to 40 MPH.

*Response:* The Department District 3 Maintenance Office, along with the Bureau of Traffic, will investigate the traveling speeds and conditions in this area and in consultation with local and State Police will determine if the posted speed should be changed.

4. William and Darlene Haynes, parcel 12, expressed concern with roadway drainage running onto their property causing erosion and also potential well contamination. They are concerned with the loss of 12 feet of property along their frontage and the impact it will have regarding traffic noise and safety for entering and exiting their property. There is also concern with impacts to their rental property as a result of the project.

*Response:* The project will address roadway drainage and appropriate changes will be implemented. The Department has a domestic well replacement program. More information regarding this program can be found at:

<http://www.nh.gov/dot/org/operations/highwaymaintenance/documents/wp.pdf>

The Bureau of Highway Maintenance, Well Section, has been notified of the concern and they will contact the owner about having the well tested for chloride contamination.

The proposed travel way will be essentially in the same location as it is today in front of these residences so noise and safety impacts are not anticipated. Property impacts will be considered during the right-of-way appraisal and acquisition process.

5. Sean Dunne and Heather Dunne, parcel 13, expressed concern with the loss of 2 trees and a landscaped wall in front of their property along the roadway as a result of the proposed project. They feel the trees provide a buffer from traffic noise and shade. They feel the wall helps provide a sense of security and also a growing space for grape vines. They feel their property has historic features that should be considered.

*Response:* The impacts of the project on property adjacent to the roadway will be considered during the right-of-way appraisal and acquisition process. The layout has been reevaluated and it is not possible to avoid the frontage impacts and still provide the minimum roadway shoulders and edge drainage. It is not anticipated that roadway noise levels will increase at this property as a result of the project. Studies have shown that dense vegetation is needed to reduce roadway noise, thus the removal of 2 trees will not impact noise levels. The State Historic Preservation Office has reviewed the historic significance of this property and noted in the determination of eligibility that, ". . . the property is not eligible for listing in the National Register of Historic Places. Its associations as an example of a small 19<sup>th</sup> century farm are diminished by the loss of agricultural outbuildings and significant alterations to the main house."

6. A. Martin Granville, parcel 14, expressed concern with roadway drainage running onto their property causing erosion and also potential well contamination. He is concerned with the roadway moving closer to the house and the impact it will have on traffic noise and property value. There is also concern the project will impact the large spruce tree in front of the house. He asked if more land would be acquired with other future 10-year plan projects.

*Response:* The project will address roadway drainage and appropriate changes will be implemented. The Department has a domestic well replacement program. More information regarding this program can be found at:

<http://www.nh.gov/dot/org/operations/highwaymaintenance/documents/wp.pdf>

The Bureau of Highway Maintenance, Well Section, has been notified of the concern and they will contact the owner about having the well tested for chloride contamination.

The change in alignment in the vicinity of this property is not substantial enough to result in a noticeable change in roadway noise. The current proposed layout does avoid impacting the spruce tree of concern. Property impacts will be considered during the right-of-way appraisal and acquisition process.

This Barnstead, 14121E project was broken out of a larger overall NH 28, Barnstead-Alton, corridor project. Any future work associated with the overall Barnstead-Alton project would not require additional land acquisition from this property. Once these proposed improvements are completed for this current project, it is very unlikely that another project requiring property acquisition will occur for many years in this area.

7. Dick Ingram, parcel 33, suggested a traffic light be installed and speed limits enforced.

*Response:* Current and projected traffic volumes do not warrant the installation of traffic signals at this NH 28/Peacham Road/White Oak Road intersection.

8. Bruce Gray and Dave Corbett, suggested the NH 28/North Barnstead Road intersection be fixed.

*Response:* The North Barnstead Road intersection has been noted as an area of concern. Through coordination with the community and regional officials the Peacham Road/ White Oak Road intersection was determined to be the highest priority to address. The Department will continue to pursue intersection improvements along this section of NH 28 as funding permits.

9. Mary Calise, parcel 34, expressed concern about the steepness of the proposed grade of Ripple Road and about drainage along Peacham Road and Ripple Road.

*Response:* Due to the existing grades of Ripple Road and Peacham Road it is difficult to improve the NH 28/Peacham Road intersection without affecting the grade of Ripple Road. The Department has developed a reasonable solution with the proposed layout that balances needed intersection improvements with maintaining existing access and will continue to refine the profiles to lessen the grade if possible.

Drainage along Peacham Road will be addressed with the project. Drainage along Ripple Road will be addressed for the limits of the area impacted by the project.

10. Richard and Janel Burns, parcel 21, expressed concern with the loss of trees and property that they feel help reduce roadway noise. They requested that they be notified of all work around their property.

*Response:* Studies have shown that dense vegetation is needed to reduce roadway noise, thus the removal of the few impacted trees will not impact noise levels. The Department will strive to inform the owner when work on their property is anticipated.

3/19/2013

Date



Christopher D. Clement, Sr.  
Commissioner

N.H. Department of Transportation

NEW HAMPSHIRE DIVISION  
OF  
HISTORICAL RESOURCES

INTEROFFICE MEMORANDUM

TO: NHDOT (Kevin Nyhan, Jill Edelmann, Sheila Charles)  
FROM: NHDHR (Laura Black)  
SUBJECT: Barnstead X-A001(174), 14121E; NH RT 28/Peacham Road/White Oak Road Intersection  
Improvements; 3109; Draft CE/Section 4(f) Report  
DATE: November 20, 2012  
CC: FHWA-NH (Jamie Sikora); NPS (Missy Morrison)

Thank you for the opportunity to provide comments to the abovementioned report. The NHDHR has two main comments.

First, the NHDHR noted the same “Flattening the NH Route 28 Curve” alternative is used in the Section 4(f) analysis of Avoidance Alternatives *and* in the Least Overall Harm Analysis. This appears problematic according to the most recent FHWA’s Section 4(f) Policy Paper (FHWA July 20, 2012), which states on p. 15 that “If the analysis described in the preceding section [Feasible and Prudent Avoidance Alternatives] concludes that there is no feasible and prudent avoidance alternative, then FHWA may approve, *from among the remaining alternatives* that use Section 4(f) property, only the alternative that causes the least overall harm in light of the statute’s preservation purpose” [italics added]. The Flattening the NH Route 28 Curve alternative, an avoidance alternative, is presumably eliminated in the project report as not feasible and prudent. Nevertheless, it is carried over into the next section, the Least Overall Harm Analysis. As this previously eliminated alternative is the only alternative analyzed against the Proposed Action under the Least Overall Harm Analysis, the Section 4(f) evaluation appears to lack validity. A number of alterations to the engineering were investigated and considered during the course of the Section 106 process; one or all of these may be more appropriate for the Overall Harm Analysis section.

Second, as noted in the NHDHR’s comments to the draft Determination of Effect memo, it’s important that the mitigation completed for this project result in “something” rather than just a research effort by DOT to explore possibilities (NHDHR comments submitted to NHDOT and FHWA August 3, 2012). As a response to that comment, NHDOT noted that the language committing DOT to “work with the Town of Barnstead to discuss possible measures to mitigate . . .” would be followed by specific, final mitigation measures stipulated in the project’s Memorandum of Agreement under Section 106. To date, the final mitigation measures have not yet been discussed or agreed to by the NHDHR, NHDOT, and FHWA.

Despite this, the original language referring to efforts by NHDOT to “work with the Town of Barnstead to discuss possible measures to mitigate . . .” has been included in the Section 4(f) evaluation as a “measure to mitigate for the proposed impacts” of the project (p. 18). Further, the report implies that this measure, as written, has been evaluated and judged to be adequate and reasonable during coordination meetings between NHDHR, NHDOT, and FHWA.

As stated before, the NHDHR is not in agreement that NHDOT's exploration of mitigation possibilities with the Town is adequate mitigation for Adverse Effects to the National Register-eligible White Oak School under Section 106, nor is it an adequate measure to minimize harm under Section 4(f).

It is our understanding that the Town of Barnstead (and related historical organizations) is interested in participating in the discussion to determine appropriate mitigation measures, and the NHDHR looks forward to working with NHDOT, FHWA, and the Town.. Subsequently, measures to minimize harm and mitigation measures would be drafted specifying a definitive commitment of what will be done rather than research to see what could be done.

If the timeliness of the public comment on mitigation measures becomes problematic for the project's schedule, the division would be glad to revisit this discussion to see whether another process may work better.

Thank you again for the opportunity to comment on this draft report. Please feel free to contact the division if you have any further questions.



## United States Department of the Interior

OFFICE OF THE SECRETARY  
Office of Environmental Policy and Compliance  
408 Atlantic Avenue – Room 142  
Boston, Massachusetts 02110-3334



November 14, 2012

9043.1  
ER 12/730

Jamison S. Sikora  
Environmental Programs Manager  
U.S. Department of Transportation  
Federal Highway Administration, New Hampshire Division  
53 Pleasant Street, Suite 2200  
Concord, NH 03301

Dear Mr. Sikora:

The U.S. Department of the Interior (Department) has reviewed the **Draft Categorical Exclusion and Draft Section 4(f) Evaluation for the New Hampshire Route 28, Peacham Road, White Oak Road Intersection Roadway Improvements in Barnstead, New Hampshire**. The Department offers the following comments for your consideration.

### **Section 4(f) Evaluation Comments**

The Department concurs that there is no prudent and feasible alternative to the proposed use of 4(f) lands, which consist of the Chelsey-Aiken House and the White Oak School. These properties are listed on the National Register of Historic Places. We note that the New Hampshire Department of Transportation (NH DOT) has stipulated in the Adverse Effect Memorandum included in the Section 4f documentation (Reference # Barnstead X-A001 174 14121E) that the project will have an adverse effect on the White Oak School and the NH SHPO has concurred with this finding. We note that this same memo states that a Memorandum of Agreement (MOA) will be developed that stipulates final mitigation measures to minimize harm to historic properties. The MOA should be developed in consultation with the NH SHPO and concurred with, as appropriate, by the Advisory Council on Historic Preservation (ACHP). Continued consultation with NH SHPO throughout the project is necessary.

We recommend that a signed copy of the MOA be included in the final documentation for this project to reflect the procedures for protecting cultural resources. Documentation of mitigation actions developed for cultural resources within the APE in coordination with local agencies and organizations should also be included in the record.

Exhibit P

Thank you for the opportunity to review and comment on this project. Should you have questions about the Section 4(f) Evaluation comments, please contact Missy Morrison, National Park Service, at (215) 597-7067. Please contact me at (617) 223-8565 if I can be of further assistance.

Sincerely,



Andrew L. Raddant  
Regional Environmental Officer

cc: SHPO-NH ([elizabeth.muzzey@dcr.nh.gov](mailto:elizabeth.muzzey@dcr.nh.gov))

RECEIVED  
JAN 07 2014

BARNSTEAD  
X-A001(174)  
14121E  
Page 1 of 4

**MEMORANDUM OF AGREEMENT**

**AMONG NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION,**

**FEDERAL HIGHWAY ADMINISTRATION,**

**and the**

**NEW HAMPSHIRE STATE HISTORIC PRESERVATION OFFICER**

**Regarding the BARNSTEAD, X-A001(174), 14121E project with plans to improve the intersection at NH Route 28 (also known as Suncook Valley Road), White Oak Road and Peacham Road.**

**WHEREAS**, the Federal Highway Administration (FHWA) plans to fund the New Hampshire Department of Transportation (NHDOT) to improve the intersection of NH Route 28 at White Oak Road and Peacham Road in the town of Barnstead, New Hampshire; and

**WHEREAS**, the undertaking consists of re-aligning NH Route 28 to improve intersection safety. Project impacts include the following:

- NH Route 28 will be shifted to the east to soften the curve at the intersection.
- White Oak Road will be raised to meet the new grade of NH Route 28, which will be raised in that vicinity.
- Pavement upgrades will begin approximately 3,400 feet south of Peacham Road on NH Route 28 and continue north approximately 4,300 feet. Improvements also extend approximately 900 feet west along White Oak Road and 750 feet east on Peacham Road.
- Drainage will be improved throughout the entire area; a new culvert pipe will be installed under White Oak Road that may impact the stone wall at 5 Yield Road.
- Tree clearing will occur at 1089 Suncook Valley Road to provide appropriate sightline distance; and

**WHEREAS**, FHWA has determined that the undertaking will have an adverse effect on the former White Oak School house, 5 Yield Road, which is eligible for listing in the National Register of Historic Places, and has consulted with the NHDOT and the New Hampshire State Historic Preservation Officer (SHPO) pursuant to 36 C.F.R. part 800, of the regulations implementing Section 106 of the National Historic Preservation Act (16 U.S.C. § 470f); and

**WHEREAS**, NHDOT has reached out to the Town and other interested groups at the Public Informational Meeting and the Public Hearing to seek Consulting Party status; no Consulting Parties have been identified; and

**WHEREAS**, NHDOT has reached out to various Town officials and historical society representatives for input on proposed mitigation; no requests for involvement were received; and

**WHEREAS**, in accordance with 36 C.F.R. § 800.6(a)(1), FHWA has notified the Advisory Council on Historic Preservation (ACHP) of its adverse effect determination with specified documentation and the ACHP has chosen not to participate in the consultation pursuant to 36 CFR § 800.6(a)(1)(iii).

**NOW, THEREFORE**, FHWA, NHDOT and the SHPO agree that the undertaking shall be implemented in accordance with the following stipulations in order to take into account the effect of the undertaking on historic properties.

### **STIPULATIONS**

FHWA/NHDOT shall ensure that the following measures are carried out:

1. NHDOT commits to limit impacts to the stone walls located on 5 Yield Road, adjacent to Yield Road and 1089 Suncook Valley Road by working with the property owners and re-setting walls in accordance with the NHDOT Stone Wall Policy.
2. NHDOT commits to working with the property owner located at 5 Yield Road on the design of the new complimentary/compatible retaining wall to be located on the north side of the property, adjacent to White Oak Road.
3. Tree clearing will be minimized as much as possible at 1089 Suncook Valley Road, with the intent of maintaining a tree line between the roadway and the backyard.
4. NHDOT will develop an abbreviated annotated bibliography to provide future researchers in Barnstead information on researching the school houses located within Barnstead.
5. NHDOT commits to completing all necessary phases of archaeology. Should an eligible National Register of Historic Places site be identified and impacted as part of this project, the MOA will be revised to include any potential mitigation that may be needed.
6. An archaeological monitor will be present when construction occurs within 25' of the Chesley Family Cemetery and the White Oak Road cemetery. The 36 CFR 800 qualified archaeologist will be contacted at least two weeks prior to any construction activities at these locations, in order to accommodate schedules.

#### **I. DURATION**

This MOA will expire if its terms are not carried out within five (5) years from the date of its execution. Prior to such time, FHWA may consult with the other signatories to reconsider the terms of the MOA and amend it in accordance with Stipulation V below.

## II. MONITORING AND REPORTING

Each year following the execution of this MOA until it expires, is terminated or stipulations completed, NHDOT shall provide all parties to this MOA a summary report detailing work undertaken pursuant to its terms. Such report shall include any scheduling changes proposed, any problems encountered, and any disputes and objections received in FHWA's efforts to carry out the terms of this MOA.

## III. DISPUTE RESOLUTION

Should any signatory to this MOA object at any time to any actions proposed or the manner in which the terms of this MOA are implemented, FHWA shall consult with such party to resolve the objection. If the FHWA determines that such objection cannot be resolved, FHWA will:

- A. Forward all documentation relevant to the dispute, including FHWA's proposed resolution, to the ACHP. The ACHP shall provide FHWA with its advice on the resolution of the objection within thirty (30) days of receiving adequate documentation. Prior to reaching a final decision on the dispute, FHWA shall prepare a written response that takes into account any timely advice or comments regarding the dispute from the ACHP, signatories and concurring parties, and provide them with a copy of this written response. FHWA will then proceed according to its final decision.
- B. If the ACHP does not provide its advice regarding the dispute within the thirty (30) day time period, FHWA may make a final decision on the dispute and proceed accordingly. Prior to reaching such a final decision, FHWA shall prepare a written response that takes into account any timely comments regarding the dispute from the signatories and concurring parties to the MOA, and provide them and the ACHP with a copy of such written response.
- C. FHWA's responsibility to carry out all other actions subject to the terms of this MOA that are not the subject of the dispute remain unchanged.

## IV. AMENDMENTS

This MOA may be amended when such an amendment is agreed to in writing by all signatories. The amendment will be effective on the date a copy signed by all of the signatories is filed with the ACHP.

V. TERMINATION

If any signatory to this MOA determines that its terms will not or cannot be carried out, that party shall immediately consult with the other parties to attempt to develop an amendment per Stipulation VIII, above. If within thirty (30) days (or another time period agreed to by all signatories) an amendment cannot be reached, any signatory may terminate the MOA upon written notification to the other signatories.

Once the MOA is terminated, and prior to work continuing on the undertaking, FHWA must either (a) execute an MOA pursuant to 36 CFR § 800.6 or (b) request, take into account, and respond to the comments of the ACHP under 36 CFR § 800.7. FHWA shall notify the signatories as to the course of action it will pursue.

Execution of this MOA by FHWA, NHDOT and SHPO and implementation of its terms evidence that FHWA has taken into account the effects of this undertaking on historic properties and afforded the ACHP an opportunity to comment.

SIGNATORIES:

FEDERAL HIGHWAY ADMINISTRATION

By:  Date: 01/16/2014  
for Patrick A. Bauer  
NH Division Administrator

NEW HAMPSHIRE DIVISION OF HISTORICAL RESOURCES

By:  DSHPO Date: 1-9-14  
for Elizabeth H. Muzzey  
State Historic Preservation Officer

NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION

By:  Date: 1/14/14  
William J. Cass  
Director of Project Development