

**NOTICE OFFERING PUBLIC HEARING
ON HIGHWAY PASSING LANE IMPROVEMENT**

Newton Co. Line – South (Passing Lane)
Highway 7
AHTD Job 080464
Pope County

The Arkansas State Highway and Transportation Department is planning to add a passing lane to Highway 7 south of the Newton County Line in Pope County. The passing lane will be northbound and one mile in length.

Plans showing the project location and design features along with information related to the environmental study are available for public inspection at the Arkansas State Highway and Transportation Department's District Engineer office, District 8 Headquarters, 372 Aspen Lane, Russellville, AR. The environmental assessment document will be available for public review at www.arkansashighways.com.

Any interested citizen in the vicinity of the route may request that a public hearing be held regarding this proposed project and the economic effect of the construction by submitting a written request to the Arkansas State Highway and Transportation Department District 8 Headquarters, P.O. Box 70, Russellville, Arkansas 72811-0070 or e-mail written request to environmentalmeetings@ahtd.ar.gov on or before Friday, June 6, 2014.

In the event requests are received, a notice of the date, time, and place of any public hearing to be held will be published and advertised in the local media.

ENVIRONMENTAL ASSESSMENT

AHTD JOB NUMBER 080464

FAP NUMBER STP-0058(40)

Newton Co. Line – South (Passing Lane) (Ph. II)

Pope County

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

by the

U.S. Department of Transportation - Federal Highway Administration

and the


Arkansas State Highway and Transportation Department

Cooperating Agency

U.S. Department of Agriculture - National Forest Service

May 2014

May 8, 2014
Date of Approval



Randal Looney
Environmental Specialist
Federal Highway Administration

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PROJECT DESCRIPTION

In conjunction with the Federal Highway Administration (FHWA) and the U.S. National Forest Service (USFS), the Arkansas State Highway and Transportation Department (AHTD) is proposing a project to add a northbound passing lane along Highway 7 in Pope County. Two alternatives are under consideration, which include the No Action Alternative and a Build Alternative. The project study area is shown in Figure 1. The FHWA is a co-lead agency providing funding for the proposed improvements, while the USFS is a cooperating agency because the land required for proposed right of way lies within the Ozark-St. Francis National Forest.

PURPOSE AND NEED

Purpose of the Proposed Project

The AHTD is proposing improvements to approximately 1.2 miles of Highway 7 south of the Newton County line. The purpose of the proposed project is to provide passing opportunities for passenger vehicles to avoid delays.

Needs Analysis

Highway 7 provides a continuous north-south route from the Louisiana border near El Dorado, Arkansas to Harrison, Arkansas. In addition to it being its own tourist destination as a State Scenic Byway, the route connects other important tourist destinations including National and State Parks, a National River, and National Forests. A large number of heavy trucks and recreational vehicles use Highway 7 for its connectivity and recreational opportunities.

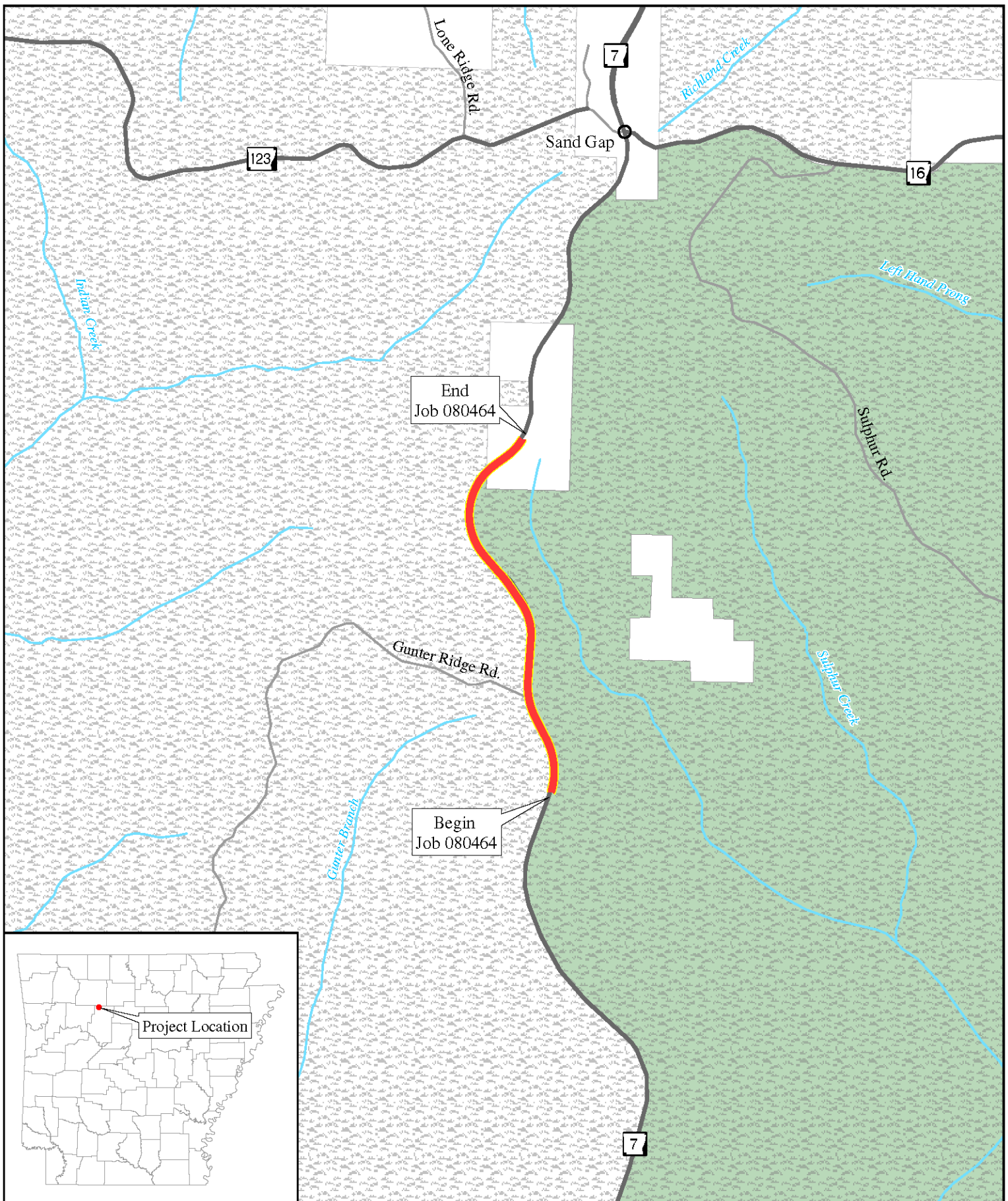




Figure 1
Project Location

-  Ozark National Forest
-  Pedestal Rocks IRA

N

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Feet

Job 080464
February 25, 2013
AHTD Environmental GIS - Dudley

Existing Conditions

In the project area, Highway 7 consists primarily of two 10-foot wide travel lanes with 3-foot wide shoulders. The terrain along the route is rolling to mountainous with numerous curves and is signed as “Crooked and Steep” in the project area. Many curves require vehicles to reduce their speed to below the posted speed limit of 55 mph. The speed of large vehicles, such as heavy trucks and recreational vehicles, is also typically reduced due to the steep uphill grades. There are currently very few opportunities for passenger vehicles to pass these slower-moving vehicles.

Operational Analysis

In 2013, the average daily traffic on Highway 7 in the study area was approximately 1,000 vehicles per day (vpd), with approximately 14% of this volume consisting of truck traffic. Future (2033) traffic on Highway 7 in the study area is forecasted to be approximately 1,200 vpd.

The level of service (LOS) has been calculated for Highway 7 in the project area. See Appendix A for a description of each LOS. The 2013 LOS is D, and will continue to operate at LOS D over the 20-year study period if no improvements are made. Because LOS D is considered unacceptable for this type of facility, there is a need to provide improvements to accommodate the current and projected traffic through the study period.

Safety Analysis

The relative safety of a route can be determined by comparing the route’s crash rate, the number of crashes per million vehicle miles (mvm) traveled, to a statewide crash rate for similar routes. Crash data for 2009, 2010 and 2011 (the three most recent years for which data are available) were analyzed to determine crash rates for each of the three years on Highway 7 through the study area (Table 1). During two of the three years analyzed, the crash rates on Highway 7 were determined to be much higher than the statewide average crash rates for similar facilities.

Based on an analysis of the crash records, 21 of the 24 crashes (88%) reported from 2009 through 2011 were single-vehicle crashes. The steep grades, sharp curves, and lack of

shoulders with widths meeting current design standards along this two-lane section of Highway 7 have contributed to the high percentage of single-vehicle crashes. These roadway geometric deficiencies should be corrected to improve safety on highways with a high percentage of single-vehicle crashes. The Highway Safety Manual (2010) indicates that adding a passing or climbing lane would provide a 25% reduction in crash rates for all crash types and severities on rural two-lane highways.

Type of Roadway	Year	Number of Crashes	Average ADT	Crash Rates (per mvm*)	Statewide Average Crash Rates (per mvm*)
Rural two-lane, undivided	2009	6	1,100	0.79	0.81
	2010	9	880	1.48	1.01
	2011	9	650	2.01	0.99

*million vehicle miles

Highway 7 Corridor Study

A 2005 study of the Highway 7 corridor from Arkadelphia to Harrison identified problem areas and recommended safety and operational improvements. The proposed passing lane was first identified in this planning study, along with other passing lane, safety improvement, and new location projects. Figure 2 shows the location of AHTD projects on Highway 7 from Interstate 40 to Harrison that have been programmed, are under construction, or were completed within the past 10 years. Table 2 lists these projects with additional information.

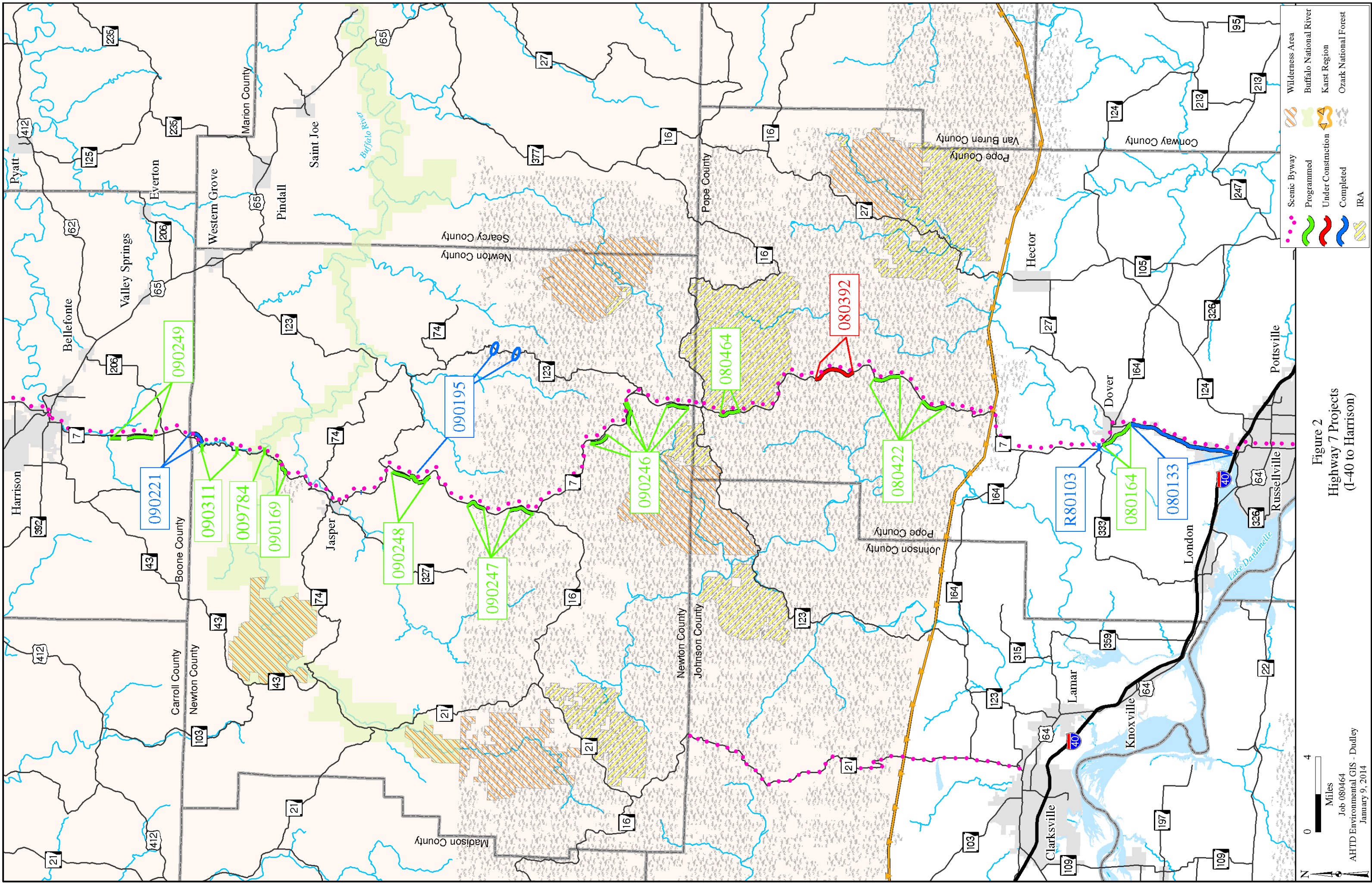


Figure 2
 Highway 7 Projects
 (I-40 to Harrison)

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Table 2
Highway 7 Projects (I-40 to Harrison)

Job Number	Project Name	Type of Project	County	Job Status
080133	I-40 – Dover	Widening	Pope	Completed
080164	Hwy. 7 Improvements (Dover)	New Location	Pope	Programmed
R80103	Illinois Bayou Str. & Apprs.	Bridge Replacement	Pope	Completed
080422	Dover – North (Passing Lanes)	Two Passing Lanes	Pope	Programmed
080392	Newton Co. Line – South (Passing Lane)	One Passing Lane	Pope	Under Construction
080464	Newton Co. Line – South (Passing Lane) (Ph. II)	One Passing Lane	Pope	Programmed
090246	Lurton – North & South (Passing Lanes)	Three Passing Lanes	Newton	Programmed
090247	Cross Roads – North & South (Passing Lanes)	Two Passing Lanes	Newton	Programmed
090248	Hwy. 374 – North & South (Passing Lanes)	Two Passing Lanes	Newton	Programmed
090195	District 9 FFY Flood Slide Repairs	Slide Repairs	Newton	Completed
090169	Jasper – Co. Rd. 46 (Passing Lanes)	Two Passing Lanes	Newton	Programmed
009784	Buffalo River Br. & Apprs. (Pruitt)	Bridge Replacement	Newton	Programmed
090311	Harp & Mill Creek Strs. & Apprs.	Two Bridge Replacements	Newton	Programmed
090249	Buffalo River – Harrison (Passing Lanes)	Two Passing Lanes	Newton Boone	Programmed
090221	Mill Cr. – Hwy. 7S Safety Impvts. (Hwy. 7) (Marble Falls)	Safety Improvements	Newton	Completed

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ALTERNATIVES

Two alternatives, the No Action Alternative and Build Alternative, were considered for this project. Non-traditional highway improvement alternatives (public transit, pedestrian facilities, bike lanes, etc.) were not evaluated as they would not meet the purpose and need for this project and do not adequately address the identified traffic delays in this setting.

No Action Alternative

The No Action Alternative would provide only routine maintenance for Highway 7. By taking no action other than routine maintenance, the No Action Alternative would not address the existing and forecasted unacceptable levels of traffic operation within this highway corridor. With the No Action Alternative, the LOS would remain at D throughout the 20-year study period, an unacceptable LOS for this type of facility.

Build Alternative

To address traffic delays and safety hazards, improvements to existing Highway 7 would include the addition of a northbound passing lane along the existing alignment from approximately 2.2 miles south of Highway 16, extending north for approximately 1.2 miles. The cross section of Highway 7 would also be updated within the project limits. The improved typical section would consist of three 12-foot wide travel lanes, a 6-foot wide shoulder on the passing lane side, and an 8-foot wide shoulder on the opposite side, as shown in Figure 3. The Build Alternative would maintain LOS C throughout the 20-year study period. Total cost of the Build Alternative is estimated at \$2.74 million (2013 dollars).

The addition of a passing lane would not alter traffic volumes and/or the composition of traffic using the highway, and would allow traffic to continue traveling at speed. Passing lanes encourage through traffic and do not lead to more development in an area.

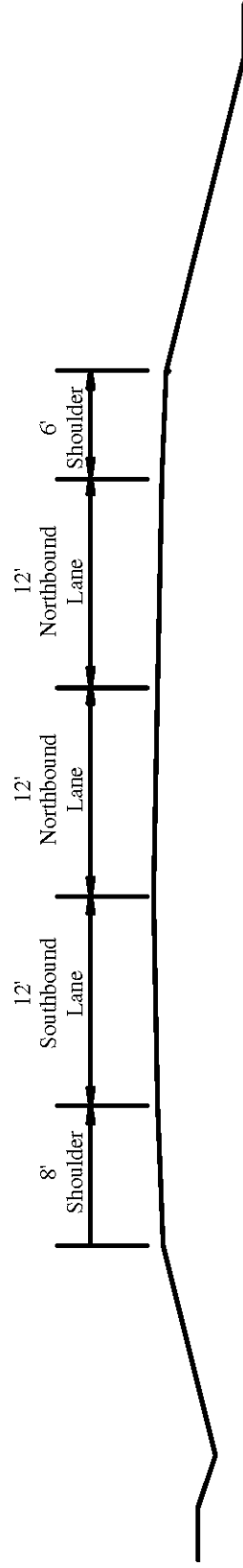


Figure 3
Build Alternative Typical Section

IMPACT ASSESSMENT

This section presents information related to the potential environmental consequences and mitigation options within the project area for both alternatives.

Relocations

Relocations occur when residential, business, or non-profit properties fall within the established right of way limits for a proposed project. Neither the Build Alternative nor the No Action Alternative would result in relocations.

Environmental Justice Impacts and Title VI Compliance

This proposed project is in compliance with Title VI and Executive Order 12898. The AHTD public involvement process did not exclude any individuals due to income, race, color, religion, national origin, sex, age, or disability. By using the 2010 U.S. Census Data, the Health and Human Services Poverty Guidelines (Federal Register, January 2011), and making field observations, the determination was made that the proposed project will not have any disproportionate or adverse impacts on minority, low-income, elderly, or disabled populations.

Social Environment

Neither alternative is likely to have substantial social or community impacts due to the area largely being comprised of USFS lands.

Public Land

Section 4(f) of the U.S. Department of Transportation Act of 1966 prohibits the use of publicly owned parks, national wildlife and refuge areas, and significant historic sites unless it can be shown that: 1) There is no prudent and feasible alternative that meets the project's purpose and need that would avoid use of the land; 2) All possible planning to minimize harm to the property has been examined; and 3) A mitigation plan can be developed to compensate for the direct and indirect impacts. Impacts to the Ozark-St. Francis National Forest and the Pedestal Rocks IRA are discussed below. They are not considered Section 4(f) resources as they are both function as multiple-use

public land holdings under Section 4(f) policy. There are no Section 4(f) properties impacted by either alternative.

Ozark-St. Francis National Forest

The Ozark-St. Francis National Forest was established in 1908 as the Ozark National Forest (now managed jointly with the St. Francis National Forest) and covers 1.2 million acres in the state of Arkansas. Approximately 6.9 acres of Ozark-St. Francis National Forest land would be required for additional permanent right of way for the Build Alternative. None of the USFS recreational facilities would be impacted. The No Action Alternative would not involve Ozark-St. Francis National Forest lands.

Pedestal Rocks Inventoried Roadless Area

Inventoried Roadless Areas (IRAs) are areas within USFS lands, without existing roads, that could be suitable for roadless area conservation. Pedestal Rocks IRA is located on the east side of Highway 7 along most of the proposed project. Approximately 3.0 acres of the proposed right of way that would be acquired from the USFS for the Build Alternative are within the Pedestal Rocks IRA. Figure 1 shows the location of the Ozark-St. Francis National Forest and Pedestal Rocks IRA within the project area. The Roadless Area Conservation Rule allows for road construction to improve road safety concerns (36 CFR 294.12(b)(5)). The No Action Alternative would not impact any IRAs.

Cumulative Impacts

Five AHTD passing lane projects are programmed or under construction on Highway 7 in the Ozark-St. Francis National Forest (see Table 2 and Figure 2). A total of nine passing lanes are proposed for these five projects. The right of way acquisition for each is anticipated at less than ten acres per passing lane, with all of the passing lanes likely involving a mix of private and USFS land. If a maximum expected acquisition of ten acres is assumed for all nine passing lanes and solely from USFS lands, the 90 acres of proposed right of way is still a negligible (0.0075%) amount of the 1.2 million acres comprising the Ozark-St. Francis National Forest. The subject project is the only AHTD project impacting the Pedestal Rocks Inventoried Roadless Area. The No Action Alternative would not contribute to cumulative impacts on public lands.

Wetlands, Streams and Floodplains

Impacts to water resources such as wetlands, streams, and floodplains can affect the human and natural environment and require permits from federal and state agencies.

Wetlands

Wetlands are areas typically inundated or saturated by surface or groundwater to the extent that they can support vegetation adapted for life in wet soil conditions. According to Section 404 of the Clean Water Act, to be deemed “waters of the United States,” a water body must contain a defined ordinary high watermark, including adjacent wetlands. A field review of the project area found no wetlands impacted by either alternative.

Streams

Streams are bodies of water that flow confined within a bed or a stream bank. They may be either perennial (flowing continuously all year), intermittent (ceases to flow periodically), or ephemeral (flowing only during and immediately after precipitation). The No Action Alternative would not impact any streams.

A total of 13 small headwater streams would be affected by the Build Alternative. Eleven of the streams are classified as ephemeral streams and two are classified as intermittent streams. Most of the ephemeral streams have their beginning at the existing highway while the intermittent streams receive some of their flow as surface runoff from the west hillside of Highway 7. The existing culverts at each of the stream crossings will be retained and extended. Impacts at each of the stream crossings will be less than 0.1 acre. Construction of this project should be allowed under terms of a Section 404 Nationwide Permit Number 14 for Linear Transportation Crossings as defined in the Federal Register 77(34):10184-10290. Examples of a typical ephemeral stream and a typical intermittent stream within the project area are shown on Figures 4 and 5.



Figure 4: Typical Ephemeral Stream



Figure 5: Typical Intermittent Stream

Floodplains

A floodplain is flat or nearly flat land adjacent to a stream or river that experiences occasional or periodic flooding. It includes the floodway, which consists of the stream channel and adjacent areas that carry flood flows, as well as those areas that hold standing floodwaters. A special flood hazard area is the area covered by a flood that has a 1% chance of occurring (or being exceeded) each year, also known as a 100-year flood.

The proposed project was reviewed to identify any encroachments into areas of special flood hazard as shown on the communities Flood Insurance Rate Maps issued by the Federal Emergency Management Agency (FEMA). No special flood hazard areas were identified within the project area; therefore, no direct, indirect, or cumulative impacts to floodplains are expected as a result of this project.

Cumulative Effects

Due to the limited availability of project design details for the projects shown on Figure 2, an estimate of the number of wetland, stream and floodplain crossings was used for the cumulative effects analysis. The estimate was made based on field observations of the proposed locations and GIS datasets, including the US Geological Survey's National Hydrography Dataset. It is estimated that as many as 16 additional stream crossings and 0.5 acre of wetlands may be impacted by these projects. It is anticipated that those projects will also be permitted under the Nationwide Permit Number 14. Stream, wetland, and floodplain impacts will be minimized during the design phase and the use of proper sediment and erosion control practices will minimize impacts to water quality; therefore, this project, when considered cumulatively with all other proposed highway projects along Highway 7 between I-40 and Harrison, is not expected to significantly impact wetlands, streams, or floodplains.

Threatened and Endangered Species

An endangered species is one that is in danger of extinction throughout all or a significant portion of its range while a threatened species is one that is likely to become endangered in the near future. Candidate species are those that are being considered for listing as a threatened or endangered species.

The U.S. Fish and Wildlife Service (USFWS) lists 20 threatened, endangered, or candidate species as occurring or having the potential to occur in the Ozark-St. Francis National Forest. Eighteen of those species were eliminated from consideration for projects in the Big Piney Ranger District of the Ozark-St. Francis National Forest because 1) they do not occur in the Forest, 2) their known distribution is well outside the counties and/or watersheds that make up the Big Piney Ranger District, or 3) no potential habitat was found within the project area. The proposed project will have "no effect" on those species and their habitats.

A Biological Evaluation (BE) has been prepared and approved and is included in Appendix B. Refer to the BE for the list of species eliminated from consideration as well as detailed species descriptions and effects determinations.

Two endangered species (Gray Bat, Indiana Bat) and one candidate endangered species (Northern Long-eared Bat) were evaluated for direct, site-specific, indirect, and cumulative impacts as a result of the proposed passing lanes project. This evaluation determined that the proposed project “may affect, but is not likely to adversely affect” these species and their habitats. Minimal indirect and cumulative effects to endangered species are anticipated as a result of the proposed project. Detailed descriptions of these species and direct, site-specific, indirect, and cumulative impacts expected as a result of the proposed project can be found in Appendix C, while USFWS clearance can be found in Appendix D.

Water Quality

The project area lies within the Boston Mountains Ecoregion where the primary turbidity standard set by Arkansas Department of Environmental Quality (ADEQ) for streams is 10 Nephelometric Turbidity Units (NTUs) and 25 NTUs for lakes and reservoirs (Regulation 2). Given the existing water quality within the region, additional sediments contributed during construction will likely result in localized, short-term adverse water quality impacts. Temporary exceedances of state water quality standards for turbidity may occur. Other potential sources of water quality impacts include petroleum products from construction equipment, highway pollutants from the operations of the facility, and toxic and hazardous material spills.

The AHTD will comply with all requirements of The Clean Water Act, as amended, for the construction of this project. This includes Section 401; Water Quality Certification, Section 402; National Pollutant Discharge Elimination Permit (NPDES), and Section 404; Permits for Dredged or Fill Material. The NPDES Permit requires the preparation and implementation of a Stormwater Pollution Prevention Plan (SWPPP). The SWPPP will include all specifications and best management practices (BMPs) needed for control of erosion and sedimentation, in addition to the AHTD Standard

Specifications and any USFS Forest Plan standards that apply. This will be prepared when the roadway design work has been completed in order to best integrate the BMPs with the project design. The AHTD Standard Specifications can be found at on the AHTD website at the following location:

www.arkansashighways.com/standard_specifications.aspx

The AHTD Erosion and Sediment Control Manual, which includes NPDES contract provisions and plan information can also be found on the AHTD website at:

<http://www.arkansashighways.com/stormwater/content/E%20SC%20Manual%2004%2030%2009.pdf>

Cumulative Impacts

Minimal indirect and cumulative impacts to water quality are expected as a result of construction-related activities associated with the jobs listed in Table 2. The primary source of these impacts will be from offsite use areas such as borrow pits and waste areas. AHTD policy requires the contractor to locate all offsite use areas, so it is not possible to determine the location or number of these locations in advance. The landowner and contractor must abide by all applicable laws, including The Clean Water Act. These sites could have impacts to water quality until they have stabilized.

Public/Private Water Supplies

The project area is not within a public drinking water system's Wellhead Protection Area. No direct, indirect, or cumulative impacts to public drinking water supplies are anticipated due to this project.

If any permanent impacts to private drinking water sources occur due to this project, the AHTD would take appropriate action to mitigate these impacts. Impacts to private water sources due to contractor neglect or misconduct are the responsibility of the contractor.

Wild and Scenic Rivers

There are no federal or state regulated water bodies impacted by this project that are designated wild or scenic rivers. The project is in the Big Piney Creek Wild and Scenic River watershed. No effects to Big Piney Creek Wild and Scenic River are anticipated

due to the distance from the wild and scenic river and design criteria used to reduce sedimentation.

Hazardous Materials

A hazardous material is any item or chemical that can cause harm to people, plants, or animals when released into the environment. The presence of hazardous materials within the project area was assessed by a drive through survey, visual reconnaissance, and government records. No hazardous materials, landfill sites, leaking underground storage tanks, hazardous areas, or other areas of concern were noted within the project area.

If hazardous materials are identified, observed or accidentally uncovered by any AHTD personnel, contracting company(s) or state regulating agency, it will be the AHTD's responsibility to determine the type, size and extent of contamination. The AHTD will identify the type of contaminant, develop a remediation plan, and coordinate disposal methods to be employed for the particular type of contamination. All remediation work will be conducted in conformance with the Arkansas Department of Environmental Quality, Environmental Protection Agency and Occupational Safety and Health Administration regulations.

Important Farmland

Agriculture activity in the study area consists mainly of pastures utilized for grazing and hay production for livestock. Right of way acquisition for the proposed facility would reduce the amount of land available to the impacted farmers for production.

Important farmland is defined by the U.S. Department of Agriculture as land suited to food, feed, forage, fiber, and oilseed crops. Prime Farmland has the best combination of physical and chemical characteristics for the production of crops, while Farmland of Statewide Importance is land other than Prime Farmland which has a good combination of these characteristics.

The amount of Prime Farmland estimated to be converted to highway right of way for the Build Alternative is approximately 1.2 acres. The Farmland Conversion Impact Rating

form can be found in Appendix E. No Prime Farmland would be impacted by the No Action Alternative.

Cultural Resources

Cultural resources include elements of the built environment (buildings, structures, or objects) or evidence of past human activity (archeological sites). Those that are listed, or eligible for inclusion, in the National Register of Historic Places (NRHP) are defined as historic properties (36 CFR 800.16(l)). Impacts to historic properties are avoided, minimized, or mitigated through a variety of methods that vary depending on the nature of the property. Those that are not eligible for inclusion in the NRHP do not require protection.

Records checks and field observations revealed no previously recorded archeological sites or historic structures eligible for the NRHP that would be impacted by the Build Alternative. A cultural resources survey report was submitted to the Arkansas Historic Preservation Program, who concurred with the recommendation of no further work. Clearance from the State Historic Preservation Officer is found in Appendix F. The No Action Alternative would not impact any cultural resources.

Noise

Sound is measured in a logarithmic unit called a decibel (dB). The human ear is more sensitive to middle and high frequency sounds than it is to low frequency sounds, so sound levels are weighted to more closely reflect human perceptions. These “A-weighted” sounds are measured using the decibel unit dB(A). Because the dB(A) is based on a logarithmic scale, a 10 dB(A) increase in sound level is generally perceived as twice as loud. A 3 dB(A) increase is just barely perceptible to the human ear.

A noise assessment has been conducted for this project using the approved FHWA Traffic Noise Model 2.5 procedures, existing and proposed roadway information, existing traffic data, and the traffic projections for the design year of 2033. This assessment is based on the design year Leq Noise Abatement Criteria (NAC) level of 67 decibels (dBA), which has been established by the FHWA as the impact level for noise receptors

associated with highway projects. This level or any exceedance of this level is considered a noise impact.

These procedures indicate that noise levels are below the FHWA noise criteria beyond the project's proposed right of way limits and no sensitive receptors are currently impacted. Any increases in roadway noise levels will not be the result of the proposed project, but instead a result of traffic volume increases during the planning period (Year 2033). Therefore, any noise level increases will occur independent of this proposed project, and no project related noise impacts are anticipated. In compliance with Federal guidelines, local authorities will not require notification.

Air Quality

Utilizing the Mobile Source Emission Factor Model 5.0a and CALINE 3 dispersion model, air quality analysis was conducted on previous projects for carbon monoxide. These analyses incorporated information relating to traffic volumes, weather conditions, vehicle mix, and any vehicle operating speeds to estimate carbon monoxide levels for the design year.

These computer analyses indicate that carbon monoxide concentrations of less than one part per million (ppm) will be generated in the mixing cell for a project of this type. This computer estimate, when combined with an estimated ambient level of 1.0 ppm, would be less than 2.0 ppm and well below the national standards for carbon monoxide.

This project is located in an area that is designated as in attainment for all transportation pollutants. The conformity procedures of the Clean Air Act, as amended, do not apply.

Natural and Visual Environment

The project is located within the Upper Boston Mountains Ecoregion of the Ozark Mountains. This region consists of a deeply dissected plateau with high ridges and deeply eroded valleys. Little folding and faulting has occurred as the plateau was uplifted as a unit. The land is very rugged due to erosion of the plateau by numerous streams. Local relief is extreme with more level areas occurring at the tops of the ridges

while the valleys below are steep and V-shaped. Elevations range from 2,072 feet above mean sea level (msl) on top of Sollys Knob, west of the proposed project, down to 1,400 feet msl at Indian Creek, one mile west of Highway 7. The elevation of Highway 7 along the proposed project varies from 1,743 feet msl to 1,830 feet msl.

The geologic rock type in the project area consists of Atoka Formation forming the ridge tops with Bloyd Shale and Prairie Gove Member of the Hale Formation exposed below. Soils in the project area are mapped as Nella-Enders-Mountainburg. This soil association consists of soils that are well-drained, gently sloping to very steep, deep and shallow, and loamy soils that are gravelly or stony on hills and mountains.

Water resources consist of headwater tributaries that eventually flow into Lake Dardanelle south of the project area. The existing highway follows along ridges and water drains away from the highway on both sides. West of the highway water drains west then south via Indian Creek to Big Piney Creek, while east of the roadway water drains east then south via Sulphur Creek to Illinois Bayou.

The Ozark-St. Francis National Forest was created in 1908 as the Ozark National Forest. The steepness of the terrain had prevented agricultural development and discouraged settlement so that forest was still widespread. Natural vegetation is oak-hickory and mixed oak-pine. The most common forest type is northern red oak, white oak, and various hickories. Shortleaf pine is common along the forest edge near roadways and other areas where oak-hickory forests have been disturbed. Plant diversity is very rich. A local survey identified 177 species in the project area. The Biological Evaluation detailing the plant species is located in Appendix B.

Secondary impacts to the natural environment may possibly include the inadvertent spread of non-native plant species onto newly disturbed roadside right of way. Potentially invasive species already present in the project area include Japanese stilt grass, sericea lespedeza, and Japanese honeysuckle. Japanese stilt grass is of particular concern to the USFS because it is shade tolerant and can displace natural vegetation under a forest. Tree-of-heaven has the potential to be introduced into the project area by

naturally seeding through bird droppings. The proposed project will involve Special Provisions that require seeding only with native species and the washing of equipment used on the job site to prevent the spread of invasive species.

The quality of the view from the road is high due to the rugged topography and forested slopes. Oak-hickory forest is well known for attractive fall colors. Highway 7 is a State Scenic Byway and a Forest Service Scenic Byway. Users of the road include substantial recreational use by motorcycle cruisers and tourists, some commercial use between Harrison, Jasper, and Russellville, and a small percent of commuter and local traffic. See Figure 6 for a roadway user's typical view on Scenic Highway 7 in the Ozark-St. Francis National Forest. The roadway is a principal north-south route, providing access to the Ozark-St. Francis National Forest, the Buffalo National River, and Lake Dardanelle.

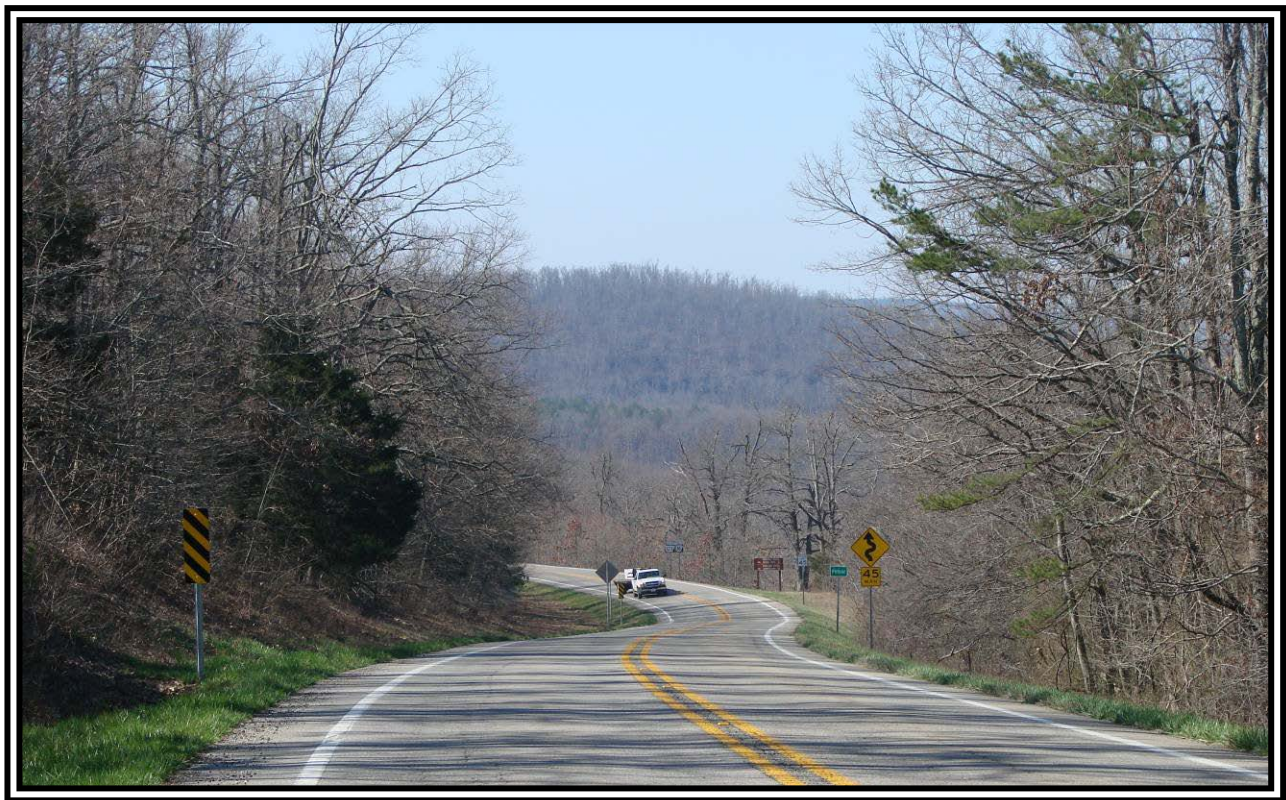


Figure 6: Typical View on Scenic Highway 7

Construction of the proposed project would increase the visual scale of the roadway, creating larger cut slopes. During construction there would be unavoidable but temporary negative visual impacts for users of the road. The No Action Alternative

would not impact the visual landscape of Scenic Highway 7 other than to provide routine highway maintenance.

Cumulative Impacts

The 15 AHTD projects programmed, under construction, or completed within the past 10 years between I-40 and Harrison (see Table 2 and Figure 2), as well as USFS land management plans on the west side of Highway 7, were considered in assessing cumulative impacts to the visual environment. The Pedestal Rocks IRA is located on the east side of Highway 7.

The USFS High Mountain Project, which contains the management plans for the USFS land immediately west of Highway 7, indicates that the majority of the land along Highway 7 is to be managed as a scenic highway corridor due to what the USFS has identified as scenery with extremely high public value. The USFS uses site-specific project designs to help meet the management directions of the Forest Plan Scenic Integrity Objects, minimizing the impacts associated with the vegetative treatments proposed in USFS projects.

The AHTD has proposed the addition of 15 passing lanes (including the subject job and another currently under construction), a new location congestion relief route around the city of Dover, and two bridge replacement projects. Recently completed projects include widening between I-40 and Dover, slide repairs, safety improvements, and a bridge replacement. All of these jobs involve clearing of vegetation along the existing highway. In most cases, some additional right of way was cleared of vegetation.

While these USFS and AHTD projects do impact the visual environment on Scenic Highway 7, the majority of negative impacts are expected to be temporary during construction. As each growing season passes, the vertical and horizontal contrast will lessen, with the visual quality benefitted by projects that involve clearing (passing lanes) and new location routes (Dover) that open new landscape views of the Ozark Highlands.

The No Action Alternative would not contribute to the cumulative impacts on the visual landscape of Scenic Highway 7 other than to provide routine highway maintenance.

Land Use/Land Cover

Land use in the Ozark-St. Francis National Forest combines forest management and recreation. Along the highway there is some residential use. The direct impact of the project on land use and land cover would be the conversion of approximately 6.9 acres of USFS land and 1.5 acres of private residential land to highway right of way. The cumulative impact of the nine AHTD passing lanes considered along Highway 7 in the Ozark-St. Francis National Forest (see Table 2 and Figure 2) is expected to involve the conversion of no more than 90 total acres of land converted to transportation use, likely a mix of USFS land and private residential land.

COMMENTS AND COORDINATION

The AHTD and the USFS provided the opportunity for early public input into the development of the proposed project through the scoping process. The scoping letters sent to property owners and other interested parties are located in Appendix G. No comments were received.

The USFS and USFWS were provided the draft EA for review. USFWS comments and the AHTD responses are included in Appendix H.

COMMITMENTS

The AHTD's standard commitments associated with hazardous waste abatement, adjoining USFS lands, and control of water quality impacts have been made in association with this project. They are as follows:

- If hazardous materials, unknown illegal dumps or underground storage tanks are identified or accidentally uncovered by AHTD personnel or its contractors, the AHTD will determine the type, size, and extent of the contamination according to the AHTD's response protocol. The AHTD, in cooperation with the ADEQ, will determine the remediation and disposal methods to be employed for that particular type of contamination. The proposed project will be in compliance with local, state, and Federal laws and regulations.
- The AHTD will comply with all requirements of the Clean Water Act, as amended, for the construction of this project. This includes Section 401, Water Quality Certification; Section 402, NPDES; and Section 404, Permit for Dredged or Fill Material.
- If any permanent impacts to private drinking water sources occur due to this project, the AHTD will take appropriate action to mitigate these impacts.
- A special seeding provision will be used that utilizes native grasses and wildflowers and reduces the introduction of non-native species.
- Prior to moving equipment onto USFS land, the contractor will clean the equipment of seeds, soil, vegetative matter, and other debris that could contain seeds.
- Clearing of vegetation at cut areas will be limited to only that which is necessary for the steepest possible slope unless it is determined from subsurface investigation that a longer slope will be necessary.

RECOMMENDATIONS

The Build Alternative has been identified as the Preferred Alternative. The environmental analysis of the Build Alternative did not identify any significant direct, indirect, or cumulative impacts to the natural and social environment. While minor environmental impacts, such as those to the visual environment of Scenic Highway 7, the Ozark-St. Francis National Forest and the Pedestal Rocks IRA, would be avoided by selecting the No Action Alternative, this alternative does not address the vehicle delays which are forecasted to worsen over the course of the study period. Table 3 shows a comparison of the alternative information, impacts, and costs.

After the Environmental Assessment (EA) is signed and approved for public dissemination, a Location and Design Public Hearing will be offered. Any comments received will be included and considered in evaluating if a Finding of No Significant Impact (FONSI) is appropriate. The FONSI would identify a Selected Alternative and its approval would conclude the NEPA process.

The USFS, as a cooperating agency, will review the approved EA and issue their concurrence for impacts to USFS lands and the Pedestal Rocks IRA. Their comments and concurrence would be included with the FONSI.

**Table 3
Alternatives Comparison**

Alternative	Length (miles)	Total Cost (millions) (\$2013)	Relocations	Total ROW (acres)	USFS (acres)	IRA (acres)	Wetlands (acres)	Stream Crossings	Floodplains (feet)	Prime Farmland (acres)	Noise Receptors	Cultural Resources
No Action	1.2	0	0	0	0	0	0	0	0	0	0	0
Build	1.2	2.74	0	8.4	6.9	3.0	0	13	0	1.2	0	0

APPENDIX A

Level of Service Descriptions

Two-Lane Highway

LOS A - At LOS A, motorists experience high operating speeds and little difficulty in passing. A small amount of platooning would be expected. Drivers should be able to maintain operating speeds close or equal to the free-flow speed (FFS) of the facility.

LOS B - At LOS B, passing demand and passing capacity are balanced. Platooning becomes noticeable. It becomes difficult to maintain FFS operation, but the speed reduction is still relatively small.

LOS C - At LOS C, most vehicles are traveling in platoons. Speeds are noticeably reduced on all three classes of highway.

LOS D - At LOS D, platooning increases significantly. Passing demand is high but passing capacity approaches zero. A high percentage of vehicles are now traveling in platoons, and percent time-spent-following (PTSF) is quite noticeable. The fall-off from FFS is now significant.

LOS E - At LOS E, demand is approaching capacity. Passing is virtually impossible, and PTSF is more than 80%. Speeds are seriously reduced. Speed is less than two-thirds the FFS. The lower limit of this LOS represents capacity.

LOS F - LOS F exists whenever demand flow in one or both directions exceeds the capacity of the segment. Operating conditions are unstable, and heavy congestion exists on all two-lane highways.

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APPENDIX B

Biological Evaluation



United States
Department of
Agriculture

Forest
Service

March
2013



Biological Evaluation
for
Threatened, Endangered, and Sensitive (TES) Species
Newton/Pope Co. Line (Passing Lane)

March 2013

Big Piney Ranger District
Ozark – St. Francis National Forests (OSFNF)
Pope County, Arkansas

Prepared by: Sarah Davis

Prepared by:

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Sarah A. Davis
Acting District Biologist
Big Piney Ranger District, Jasper

Date:

March 6, 2013

Introduction:

Forest Service Manual (FSM) Section 2672.41 requires a biological evaluation (BE) and/or biological assessment (BA) for all Forest Service planned, funded, executed, or permitted programs and activities. The objectives of this BE/BA are to: 1) ensure that Forest Service actions do not contribute to trends toward federal listing, 2) comply with the requirements of the Endangered Species Act (ESA) so that federal agencies do not jeopardize or adversely modify critical habitat (as defined in ESA) of federally listed species, 3) provide a process and standard to ensure that federally threatened, federally endangered, and Regional Forester's sensitive species receive full consideration in the decision-making process using the best available science, and 4) to ensure compliance with the Ozark-St. Francis National Forest (OSFNF) Revised Land and Resource Management Plan (RLRMP, Sept 05) and the September 22 2005 Biological Opinion for the American Burying Beetle OSFNF Arkansas. The best available science was used in the site specific analysis for all species covered in this BE. The BE will be divided into two sections: a Federally Threatened and Endangered section and a Regional Forester's Sensitive Species section.

Project Locations:

The project area is contained in portions of the following township, range and sections:
Township 12 North, Range 20 West, Sections 3, 10, 15

The County Line project area is located on Hwy 7 approximately one-half mile south of the community of Pelsor where state routes 123 and 16 conjoin with Hwy 7.

Proposed Actions:

The Arkansas Highway and Transportation Department (AHTD), in cooperation with the Federal Highway Administration (FHWA), is proposing to add a northbound passing lane on Highway 7 in Pope County. The total length of the project is 1.2 miles. A map is enclosed that illustrates the project area.

The proposed improvements consist of two 12-foot wide travel lanes and a 12-foot wide passing lane with a six-foot wide shoulder on the passing lane side and an eight-foot wide shoulder on the opposite side. Existing right of way is approximately 130 feet wide. Proposed right of way widths will vary; in some sections no new right of way or only temporary construction easements will be required, while others, due to the large slopes in the project area, may require total right of way widths of up to approximately 350 feet.

Project Specific Assumptions:

Best Management Practices will be observed to prevent or reduce both point source and non-point source pollution. Erosion control measures will be taken to reduce soil loss and movement and protect water quality.

Site Survey Information:

A review of the Arkansas Natural Heritage Commission (ANHC) Database, the Ozark- St. Francis National Forest SVE (species viability evaluation) database, and historic records was performed to determine the presence or absence of TES (federally threatened, endangered, and sensitive) species in or around the project area. The databases contain specific locations for TES compiled from field surveys and research conducted by several agencies. Historic records contain general locations and dates for observed TES species.

General surveys that have been conducted in several locations across the district and taken into consideration with this BE include Winter eagle surveys, Forest bat surveys (mist netting and anabat detection), Arkansas breeding bird survey routes, Christmas bird counts, Spring migration bird counts, and other project's surveys.

Site specific walk-through surveys for sensitive and federally threatened and endangered species and rare communities within and around this project area were conducted by various Forest Service personnel, summer students, and contractors under the supervision of district biologists Sarah Davis and/or Dwayne Rambo during 2009-2011. Aquatic surveys were conducted by the USDA Center for Aquatic Technology Transfer (CATT) team in 2009 and 2010.

Plant occurrences in the Ozark National Forest and on Highway 7 right-of-way in the project area were surveyed September 21, 23, 27, 30, and October 7 and 18, 2011 by AHTD staff Phillip Moore and Henry Langston. A total of 177 species were identified. Seven species (4%) are non-native introductions and were located on highway right-of-way. *Helianthus occidentalis* spp. *plantagineus* (S1) is tracked by the AR Natural Heritage Commission but is neither listed by the US Fish and Wildlife Service as "Threatened" or "Endangered", nor listed by the Regional Forester of the Forest Service as "Sensitive".

USFWS Consultation History:

The US Forest Service sent a Biological assessment that assessed the potential effects of implementation of the 2005 Revised Land and Resource Management Plan for the Ozark-St. Francis National Forests to the US Fish and Wildlife Service (USFWS) for review on August 9, 2005. USFWS sent a concurrence letter and initiated formal consultation in accordance with Section 7 (a) 2 of the Endangered Species Act on August 17, 2005.

On September 22, 2005, a non-jeopardy Biological Opinion for the American Burying Beetle (*Nicrophorus americanus*) was issued on the effects of implementation of the 2005 Revised Land and Resource Management.

Species Considered and Evaluated:

Federally Threatened and Endangered (T&E) species identified by the US Fish and Wildlife

Service as occurring on or adjacent to the Ozark-St. Francis National Forests were considered in this BE. All species identified as “Sensitive” on the Ozark-St. Francis National Forests by the Regional Forester were also considered in this BE.

Federally Listed (Endangered or Threatened) Species:

Twenty (20) federally listed species have been identified by the US Fish and Wildlife Service, Conway Office as occurring or having the potential to occur on the Ozark-St. Francis National Forests. These species are listed below in Table 1.

Eighteen (18) federally listed species, from Table 1 below, were eliminated from consideration for projects on the Big Piney Ranger District of the Ozark-St. Francis National Forest because 1) they do not occur on the Forest or 2) their known distribution is well outside the counties and/or watersheds that make up the Big Piney Ranger District or 3) no potential habitat was found within the project area. These species are in regular type (i.e. not bolded) in Table 1.

The proposed action will have “*no effect*” on these 18 species or their habitat and they will not be considered further in this BA/BE. No further consultation with the US Fish and Wildlife Service for these species is required. The remaining federally listed species will be given further consideration in this document due to their known occurrence on the Big Piney Ranger District or the presence of potential habitat within the Project Area. These species are indicated in **bold print** in Table 1.

Critical Habitat

The Endangered Species Act (1973) defines “critical habitat” for a threatened or endangered species as follows:

“(i) the specific areas within the geographical area occupied by the species, at the time it is listed in accordance with the provisions of section 4 of this Act, on which are found those physical or biological features (I) essential to the conservation of the species and (II) which may require special management considerations or protection; and(ii) specific areas outside the geographical area occupied by the species at the time it is listed in accordance with the provisions of section 4 of this Act, upon a determination by the Secretary that such areas are essential for the conservation of the species.”

There is **no critical habitat** for any federally-listed species on the Big Piney Ranger District (BPRD) of the OSFNF. There is no known occupied or unoccupied habitat required for recovery of any of the species discussed here in the project area, or the BPRD.

Table 1: Occurrence record of threatened and endangered species in this review

Scientific Name	Common Name	Status	Ozark NF Presence	Project Area Presence	Comments
<i>Myotis grisescens</i>	Gray Bat	E	1	2	Project area is approx. 11 air miles from a known Gray bat hibernaculum and 7.5 miles from known foraging grounds.
<i>Myotis sodalis</i>	Indiana Bat	E	1	2	Project area is approx. 6 air miles outside of an I-bat secondary buffer zone
<i>Corynorhinus townsendii ingens</i>	Ozark Big-eared Bat	E	1	2	Not reported on the BPRD, but potential habitat does exist.
<i>Cambarus zophonastes</i>	Hell Creek Cave Crayfish	E	2	3	Cave streams in Benton County, AR. No element of occurrence records or potential habitat in the analysis area
<i>Cambarus aculabrum</i>	Cave Crayfish	E	3	3	Only occurs in Northwest Arkansas. No element of occurrence records or potential habitat in the analysis area
<i>Amblyopsis rosae</i>	Ozark Cavefish	T	2	3	Only occurs in Northwest Arkansas. No element of occurrence records or potential habitat in the analysis area
<i>Scaphirhynchus albus</i>	Pallid Sturgeon	E	3	3	Known from the St. Francis and Mississippi Rivers. No element of occurrence records or potential habitat in the analysis area
<i>Alligator mississippiensis</i>	American Alligator	T	3	3	Found on St. Francis NF. No element of occurrence records or potential habitat in the analysis area

Scientific Name	Common Name	Status	Ozark NF Presence	Project Area Presence	Comments
<i>Potamilus capax</i>	Fat Pocketbook	T	3	3	Not reported on the Ozark NF. No element of occurrence records or potential habitat in the analysis area
<i>Lampsilis streckeri</i>	Speckled Pocketbook	E	3	3	South Fork of the Little Red River. Species not reported on Forest lands but occurs downstream.
<i>Lampsilis abrupta</i>	Pink Mucket	E	3	3	Not reported on the Ozark NF. No element of occurrence records or potential habitat in the analysis area
<i>Leptodea leptodon</i>	Scaleshell Mussel	E	3	3	Not reported on the Ozark NF. No element of occurrence records or potential habitat in the analysis area
<i>Nicrophorus americanus</i>	American Burying Beetle	E	1	3	Occurs on western edge of Magazine District. No element of occurrence records on BPRD and not likely to occur.
<i>Inflectarius magazinensis</i>	Magazine Mountain Shagreen	T	1	3	This snail occurs in restricted habitat on Mt. Magazine. No element of occurrence records or potential habitat in the analysis area.
<i>Campephilus principalis</i>	Ivory-billed Woodpecker	E	3	3	Not reported on the Ozark NF. No element of occurrence records or potential habitat in the analysis area.
<i>Sterna antillarum</i>	Interior Least Tern	E	3	3	Found on St. Francis NF. No element of occurrence records or potential habitat in the analysis area.

Scientific Name	Common Name	Status	Ozark NF Presence	Project Area Presence	Comments
<i>Lesquerella filiformis</i>	Missouri Bladderpod	T	2	3	Not reported on the Ozark NF. No element of occurrence records or potential habitat in the analysis area
<i>Lindera mellissifolia</i>	Pondberry	E	3	3	Not reported on the Ozark NF. No element of occurrence records or potential habitat in the analysis area
<i>Geocarpon minimum</i>	Geocarpon	T	3	3	Known from only 4 southern AR counties. Not reported on the Ozark NF. No element of occurrence records or potential habitat in the analysis area.
<i>Etheostoma Moorei</i>	Yellowcheek Darter	E	3	3	This species is found just downstream of the Ozark National Forest boundary in the South Fork of the Little Red River. No elements of occurrence records or potential habitat in the analysis area.

Status Codes

“E” = species is listed as “Endangered” by the USFWS

“T” = species is listed as “Threatened” by the USFWS

Ozark NF Presence Codes

1 = Species is known to occur on the Ozark National Forest.

2 = Species is not known to occur on Ozark National Forest managed lands, but has suitable habitat within the Forest and a known distribution which makes occurrence possible.

3 = Species does not occur on Ozark National Forest managed lands and is not likely to occur there due to habitat requirements or geographic distribution.

Project Area Presence Codes

1 = Species is known to occur within the project area.

2 = Species is not currently known from the project area, but may occur there due to the presence of suitable habitat and a known distribution that makes occurrence possible.

3 = Species is not currently known from the project area and is not likely to occur there due to habitat requirements or geographic distribution.

Evaluation of Federally Threatened and Endangered (T&E) Species:

Individual species write-ups follow and include the most currently available scientific information on local distribution, habitat requirements and other information that can be used to determine the potential for direct, indirect, or cumulative effects to the species.

White-Nose Syndrome (WNS):

Recent observations in and around caves across the East and into Missouri and Oklahoma have been made of hibernating bats partially covered with a white fungus, currently called “white-nose fungus”, which appears to be causing the death of hibernating bats. At this time, little is known about the cause or origin of the fungus and whether it causes or accompanies the death of the bats. Bats have been observed emerging early from their hibernation or dead within the hibernacula with depleted fat storages and poor body condition (USGS, 2010). If it is transmittable and causes bat mortality, it has the potential to decimate large numbers of bats, perhaps entire colonies. Bat and cave researchers are implementing protective measures to reduce the possibility that contamination is spread from equipment or the clothing of cavers. Additional study is ongoing to determine the type of pathogen, its origin, and its virulence. Locally, the OSFNF is discouraging individuals and groups from entering caves until further notice in order to prevent contamination in the event that it is possible to transmit WNS by way of clothing or gear.

“Seven bat species have been affected by WNS so far: little brown myotis (*Myotis lucifugus*), big brown bats (*Eptesicus fuscus*), tricolored bats (*Perimyotis subflavus*), northern myotis (*Myotis septentrionalis*), eastern smallfooted myotis (*Myotis leibii*), the endangered Indiana myotis (*Myotis sodalis*), and the endangered gray myotis (*Myotis grisescens*).

Two additional species have been detected with WNS-associated fungus: southeastern myotis (*Myotis austroriparius*) and cave myotis (*Myotis velifer*). These species have not yet been diagnosed with the disease.” (BCI, 2012)

A current map of WNS spread can be found at www.batcon.org/wns.

Gray Bat (*Myotis grisescens*)

Life History/Species and Habitat Description / Distribution

Gray bats (Federally Endangered) are medium-sized with a wingspan of 10-11 inches, and are the largest *Myotis* species in the eastern United States. They have grayish-brown fur and are the only *Myotis* species whose wing membrane attaches to their ankle instead of the base of the first toe. The gray bat range is limited to the limestone karst areas of the southeastern and central United States.

The gray bat is primarily restricted to limestone cave habitats and will rarely use other habitats. This species has very specific cave requirements; as a result, less than five percent of available caves are utilized. These requirements vary depending on time of year, age, and sex. Summer caves must be warm (55°-77° F), or with restricted rooms that can trap the body heat of roosting bats, and winter caves are very cold with a range in temperature between 42° and 52° F. These caves are deep with vertical walls and act as cold air traps. During transient periods, gray bats may use transient caves that have less restrictive requirements than summer and winter caves. In addition, males and yearling females will use a wider variety of caves and roost sites throughout the year than mature females.

This species will forage some in upland areas but primarily forages over streams and lakes/reservoirs. Summer caves are typically located within 1 mile, rarely over 2 miles, from rivers and reservoirs over which they forage. Gray bats primarily forage on emergent aquatic insects.

Gray bats breed at winter caves during September. Females will store sperm over the winter and become pregnant after emerging in late March. A single offspring is born in late May or early June. Young become volant 20 to 25 days after birth.

Reasons for the decline of the gray bat are as follows:

1. Human disturbance of the bats
2. Human disturbance to the environment such as vegetation manipulation in riparian areas and around caves, and road construction across streams
3. Cave destruction from impoundments
4. Cave commercialization, and
5. Natural sources of mortality

Site-Specific Effects

The factors that could affect this species are alteration of unknown cave habitats, loss of prey base due to alteration in the hydrologic and sedimentation regimes of local streams, and the reduction in vegetation.

Recent bat mist net surveys on the district have not detected any threatened or endangered species in the project area. Gray bats were documented in the Piney Creek Drainage approximately 7.5 miles west of the project area. No female bats were captured. Based upon telemetry work and further mist net surveys, these bats were primarily using fields and stream reaches north of Fort Douglas at the time. In addition, their cave is thought to be on private land in Fort Douglas. Gray bat summer caves are typically within a mile, rarely two, of their foraging

areas. Due to foraging ranges of this bat, the probability that individuals are foraging in the project area is unlikely. The gray bats' prey base may be affected by the reduction of vegetation which could site-specifically reduce insect abundances. The gray bat will feed in upland areas, but these areas are not their primary foraging habitats. Neither maternity caves nor transient caves were documented during surveys in the project area.

Any activity that disturbs the land surface, decreases cover, or alters vegetation can affect water quality. Protection of riparian zones by implementing BMPs is an effective means of conserving aquatic systems. Sedimentation rates and hydrology can be affected by most of the activities proposed in this project. To what extent project activities may have an impact is primarily associated with locations of disturbance, amount of area affected, and intensity. Where these activities could have the greatest impacts are in the riparian zones, steep slopes and on erosive soils. Sedimentation is a factor to consider due to the effect it may have on the bat's aquatic prey species. Adherence to BMPs should reduce risks of erosion and sedimentation from the highway construction.

The 1.2 miles of highway 7 is also part of the boundary for the High Mountain Project signed in 2012 and initial implementation in 2013. Although these projects have this boundary in common, the High Mountain Project in this area is entirely within the Lower Big Piney Creek watershed while the County Line Passing Lane Project is primarily within the Upper Illinois Bayou watershed. This will reduce the potential for cumulative impacts on water sources.

At this time, the Forest Service does not know of any future state, tribal, local or other private actions that would occur in the project action area.

Effects Determination

Surveys 7.5 miles from this area have detected the presence of Gray bats that could be using the project area for foraging. BMP guidelines and the location of the project on a ridge-top away from major waterways should help protect water resources. The determination for Gray bats is **MAY AFFECT, NOT LIKELY TO ADVERSELY AFFECT.**

Indiana Bat (*Myotis sodalis*)

Life History/Species and Habitat Description/Distribution

The Indiana bat (Federally Endangered) is a medium-sized bat with a total length of 3 to 4 inches and a wingspan of 9.5 to 10.5 inches. This bat closely resembles the little brown bat (*Myotis lucifugus*) and the northern long-eared bat (*Myotis septentrionalis*). The Indiana bat usually has a distinctly keeled calcar, and hind feet tend to be small with shorter hairs on the toes that do not extend beyond the toenails. Their fur exhibits a faint three-colored pattern when parted, the basal brownish black which spans 2/3 of the fur is followed by a narrow grayish band and a cinnamon brown tip. The fur of the belly and chest on an Indiana bat is lighter than the flat pinkish-brown fur of the back, but this character is not as distinct for the Indiana bat as the little

brown bat and northern long-eared bat. Also, the Indiana bat has a smaller sagittal crest and tends to have a smaller, lower, and narrower braincase than the little brown bat. The Indiana bat is found throughout the eastern half of the United States.

Indiana bats hibernate in caves and mines during the winter. These sites tend to have temperatures between 39° and 46° F and relative humidity above 74% and below saturation. The Indiana bat has been documented using sites other than caves and mines (e.g. hydroelectric dam), but these sites have favorable microclimates.

Summer habitats for Indiana bats are floodplains, and riparian and upland forest with trees that have ex-foliating bark for roosting. This bat will also use old fields and pastures with scattered trees for foraging habitats. Some tree species the Indiana bat will use for roosting are American beech (*Fagus grandifolia*), black gum (*Nyssa sylvatica*), black locust (*Robinia pseudo-acacia*), elm (*Ulmus* spp.), hickory (*Carya* spp.), maple (*Acer* spp.), pine (*Pinus* spp.), oak (*Quercus* spp.), sassafras (*Sassafras albidum*), sourwood (*Oxydendrum arboreum*), sweet birch (*Betula lenta*), and yellow buckeye (*Aesculus octandra*). Most of these tree species have the proper characteristics for roost sites after they are dead or dying, but species such as shagbark hickory and white oak are used while they are still living. Romme, et al. (1995) found that **maternity** roost sites were usually located in areas with 60 to 80% canopy cover. Indiana bats will also utilize roosts where the canopy closure is higher than 80% when temperatures are above normal or during periods of precipitation.

Indiana bats forage in and around the forest tree canopy for aquatic and terrestrial flying insects. Some of these insects are moths (Lepidoptera), caddisflies (Trichoptera), stoneflies (Plecoptera), beetles (Coleoptera), flies (Diptera), leafhoppers and treehoppers (Homoptera), and lacewings (Neuroptera). Foraging heights are usually from 6 to 100 feet above ground level. Also, canopy closure for **foraging** habitat has been found to range from 30% to 100% in floodplain habitats.

Indiana bats begin to swarm in August-September, and breeding usually occurs in the latter half of this time period. After mating, females will enter directly into hibernation and store sperm over the winter. Females become pregnant after emerging the following spring. Indiana bats typically form maternity colonies with 100 or fewer adult bats. Young are born in late June or early July, and become volant within a month after birth.

Possible reasons for the decline of the Indiana bat are:

1. Human disturbance and vandalism of hibernacula caves
2. Improper cave gates and structures
3. Natural hazards such as cave collapsing or flooding
4. Changes in cave microclimates
5. Changes in land use practices (e.g. fire suppression and an increase in density of forest surrounding hibernacula caves), and

6. Chemical contamination.

Site-Specific Effects

Indiana bats have not been documented in the project area. Over 330 mist net nights have been conducted in the last three years in the southern part of the district. Some terrestrial surveys were conducted in the project area. Investigations did not find any caves or T&E bat species. No maternity colonies have been found on the Forest. The closest Indiana bat hibernaculum is approximately 11 air-miles away. The known hibernaculum should not be affected.

The primary concerns for this species are effects on potential summertime habitat, e.g., loss of prey base due to factors such as alteration in the hydrologic and sedimentation regimes of local streams and a reduction in vegetation, as well as direct effects from felling trees and alteration of currently undiscovered cave habitats.

Indiana bats are not restricted to cave habitats for roosting. Indiana bats usually roost under loose tree bark, such as shagbark hickory, and in tree hollows during March through November. If an unknown population exists in the project area, it is possible that cutting and felling trees could affect individuals. This species, during the active months, are highly mobile and are likely to fly and escape any danger, except non volant young. No maternity colonies have been discovered in Arkansas so the probability of this happening is remote.

This species utilizes forest habitats that have canopy closure 30% or greater for foraging, and highway expansion will reduce the canopy closure below this 30%. These activities will affect approximately 19 to 51 acres (depending on varying right of way widths). Species could utilize these areas as travel and foraging corridors as the proposed activities would maintain these open habitats in the project area over time. Indiana bat's forage may temporarily be affected locally by the reduction in prey base due to a decrease in the vegetation. Roost tree species like white oak and shagbark hickory will persist in adjacent stands. Roost trees should not become a limiting factor in the general area.

See the Gray bat Site Specific Effects section for a discussion on sedimentation.

Vegetation management in the adjacent High Mountain project area in conjunction with the highway passing lane project could potentially cause a short-term disruption to bats that may be roosting in the area; however, the resulting diversity of canopy coverage and vegetative response may create a landscape with higher potential for attracting Indiana bat usage.

At this time, the Forest Service does not know of any future state, tribal, local or other private actions that would occur in the project action area.

Effects Determination

Indiana bats have not been documented in the vicinity of the project area but the area is considered potential habitat for the species. Some habitat alteration will occur; therefore, the determination for Indiana bat is **MAY AFFECT, NOT LIKELY TO ADVERSELY AFFECT.**

Prepared by:

/s/ Sarah A. Davis
Sarah A. Davis
Acting District Biologist
Big Piney Ranger District, Jasper

Date: March 5, 2013

Regional Forester’s Sensitive Species:

Thirty-two species occurring or having the potential to occur on the Ozark-St. Francis National Forests have been identified by the Regional Forester (Region 8) as Sensitive. These species are listed in Table 2 below.

Some Forest Sensitive species were eliminated from further consideration for projects on the Ozark National Forest for one of the following reasons: the species 1) does not occur on the Big Piney Ranger District, 2) does not occur in the project area, and/or 3) does not occur as defined by the known and historic ranges of these species and habitat requirements. These species are in regular type (i.e., not in bold) in the following table. Therefore the proposed project will have “no impact” on these species, and they will not be considered further in this BE.

The remaining Sensitive species will be given further consideration in this document due to their known occurrence on the Big Piney Ranger District or their potential for occurrence due to the presence of suitable habitat and nearby records. These species are indicated in **bold** print in Table 2.

Table 2: Regional Forester's Sensitive Species List. Bold type indicates those species reviewed in this BE due to occurrence or potential habitat.

Scientific Name	Common Name	Global Rank	Ozark NF Presence	Project Area Presence	Comments (as related to BPRD)
<i>Myotis leibii</i>	Eastern small-footed bat	G3	1	1	Mammal. Hibernate in caves or mines. Forage near riparian areas & water sources, canopy openings, and near field edges. Newton, Searcy, Stone, Pope, & Franklin counties.
<i>Aimophila aestivalis</i>	Bachman's sparrow	G3	1	2	Bird. Mature to old growth southern pine woodland that has been subjected to fires creating a well-developed grass/herb layer with limited shrub and midstory. SE section of BPRD.
<i>Haliaeetus leucocephalus</i>	Bald Eagle	G5	1	2	Bird. Coastal areas, bays, rivers, & lakes. Food includes fish and waterfowl. Roosts usually in conifers or other sheltered sites. Communal roosts found on the BPRD on Driver and Brock Creeks. Occasional transients along major waterways such as Illinois Bayou. Has been seen during bird surveys in the area.

Scientific Name	Common Name	Global Rank	Ozark NF Presence	Project Area Presence	Comments (as related to BPRD)
<i>Eurycea tynnerensis</i>	Oklahoma salamander	G3	1	3	Amphibian. Permanently aquatic confined to small, cold, clear, cherty gravel-bottomed streams. Boston Mtn District.
<i>Notropis ozarcanus</i>	Ozark shiner	G3	1	3	Fish. High-gradient stream sections below riffles in large streams and rivers. Found mostly in the White, Black, & Illinois River Systems. Most abundant in the Buffalo River.
<i>Percina nasuta</i>	Longnose darter	G3	1	2	Fish. Silt-free upland large streams and small rivers with cobble & gravel bottoms. Illinois Bayou, Mulberry, Big Piney Creek, White River and other rivers. Has not been found in the Buffalo. Found downstream of project area.
<i>Typhlichthys subterraneus</i>	Southern cavefish	G3	1	3	Fish. Caves and springs. Has not been found on OSFNF.
<i>Orconectes williamsi</i>	William's crayfish	G2	1	3	Crayfish. Under rocks in pools from small, shallow, cool headwater streams of the White River System.
<i>Lampsilis rafinesqueana</i>	Neosho mucket	G2	1	3	Mussel. Freshwater mussel endemic to the Illinois and Neosho River drainages. Boston Mtn. Ranger district.
<i>Paduniella nearctica</i>	Nearctic paduniellan caddisfly	G1?	1	2	Insect. Creeks to medium rivers. Crawford, Johnson, Stone, and Searcy Counties. Buffalo River National Park. Pleasant Hill & Sylamore RDs. Little Red River. Distribution not well known.
<i>Lirceus bicuspidatus</i>	An isopod	G3Q	1	2	Isopod. Streams that have moving water. Distribution not well known.
<i>Amorpha ouachitensis</i>	Ouachita false indigo	G3Q	1	3	Plant. Open, sunlit areas with reliable soil moisture. Found on Mt. Magazine and counties of Conway, Van Buren, Johnson, Madison and others south and west

Scientific Name	Common Name	Global Rank	Ozark NF Presence	Project Area Presence	Comments (as related to BPRD)
<i>Callirhoe bushii</i>	Bush's poppymallow	G3	1	3	Plant. Rocky open woods, roadsides, wooded valleys, ravine bottoms, & glade borders. Found in Benton, Logan, Van Buren, Washington, Carroll, and Marion counties.
<i>Castanea pumila</i> var. <i>ozarkensis</i>	Ozark chinquapin	G5T3	1	1	Plant. Widespread stump sprouts. Chestnut blight is the dominant threat.
<i>Cypripedium kentuckiense</i>	Southern Lady's slipper	G3	1	2	Plant. Moist floodplains, creeks, & slopes. Boone, Johnson, Newton, Pope, and Madison counties.
<i>Delphinium newtonianum</i>	Moore's delphinium	G3	1	1	Plant. Light to heavy shaded mostly hardwood woodland. Found in Newton, Searcy, Pope, Van Buren, and Johnson counties of OSFNF.
<i>Delphinium treleasei</i>	Glade larkspur	G3	1	3	Plant. Limestone glades and bald knobs in the White River region and on rocky open limestone exposures and glades elsewhere. North and Northwest Arkansas.
<i>Dodecatheon frenchii</i>	French's shooting star	G3	1	2	Plant. Overhanging sandstone ledges near stream channels. Usually northeastern exposures with short duration of direct sunlight. Newton County.
<i>Draba aprica</i>	Open-ground draba	G3	1	3	Plant. Thin soils with at least partial sun such as glades and open areas. Reported in Washington, Stone, and other counties off the OSFNF.
<i>Eriocaulon koernickianum</i>	Small-headed pipewort	G2	1	2	Plant. Shade and competition intolerant. Found near moist to wet areas such as sandstone glade seeps, bogs, & prairie stream banks. Found in Conway, Van Buren, Pope, Johnson, & Madison counties.
<i>Fothergilla major</i>	Large witchalder	G3	2	3	Plant. Dry habitats of the uplands. Searcy county. Has not been found on the Forest.

Scientific Name	Common Name	Global Rank	Ozark NF Presence	Project Area Presence	Comments (as related to BPRD)
<i>Juglans cinerea</i>	Butternut	G3G4	1	3	Plant. Rich woods along base of slopes or bluffs and along streams. Newton, Searcy, and other counties off the District. Limited habitat on Forest. Field visits did not identify this species at the site.
<i>Neviusia alabamensis</i>	Alabama snow-wreath	G2	1	3	Plant. Steep, rocky, wooded sites or riverbanks. Newton, Pope, Conway, Searcy and Faulkner counties. Not seen during field survey.
<i>Quercus acerifolia</i>	Mapleleaf oak	G1	1	3	Plant. Open woods, ledges and cliff edges, & rocky edges of plateaus. Pope county and Mt. Magazine.
<i>Schisandra glabra</i>	Bay starvine	G3	1	3	Plant. Woods with clean forest floors with few shrubs in mid or understory. Typically occurs in heads of ravines developed on steep slopes. St. Francis NF.
<i>Silene ovata</i>	Ovate-leaf catchfly	G2G3	1	3	Plant. Talus slopes beneath a sandstone bluff line. Newton, Pope, and Van Buren counties. Was not found in project area.
<i>Silene regia</i>	Royal catchfly	G3	1	3	Plant. Tall grass prairie. Boone, Newton, & Searcy. Habitat not present in this project area.
<i>Solidago ouachitensis</i>	Ouachita Mountain goldenrod	G3	2	3	Plant. Moist, well-drained, gravelly soils in shaded, north-facing slopes. Ouachita Mountains.
<i>Tradescantia ozarkana</i>	Ozark spiderwort	G3	1	3	Plant. Mainly deciduous woodlands. Boone, Madison, Johnson, Newton, Pope, & Searcy counties. Was not found in project area.
<i>Trillium pusillum var. ozarkanum</i>	Ozark least trillium	G3T3	1	3	Plant. Acid cherty-flinty soils of shallow draws of Oak-hickory, pine, or chestnut woodlands. Boone, Madison and Searcy counties. Limestone glades and bald knobs in the White River region.

Scientific Name	Common Name	Global Rank	Ozark NF Presence	Project Area Presence	Comments (as related to BPRD)
<i>Valerianella nuttallii</i>	Nuttall's cornsalad	G1G2	2	3	Plant. Stream bottoms in mixed hardwood stands. Has not been found on the OSFNF.
<i>Valerianella ozarkana</i>	Ozark cornsalad	G3	1	3	Plant. Sunny openings in deciduous woods, sandstone & limestone glades, and roadside ditches. Madison, Searcy, and Conway counties. Limited habitat for this species on the Forest.

NatureServe Global Conservation Status Ranks

G1 = Critically Imperiled- At very high risk of extinction due to extreme rarity (often 5 or fewer populations), very steep declines, or other factors.

G2 = Imperiled- At high risk of extinction due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors.

G3 = Vulnerable- At moderate risk of extinction due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors.

G4 = Apparently Secure- Uncommon but not rare; some cause for long-term concern due to declines or other factors.

G5 = Secure- Common; widespread and abundant.

G#G# = Range rank- A numeric range rank is used to indicate the range of uncertainty in the status of a species or community. A G2G3 rank would indicate that there is a roughly equal chance of G2 or G3 and other ranks are much less likely. Ranges cannot skip more than one rank.

Rank Qualifiers

Q = Questionable Taxonomy- Taxonomic distinctiveness of this entity at the current level is questionable; resolution of this uncertainty may result in change from a species to a subspecies or hybrid, or the inclusion of this taxon in another taxon, with the resulting taxon having a lower-priority conservation priority.

? = Inexact Numeric Rank- Denotes some uncertainty about the numeric rank. (e.g. G3? – Believed most likely a G3, but some chance of either a G2 or G4).

T#- Intraspecific Taxon (trinomial) - The status of intraspecific taxa (subspecies or varieties) are indicated by a “T-rank” following the global rank. Rules for assigning T-ranks follow the same principles for global conservation status ranks.

Project Area Presence Codes

1= species is known to occur within the project area

2= species is not currently known from the project area but may occur within the project area due to the presence of suitable habitat.

3= species is not currently known from the project area and is not likely to occur there due to habitat requirements or geographic distribution

Evaluation of Regional Forester's Sensitive Species:

Individual species write-ups follow and include the most currently available information on local distribution, habitat requirements and other information that can be used to determine the potential for direct, indirect, or cumulative effects to the species.

At this time, the Forest Service does not know of any future state, tribal, local or other private actions that would occur in the project action area.

Eastern Small-footed Bat (*Myotis leibii*)

Life History/ Habitat Description / Distribution

Eastern small-footed bats are uncommon throughout most of their range. The potential habitat for this species is all Forest Service acres except the St. Francis NF, approximately 900,000 acres. This bat is known to occur in Newton, Searcy and Stone Counties in Arkansas, and more recently during surveys conducted in Pope and Franklin Counties. Very little is known about its feeding habits or reproduction in this species. This bat tends to hibernate near cave entrances where temperatures drop below freezing and where humidity is relatively low; hence it may be vulnerable to freezing in abnormally severe winters. The most serious threat to this cave-dwelling bat is human disturbance during hibernation. Additional surveys are not needed to improve the determination of effects to this sensitive species, but are needed to further delineate the distribution of this species on the Forest.

Habitat for the Eastern small-footed bat is mostly hilly or mountainous areas, in or near deciduous or evergreen forests, sometimes in mostly open farmland. During summer months, they often inhabit buildings and caves and emerge to forage shortly after sunset and feeding within 1 to 3 meters (3 to 10 feet) above the ground typically over ponds and streams (NatureServe 2010). They consume flies, mosquitoes, true bugs, beetles, ants, and other insects.

In the summer, this species utilizes a wide variety of habitats for roost sites: caves, dead or live trees with exfoliative bark, den trees, crevices in bluff-lines, and under loose rock in open habitats.

Site Specific Impacts

Surveys conducted on the district have documented that Eastern small-footed bats occur near, and potentially in, the project area. During bat surveys, this species has been found in small numbers across the district.

See the Gray bat Site Specific Effects section for a discussion on sedimentation. Although there are no known caves with this species in the vicinity, Eastern small-footed bats that are using the area for foraging and roosting could be impacted by tree felling operations. Although bats are highly mobile (and the young usually become volant within a month after birth), it is possible

that individuals may be injured or killed. Any activities that will remove trees or cause a disturbance to surface rock may impact Eastern small-footed bats. This bat will utilize interstitial spaces under rocks on the ground, trees with exfoliating bark, and snags as roost sites. Because this species will roost under rock on the ground, the use of heavy equipment could impact individuals roosting on the ground. This species occurs in low numbers at any given roost site so it is unlikely that impacts to the species would occur but would probably be limited to a small number of individuals, if impacts did occur.

Eastern small-footed bats forage on a variety of insects as described previously. Vegetation management in the adjacent High Mountain project area in conjunction with the highway passing lane project could potentially cause a short-term disruption to bats that may be roosting in the area; however, the resulting diversity of canopy coverage and vegetative response may create a landscape with higher potential for attracting small-footed bat usage. Roosting habitat should be maintained in the areas adjacent to the project area.

Impacts Determination

The decision for the Eastern small-footed bat is **May Impact Individuals but Not Likely to Cause a Trend to Federal Listing or a Loss of Viability.**

Bachman's Sparrow (*Aimophila aestivalis*)

Life History/ Habitat Description / Distribution

This species is most similar to the field sparrow but has yellow in the bend of the wing, dark upper mandible, purplish back, darker crown and dark tail. Bachman's Sparrow is found throughout the southeastern part of the United States and is a ground nesting, ground foraging resident of fire-managed mature pine forests and early successional habitats (Stober and Krementz, 2000).

This species habitat includes dry open pine with an undercover of grasses and shrubs, hillsides with patchy brushy areas, overgrown fields with thickets and brambles, grassy orchards, and large clear-cuts (usually at least 20 ha in Virginia). These habitats remain suitable for only a short period of time unless a frequent disturbance regime is present.

According to NatureServe, their food habits include eating insects, other invertebrates, and seeds of herbaceous plants and pines. The insect portion of diet is relatively low in winter and increases in warmer months. They are ground foragers in dense grass, palmettos, or shrubs. Nestlings are fed insects (2010).

The primary threat to this species is loss of habitat.

Site Specific Impacts

This species is an infrequent visitor to the southern half of the district (Leif Anderson, personal comm.). A decline in vegetation may also decrease available seed and insects. If Bachman's sparrow moves into the area and begins nesting, heavy equipment would be a threat to their nests due to their ground nesting and foraging habits. Right of way maintenance would provide early seral habitat, but would not improve the overall suitability of the project area for this species

Impact Determination

This species has not been documented in the project area and this project is not likely to increase or decrease the site's potential for hosting Bachman's sparrows; therefore, the determination for this species is **No Impact**.

Bald Eagle (*Haliaeetus leucocephalus*)

Life History/Species and Habitat Description /Distribution

Bald eagles are large birds with a body length of 32 inches and wingspan of 80 inches. Adult birds have a brown body with a white head and tail. Immatures are brown, mottled irregularly with white until approximately their fourth year. This eagle is similar to the golden eagle, but can be distinguished from it by the bald eagle's much heavier bill, legs feathered halfway down the tarsus, flying with deep strokes, and soaring on flattened wings. Bald eagles occur in most of the United States and Canada.

The bald eagle is associated with aquatic environments throughout the majority of its range. Fish is the primary prey item. They will also feed on many other types of prey such as waterfowl and small mammals, and have been observed feeding on carrion, especially in wintering areas.

Nesting activities may begin as early as January with incubation and rearing of young occurring from March through mid-May. Nesting sites are usually in mature trees along shorelines, but they may also use cliffs or rock outcrops where large trees are not available. These sites are typically within two miles of water. Females lay one to three eggs, depending on environmental conditions and the fitness of the female. Incubation lasts about 35 days, and young fledge 10-14 weeks after hatching. In Missouri, most young fledge from June 1 to mid-July.

Reasons for the decline of the bald eagle have been well documented:

- Environmental contamination, particularly organochlorine insecticides like DDT-caused egg-shell thinning and reproductive failure and the illegal use of pesticides,
- Human disturbance of eagle nests and night roosts,

- Intentional killing by shooting or poisoning, and
- The degradation and alteration of roosting and nesting habitats.

Site-specific Impacts

There are no known nests or communal roosts in or near the project area; however, Bald eagles may use the area transiently as secondary roost. The Big Piney Ranger District has no documented nest but has two communal roosts on the southeast corner of the District. These roosts are approximately 20 miles from the project area. The known communal roosts would not be impacted by these activities due to the distance from the project. Under the proposed activities, heavy equipment operation and tree felling should have negligible direct effects on transient bald eagles because they are highly mobile animals and would leave the area during activities if present.

The use of heavy equipment and large tree harvesting may disturb bald eagles and cause them to move temporarily from secondary roosting and foraging areas and may also remove some suitable nesting and roosting trees. However, since only transient usage without nests is known within the action area, it is unlikely that such activities would have much impact on bald eagles. The project area is not near a major riparian corridor where Bald Eagle activity is most likely to occur; however, Bald Eagles have been observed in this general area feeding on carrion in the highway.

Water quality is important for the health and detection of their primary food source, fish. Some soil movement would be expected during construction; however, per the requirement of implementing erosion control sedimentation is expected to be minimal. Also, the distance of the project from perennial streams will reduce the likelihood of reducing water quality for their prey even after taking into account the cumulative actions of the High Mountain project in the adjacent watershed. The High Mountain project activities were not predicted to breach the threshold for sedimentation in the Lower Big Piney Creek watershed, and with the highway expansion being mostly within the Upper Illinois Bayou the rates of sedimentation are not expected to increase above the threshold. This project area is also within an Inventoried Road Analysis (IRA) area; therefore, there are no plans, with the exception of prescribed burning, for additional tree felling or construction activities in the surrounding Upper Illinois Bayou watershed.

Impacts Determination

These activities outlined in these alternatives could impact the bald eagles' secondary roost but the risk to individuals of this species is extremely low. The determination is **May Impact individuals but not likely to cause a trend to federal listing or a loss of viability.**

Ozark Chinquapin (*Castanea pumila* var. *Ozarkensis*)

Life History/ Habitat Description / Distribution

Ozark chinquapin, *Castanea pumila* var. *ozarkensis* is a forest sensitive species. Until the introduction into this country of the chestnut blight (*Endothia parasitica*) and its subsequent spread, the Ozark chinquapin had been considered a locally abundant and widespread tree species in the Interior Highland region. As a result of the spread of this parasite, few mature trees of this species still exist although sprouting from stumps is quite common (Tucker, 1980).

This species is found on all Ozark NF districts, except the St. Francis NF.

Site Specific Impacts

Concerns with this species are cutting and/or trampling of individuals and displacement.

During implementation of project activities individuals could be cut or damaged by heavy equipment. If the root system is undisturbed, sprouts in areas of increased sunlight tend to grow with increased vigor until canopy closure increases and the blight infects the new growth. Although chinquapins are known to be in the general area, none were found in the project area during field surveys.

Impacts Determination

This species has been documented on the Big Piney District in this area and is wide spread on the district and Ozark National Forest. Although individuals are not known to be in the project area, unknown root stock could be lost.

The determination is **May Impact individuals but not likely to cause a trend to federal listing or a loss of viability.**

Southern lady's slipper (*Cypripedium kentuckiense*)

Life History/ Habitat Description / Distribution

Habitat consists of moist floodplains along creeks and on rich moist slopes. It is a large plant and can grow to a height of three feet and has a pale, deep lip that barely extends past its opening. The collection for commercial sale and the digging for replanting in wildflower gardens pose the biggest threat to the plant. The plant appears to be able to tolerate certain timber management activities with some treatments, such as thinning, considered beneficial. In Arkansas, it is known from 20 counties (NatureServe, 2009) mostly located in the western portion of the state. *Cypripedium kentuckiense* occurs in a relatively narrow range, from

northeastern Texas and southeastern Oklahoma east to Georgia (although very few sightings) and north to Kentucky (less than 10 sites).

Site Specific Impacts

There are no records of occurrence for this species in the project field surveys; however, *Cypripedium* species were documented in lower drainages. Concerns for this species include displacement, collection by individuals, and major canopy removal leading to drier soil moisture.

Potential habitat is mostly limited to riparian areas and more mesic habitats where canopy reduction could decrease potential habitat by reducing soil moisture. This project is mainly limited to the ridge-top and upper slopes where soils are usually drier or with varying moisture levels. The plant's range is not limited to this district, and the dispersal of this species across its range decreases the chances of catastrophic loss. So far, this plant has not been documented within the project area and therefore proposed actions have limited potential for affecting this species.

Impacts Determination

The project area does not have a historical record of occurrence for the Southern Lady's slipper and does not match the preferred habitat of this species. The determination for this species is **No Impact**.

Moore's larkspur (*Delphinium newtonianum*)

Life History/ Habitat Description / Distribution

Moore's delphinium is endemic to and locally abundant in two disjunct regions of the Interior Highlands of Arkansas, but it is unknown from either Missouri or Oklahoma. Preliminary biological data indicates it is of widespread occurrence within a relatively small area in the Ozark National Forest, where it occurs in both mature and early successional vegetation types. Moore's delphinium "prefers light to heavy shade of hardwoods, a moist loamy clay or sandy clay loam" (Kral, 1983). It also occurs on sites having at least some pine in the overstory and along roads, trails, and openings in forested areas (Tucker, 1990).

Site Specific Impacts

The concerns with this species are displacement and heavy canopy removal which decreases moisture levels. Individuals can be displaced by any activities that utilize heavy equipment such as dozers or even repetitive foot travel from humans and/or horses.

This species is tolerant to some canopy removal; in fact, the species does well in thinned areas. Road maintenance and reconstruction could displace individual plants; however, past observations report reestablishment along the edge of disturbance (Tucker, 1980).

Moore's Delphinium is locally abundant and well dispersed on the district, and the potential loss of some individuals should not negatively impact the population as a whole.

Impacts Determination

This species was not found in abundance throughout the project area, but it does have a presence in the general area. The determination is **May Impact individuals but not likely to cause a trend to federal listing or a loss of viability.**

Aquatic Species

Nearctic paduniellan caddisfly : Life History/ Habitat Description / Distribution

This species is endemic to Arkansas and Missouri and is found in creeks to medium-sized rivers. This species has been found in 2nd and 3rd order streams, 4 to 10 meters in width, with permanently flowing streams that have gravel/cobble or bedrock substrate. Mathis and Bowles (1994) stated that they had collected the most specimens from headwater streams minimally impacted by disturbances in areas of low velocities and large stable substrates (p. 365).

Paduniella nearctica was previously known to occur in Arkansas only in Devils Den State Park, but the distribution was later expanded to cover the 4th level watersheds of Robert S. Kerr Reservoir, Frog-Mulberry, Dardanelle Reservoir, and Little Red. It has recently been identified from the Buffalo River National Park in the Buffalo River 4th level watershed (Mott and Laurans 2004) and on the Forests at the Barkshed Recreation Area on the Sylamore Ranger District in North Sylamore Creek (4th level watershed) (Moulton and Stewart 1996). The dominant vegetative type where the species is found is upland hardwood. Distribution of this species on the Ozark NF is largely unknown.

This species is in the family Psychomyiidae, which is known to be intolerant of disturbance. Because of the family's low tolerance for disturbance, the Nearctic paduniellan caddisfly would likely be affected by siltation.

Site specific Impacts

Increases in sedimentation and changes in hydrology are caused by soil disturbing activities, e.g., timber harvesting and road construction. To what extent they have an impact are primarily associated with locations of disturbance, the amount of area affected, and intensity. Where these activities could have the greatest impacts are in the riparian zones, steep slopes and on highly erosive soils. Caddisflies are terrestrial as adults and able to fly; therefore, the Nearctic paduniellan caddisfly should be able to colonize new available habitat fairly quickly (USDA

FEIS 2005). Distance from the ridge-top to 2nd and 3rd order streams as well as the use of erosion control measures should help protect this species.

Impacts Determination

This species has not been documented in the project area; however, adequate surveys have not been conducted to support their absence. Little is known about the life cycle and distribution of this aquatic species. The determination for the Nearctic paduniellan caddisfly is **May Impact Individuals but is Not Likely to Cause a Trend to Federal Listing or a Loss of Viability.**

An Isopod: Life History/ Habitat Description / Distribution

This isopod is found in small cave streams, seeps and small headwater streams but optimal habitat is believed to be spring runs. Little is known about the life history and distribution of this species. It has been recorded in the Arkansas River drainage in the Boston and Ouachita Mountains eco-regions, and White River drainage in the Boston Mountain and Ozark Highlands' eco-regions. Threats to species are believed to be point source pollution and sedimentation from resource extraction.

Site Specific Impacts

Impacts to the Isopod would be similar to those of the Nearctic paduniellan caddisfly. It is not known to be in the area, but distribution is not well known.

Impacts Determination

The determination for the Isopod is **May Impact Individuals but is Not Likely to Cause a Trend to Federal Listing or a Loss of Viability.**

Longnose darter (*Percina nasuta*)

Life History/ Habitat Description / Distribution

This species is typically found in medium to large streams to small rivers. Spawning takes place in the riffles sections of the streams from late March to mid-May. Reduction in range is primarily attributed to creation of reservoirs and other impoundments. This species is moderately sensitive to increases in siltation. Historically, this species was found in northeast Oklahoma, southern Missouri and to the edge of the Ouachita/Ozark highlands in Arkansas. It is currently believed to occur in four major drainages in Arkansas including the Arkansas River drainage, the White River drainage, the St. Francis River drainage and the Ouachita River drainage, and It is believed to be very rare and possibly extirpated from Oklahoma and Missouri (Guillory, et al, 1978).

Site Specific Impacts

This species has been found in the North Fork of the Illinois Bayou drainage. The potential impact associated with the proposed activities is increasing sedimentation. Increases in sedimentation and altering of the hydrology are caused by activities that cause soil disturbance. To what extent they have an impact are primarily associated with locations of disturbance, amount of area affect, and intensity. Where these activities could have the greatest impacts are in the riparian zones, steep slopes and on highly erosive soils. The project area is on a ridge-top although clearing limits may push the project onto upper slopes, some of which may be steep. Timber harvesting will cause some impacts to sedimentation rates and hydrology. Erosion control measures should minimize the potential impacts on sedimentation rates, hydrology and this species.

Impacts Determination

This species is found in the watershed area. The proposed activities could impact the species, but Best Management Practices and the location of the project area in comparison to known populations should be adequate to protect the species. The determination is **May Impact individuals but not likely to cause a trend to federal listing or a loss of viability.**

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March 6, 2013

Date: _____

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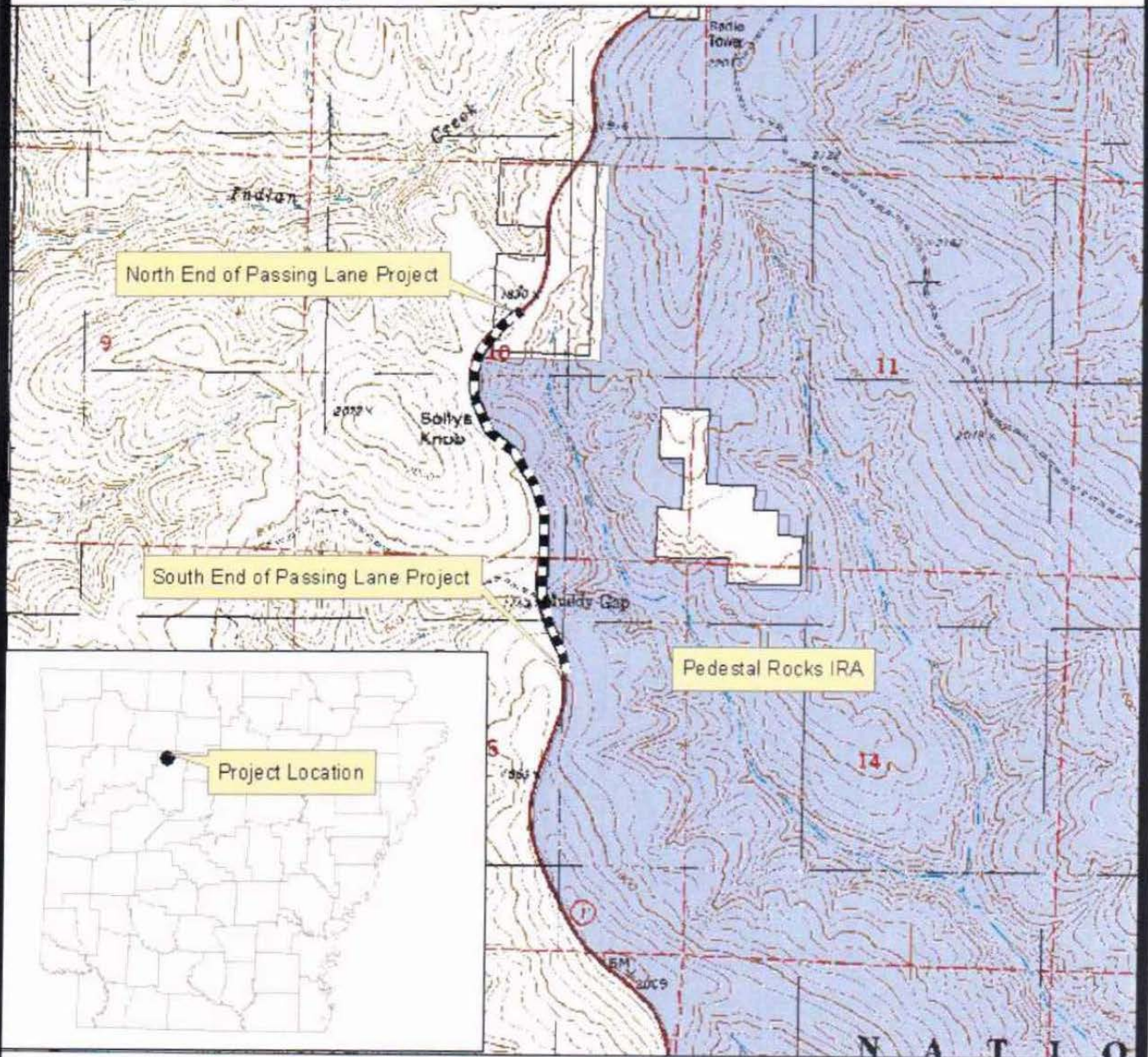


Arkansas Highway and Transportation Dept.
 Right of Way Special Use Proposed Amendment
 State Highway 7 Northbound Passing Lane



T12N, R20 W, Sec. 10 & 15

Big Piney Ranger District Ozark-St. Francis National Forest



- Passing Lane
- Private
- Inventoried Roadless Areas

0 0.1 0.2 0.4 0.6 0.8 Miles

The Forest Service uses the most current and complete data available. GIS data and product accuracy may vary. They may be developed from sources of differing accuracy, accurate only at certain scales, based on modeling or interpretation, incomplete while being created or revised, etc. Using GIS products for purposes other than those for which they were created, may yield inaccurate or misleading results.

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 Ozark-St. Francis National Forest, 605 West Main, Russellville, AR 72801-3614, (479) 964-7211

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APPENDIX C

Endangered Species Information

Threatened and Endangered Species

The Arkansas Ecological Services Field Office of the USFWS lists 20 threatened (LT), endangered (LE), and candidate (C) species as occurring or having the potential to occur on the Ozark-St. Francis National Forests. Eighteen of those species were eliminated from consideration for projects on the Big Piney Ranger District of the Ozark-St. Francis National Forest because 1) they do not occur on the Forest or 2) their known distribution is well outside the counties and/or watersheds that make up the Big Piney Ranger District or 3) no potential habitat was found within the project area. The proposed project will have “no effect” on those species or their habitats.

A Biological Evaluation (BE) has been prepared and is included in Appendix B. Refer to the BE for the list of species eliminated from consideration as well as detailed species descriptions and effects determinations for the Regional Forester’s Sensitive Species.

Gray Bat (*Myotis grisescens*)

Life History/Species and Habitat Description / Distribution

Gray bats (Federally Endangered) are medium-sized with a wingspan of 10-11 inches, and are the largest *Myotis* species in the eastern United States. They have grayish-brown fur and are the only *Myotis* species whose wing membrane attaches to their ankle instead of the base of the first toe. The gray bat range is limited to the limestone karst areas of the southeastern and central United States.

The gray bat is primarily restricted to limestone cave habitats and will rarely use other habitats. This species has very specific cave requirements; as a result, less than five percent of available caves are utilized. These requirements vary depending on time of year, age, and sex. Summer caves must be warm (55°-77° F), or with restricted rooms that can trap the body heat of roosting bats, and winter caves are very cold with a range in temperature between 42° and 52° F. These caves are deep with vertical walls and act as cold air traps. During transient periods, gray bats may use transient caves that have less restrictive requirements than summer and winter caves. In addition, males and yearling females will use a wider variety of caves and roost sites throughout the year than mature females.

This species will forage some in upland areas but primarily forages over streams and lakes/reservoirs. Summer caves are typically located within 1 mile, rarely over 2 miles, from rivers and reservoirs over which they forage. Gray bats primarily forage on emergent aquatic insects.

Gray bats breed at winter caves during September. Females will store sperm over the winter and become pregnant after emerging in late March. A single offspring is born in late May or early June. Young become volant 20 to 25 days after birth. Reasons for the decline of the gray bat are as follows:

1. Human disturbance of the bats
2. Human disturbance to the environment such as vegetation manipulation in riparian areas and around caves, and road construction across streams
3. Cave destruction from impoundments
4. Cave commercialization, and
5. Natural sources of mortality

Site-Specific Effects

The factors that could affect this species are alteration of unknown cave habitats, loss of prey base due to alteration in the hydrologic and sedimentation regimes of local streams, and the reduction in vegetation.

Recent bat mist net surveys on the district have not detected any threatened or endangered species in the project area. Gray bats were documented in the Piney Creek Drainage approximately 7.5 miles west of the project area. No female bats were captured. Based upon telemetry work and further mist net surveys, these bats were primarily using fields and stream reaches north of Fort Douglas at the time. In addition, their cave is thought to be on private land in Fort Douglas. Gray bat summer caves are typically within a mile, rarely two, of their foraging areas. Due to foraging ranges of this bat, the probability that individuals are foraging in the project area is unlikely. The gray bats' prey base may be affected by the reduction of vegetation which could site-specifically reduce insect abundances. The gray bat will feed in upland areas, but these areas are not their primary foraging habitats. Neither maternity caves nor transient caves were documented during surveys in the project area.

Concern exists that the alteration of currently undiscovered cave habitats could impact the species. The northern half of Pope County is located in the karst region of the state; however, the passing lanes lie within the Atoka geologic formation which is known to contain less than 1% of all known caves within the state. The composition of the Atoka formation, which consists of a sequence of silty sandstones and shales, limits the potential of cave and karst formations to small shelters, bluff cracks and small simple passages less than 10m in length. On 29 October 2013, USFWS and AHTD personnel conducted a site visit of this project as well as several other proposed passing lane segments on Highway 7 in Boone, Pope, and Newton Counties. During the preliminary reconnaissance survey, no evidence of karst features were observed from the existing alignment and the habitat was deemed to be of relatively low quality for the listed species.

Any activity that disturbs the land surface, decreases cover, or alters vegetation can affect water quality. Protection of riparian zones by implementing BMPs is an effective means of conserving aquatic systems. Sedimentation rates and hydrology can be affected by most of the activities proposed in this project. To what extent project activities may have an impact is primarily associated with locations of disturbance, amount of area affected, and intensity. Where these activities could have the greatest impacts are in the riparian zones, steep slopes and on erosive

soils. Sedimentation is a factor to consider due to the effect it may have on the bat's aquatic prey species. Adherence to BMPs should reduce risks of erosion and sedimentation from the highway construction.

Cumulative Effects

The 1.2 miles of highway 7 is also part of the boundary for the High Mountain Project signed in 2012 and initial implementation in 2013. Although these projects have this boundary in common, the High Mountain Project in this area is entirely within the Lower Big Piney Creek watershed while the County Line Passing Lane Project is primarily within the Upper Illinois Bayou watershed. This will reduce the potential for cumulative impacts on water sources.

At this time, AHTD has eight additional projects programmed along the Highway 7 corridor within the known range of the gray bat. Six of these projects are identified passing lanes construction projects and two are identified as bridge replacement projects. Figure 2 details the locations of all currently programmed AHTD construction projects within the Highway 7 corridor between Dover and Harrison (106.17 miles). For the majority of these projects, there are no design plans available; therefore, the total area that will be converted to highway right of way is unknown. Total estimated project lengths equal 14.45 miles.

There are no known tribal, local or other private actions that would occur in the project action area.

Effects Determination

Surveys 7.5 miles from this area have detected the presence of Gray bats that could be using the project area for foraging. BMP guidelines and the location of the project on a ridge-top away from major waterways should help protect water resources. The determination for Gray bats is **MAY AFFECT, NOT LIKELY TO ADVERSELY AFFECT.**

Indiana Bat (*Myotis sodalis*)

Life History/Species and Habitat Description/Distribution

The Indiana bat (Federally Endangered) is a medium-sized bat with a total length of 3 to 4 inches and a wingspan of 9.5 to 10.5 inches. This bat closely resembles the little brown bat (*Myotis lucifugus*) and the northern long-eared bat (*Myotis septentrionalis*). The Indiana bat usually has a distinctly keeled calcar, and hind feet tend to be small with shorter hairs on the toes that do not extend beyond the toenails. Their fur exhibits a faint three-colored pattern when parted, the basal brownish black which spans 2/3 of the fur is followed by a narrow grayish band and a cinnamon brown tip. The fur of the belly and chest on an Indiana bat is lighter than the flat pinkish-brown fur of the back, but this character is not as distinct for the Indiana bat as the little brown bat and northern long-eared bat. Also, the Indiana bat has a smaller sagittal crest and tends to have a smaller, lower, and narrower braincase than the little brown bat. The Indiana bat is found throughout the eastern half of the United States.

Indiana bats hibernate in caves and mines during the winter. These sites tend to have temperatures between 39° and 46° F and relative humidity above 74% and below saturation. The Indiana bat has been documented using sites other than caves and mines (e.g. hydroelectric dam), but these sites have favorable microclimates.

Summer habitats for Indiana bats are floodplains, and riparian and upland forest with trees that have ex-foliating bark for roosting. This bat will also use old fields and pastures with scattered trees for foraging habitats. Some tree species the Indiana bat will use for roosting are American beech (*Fagus grandifolia*), black gum (*Nyssa sylvatica*), black locust (*Robinia pseudo-acacia*), elm (*Ulmus* spp.), hickory (*Carya* spp.), maple (*Acer* spp.), pine (*Pinus* spp.), oak (*Quercus* spp.), sassafras (*Sassafras albidum*), sourwood (*Oxydendrum arboreum*), sweet birch (*Betula lenta*), and yellow buckeye (*Aesculus octandra*). Most of these tree species have the proper characteristics for roost sites after they are dead or dying, but species such as shagbark hickory and white oak are used while they are still living. Romme, et al. (1995) found that **maternity** roost sites were usually located in areas with 60 to 80% canopy cover. Indiana bats will also utilize roosts where the canopy closure is higher than 80% when temperatures are above normal or during periods of precipitation.

Indiana bats forage in and around the forest tree canopy for aquatic and terrestrial flying insects. Some of these insects are moths (Lepidoptera), caddisflies (Trichoptera), stoneflies (Plecoptera), beetles (Coleoptera), flies (Diptera), leafhoppers and treehoppers (Homoptera), and lacewings (Neuroptera). Foraging heights are usually from 6 to 100 feet above ground level. Also, canopy closure for foraging habitat has been found to range from 30% to 100% in floodplain habitats. Indiana bats begin to swarm in August-September, and breeding usually occurs in the latter half of this time period. After mating, females will enter directly into hibernation and store sperm over the winter. Females become pregnant after emerging the following spring. Indiana bats typically form maternity colonies with 100 or fewer adult bats. Young are born in late June or early July, and become volant within a month after birth.

Possible reasons for the decline of the Indiana bat are:

1. Human disturbance and vandalism of hibernacula caves
2. Improper cave gates and structures
3. Natural hazards such as cave collapsing or flooding
4. Changes in cave microclimates
5. Changes in land use practices (e.g. fire suppression and an increase in density of forest surrounding hibernacula caves), and
6. Chemical contamination.

Site-Specific Effects

Indiana bats have not been documented in the project area. Over 330 mist net nights have been conducted in the last three years in the southern part of the district. Some terrestrial surveys were conducted in the project area. Investigations did not find any caves or T&E bat species. No maternity colonies have been found on the Forest. The closest Indiana bat hibernaculum is approximately 11 air-miles away. The known hibernaculum should not be affected. The primary concerns for this species are effects on potential summertime habitat, e.g., loss of prey base due to factors such as alteration in the hydrologic and sedimentation regimes of local streams and a reduction in vegetation, as well as direct effects from felling trees and alteration of currently undiscovered cave habitats.

Indiana bats are not restricted to cave habitats for roosting. Indiana bats usually roost under loose tree bark, such as shagbark hickory, and in tree hollows during March through November. If an unknown population exists in the project area, it is possible that cutting and felling trees could affect individuals. This species, during the active months, are highly mobile and are likely to fly and escape any danger, except non volant young. No maternity colonies have been discovered in Arkansas so the probability of this happening is remote. This species utilizes forest habitats that have canopy closure 30% or greater for foraging, and highway expansion will reduce the canopy closure below this 30%. These activities will affect approximately 19 to 51 acres (depending on varying right of way widths). Species could utilize these areas as travel and foraging corridors as the proposed activities would maintain these open habitats in the project area over time. Indiana bat's forage may temporarily be affected locally by the reduction in prey base due to a decrease in the vegetation. Roost tree species like white oak and shagbark hickory will persist in adjacent stands. Roost trees should not become a limiting factor in the general area.

See the Gray bat Site Specific Effects section for a discussion on sedimentation.

Vegetation management in the adjacent High Mountain project area in conjunction with the highway passing lane project could potentially cause a short-term disruption to bats that may be roosting in the area; however, the resulting diversity of canopy coverage and vegetative response may create a landscape with higher potential for attracting Indiana bat usage.

Cumulative Effects

See the Gray bat Cumulative Effects section for a discussion on cumulative effects.

Effects Determination

Indiana bats have not been documented in the vicinity of the project area but the area is considered potential habitat for the species. Some habitat alteration will occur; therefore, the determination for Indiana bat is **MAY AFFECT, NOT LIKELY TO ADVERSELY AFFECT.**

Northern Long-eared Bat (*Myotis septentrionalis*)

Life History/Species and Habitat Description/Distribution

The northern long-eared bat (Proposed Endangered) is a medium-sized bat species, with females tending to be slightly larger than males. Average body length ranges from 3.0 to 3.7 inches and wingspread between 8.9 to 10.2 inches. Fur colors include medium to dark brown on its back, dark brown, but not black, ears and wing membranes, and tawny to pale-brown fur on the stomach and chest. As indicated by its common name, the northern long-eared bat is distinguished from other *Myotis* species by its long ears (average 0.7 in) that, when laid forward, extend beyond the nose.

The northern long-eared bat ranges across much of the eastern and north central United States, and all Canadian provinces. In the United States, the species' range reaches from Maine west to Montana, south to eastern Kansas, eastern Oklahoma, Arkansas, and east to the Florida panhandle. Northern long-eared bats are known from 20 hibernacula in Arkansas, although they are typically found in very low numbers (Sasse 2012, unpublished data).

Northern long-eared bats predominantly overwinter in hibernacula that include caves and abandoned mines. Hibernacula used by northern long-eared bats are typically large, with large passages and entrances, relatively constant, cooler temperatures (32 to 48 °F), and with high humidity and no air currents. Northern long-eared bats are typically found roosting in small crevices or cracks in cave or mine walls or ceilings. Northern long-eared bats arrive at hibernacula in August or September, enter hibernation in October and November, and leave the hibernacula in March. Northern long-eared bats have shown a high degree of philopatry (using the same site multiple years) for a hibernaculum, although they may not return to the same hibernaculum in successive years.

During the summer, northern long-eared bats typically roost singly or in colonies underneath bark or in cavities or crevices of both live trees and snags. Northern long-eared bats have also been observed roosting in colonies in humanmade structures, such as buildings, barns, a park pavilion, sheds, cabins, under eaves of buildings, behind window shutters, and in bat houses. The northern long-eared bat appears to be somewhat opportunistic in tree roost selection, selecting varying roost tree species and types of roosts throughout its range, including tree species such as black oak (*Quercus velutina*), northern red oak (*Quercus rubra*), silver maple (*Acer saccharinum*), black locust (*Robinia pseudoacacia*), American beech (*Fagus grandifolia*), sugar maple (*Acer saccharum*), sourwood (*Oxydendrum arboreum*), and shortleaf pine (*Pinus echinata*). Northern long-eared bats most likely are not dependent on a certain species of trees for roosts throughout their range; rather, certain tree species will form suitable cavities or retain bark and the bats will use them opportunistically. In tree roosts, northern long-eared bats are typically found beneath loose bark or within cavities and have been found to use both exfoliating bark and crevices to a similar degree for summer roosting habitat. Females tend to roost in more open areas than males, likely due to the increased solar radiation, which aids pup development. Fewer trees surrounding maternity roosts may also benefit juvenile bats that are starting to learn to fly.

Northern long-eared bats switch roosts often, typically every 2–3 days. The northern long-eared bat is comparable to the Indiana bat in terms of summer roost selection, but appears to be more

opportunistic. Indiana bats typically roosted in snags with exfoliating bark and low canopy cover, whereas northern long-eared bats used the same habitat in addition to live trees, shorter trees, and trees with higher canopy cover.

Breeding occurs from late July to early October and commences when males begin to swarm hibernacula. Hibernating females store sperm until spring, exhibiting a delayed fertilization strategy in which ovulation takes place at the time of emergence from the hibernaculum, followed by fertilization of a single egg, resulting in a single embryo. Gestation is approximately 60 days. Maternity colonies, consisting of females and young, are generally small, numbering from about 30 to 60 individuals. The young are born in late May or early June, but may be born as late as July.

The northern long-eared bat has a diverse diet including moths, flies, leafhoppers, caddisflies, and beetles. The most common insects found in the diets of northern long-eared bats are moths and beetles with spiders also being a common prey item. Foraging techniques include hawking (catching insects in flight) and gleaning in conjunction with passive acoustic cues. Most hunting occurs above the understory, 3 to 10 ft. above the ground, but under the canopy on forested hillsides and ridges, rather than along riparian areas. Occasional foraging also takes place over forest clearings and water, and along roads.

White Nose Syndrome (WNS) is listed as the most significant threat to the northern long-eared bat. With the USFWS stating in a recent 12 month finding that WNS alone is responsible for the dramatic and rapid population level declines.

Site Specific Effects

Given the similarities in habitat preferences etc., site specific effects should be similar to those discussed for the Indiana bat.

Cumulative Effects

See the Gray bat Cumulative Effects section for a discussion on cumulative effects.

Effects Determination

It is unknown if northern long-eared bats have been documented in the vicinity of the project area but the area is considered potential habitat for the species, and it is assumed that the species could occur there. Some habitat alteration will occur; therefore, the determination for northern long-eared bat is **MAY AFFECT, NOT LIKELY TO ADVERSELY AFFECT.**

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APPENDIX D

U.S. Fish and Wildlife Service Clearance



IN REPLY REFER TO:

United States Department of the Interior

FISH AND WILDLIFE SERVICE
110 S. Amity Road, Suite 300
Conway, Arkansas 72032
Tel.: 501/513-4470 Fax: 501/513-4480



March 18, 2013

Mr. Jimmie L. Dixon
Acting District Ranger
Hwy. 7 North
P.O. Box 427
Jasper, AR 72641

Re: Biological Evaluation for AHTD Job Number 80464, Hwy. 7 passing lane construction near Pelsor, Arkansas (Pope County).

Dear Mr. Dixon,

This letter provides U.S. Fish and Wildlife Service (Service) comments concerning the above referenced biological evaluation (BE) dated March 7, 2013. Our comments are submitted in accordance with the Fish and Wildlife Coordination Act (16 U.S.C. 661-667e) and the Endangered Species Act of 1973 (87 stat. 884, as amended; 16 U.S.C. 1531 et seq.).

The BE analyzes proposed passing lanes (1.2 miles in length) on Scenic Highway 7 located in Pope County just south of Pelsor, Arkansas. The improvements to Highway 7 include the addition of passing lanes and roadway realignment to improve safety. Proposed improvements for Highway 7 would generally consist of the construction of two 12-foot wide paved travel lanes, with the addition of a 12-foot wide passing lane with six foot shoulders. The existing right-of-way is approximately 130 feet wide with some proposed right-of-ways up to 350 feet to accommodate large cuts and fills required for passing lane construction.

The Service concurs that the project may affect, but is not likely to adversely affect listed species in the area, to include the endangered gray bat (*Myotis grisescens*) and the endangered Indiana bat (*Myotis sodalis*). The Service recommends that U.S. Forest Service personnel also consider the indirect and cumulative effects of other proposed passing lane projects on Highway 7, both on and off Forest Service lands that could affect fish and wildlife resources. Arkansas Highway and Transportation Department (AHTD) projects that will affect Forest Service lands include AHTD job # 80392 (Booger Hollow) passing lanes, AHTD job # 90246 (Lurton) passing lanes, and AHTD job # 90247 (Crossroads) passing lanes. Other AHTD projects proposed for Highway 7 include AHTD job # 90249 (south of Harrison) passing lanes, AHTD job # 80422 (Dover north) passing lanes, AHTD job # 90248 (Hwy. 374 north-south) passing lanes, AHTD job # 90169 (Pruitt) passing lanes, Buffalo River Bridge replacement (Pruitt), Dover Bypass, and Mill Creek Bridge replacement at Marble Falls.

Extensive geotechnical investigations should be conducted on the underlying geology of those sections of the proposed project which will need to be excavated for proposed improvements prior to final project design. Unconsolidated underlying geology could pose a long term slide

risk which could affect Forest Service lands and surrounding wildlife habitat, as well as present a safety risk for Scenic Highway 7 motorists and chronic maintenance issues. Borrow and waste areas should be excluded from floodplains and steep slopes and existing commercial sites should be used when possible.

One alternative to passing lanes on scenic byways is the construction of strategically placed scenic overlooks with deceleration and acceleration lanes that encourage slower drivers to pull off the roadway more frequently to ease roadway congestion. These overlooks should be placed at the top of steeper inclines where log trucks and other slower moving large vehicles will have lost most or all of their momentum, making them much more likely to use the deceleration lanes or turnouts. Such scenic overlooks would address the purpose and need of allowing drivers to safely maneuver around slower traffic while reducing what is usually a much larger project footprint for passing lane jobs and other safety improvements. Scenic overlooks would also serve to enhance the experience of drivers along state scenic byways without increasing speeds, which can be a byproduct of passing lanes. This solution may also serve to avoid adverse effects to public properties and wildlife resources through context sensitive designs that reduce project footprints.

Additionally, numerous species of migratory birds protected under the Migratory Bird Treaty Act are located in the area and may be nesting on culverts or other structures to be replaced. Surveys should be conducted prior to initiation of construction and special consideration given to the times and dates of construction to avoid adverse effects to these species which typically nest in Arkansas from March through September.

Thank you for allowing our agency the opportunity to comment on the proposed project. The Service will continue work with the U.S. Forest Service and other concerned partners to avoid and minimize adverse effects to fish and wildlife resources. For future correspondence on this matter, please contact Mitch Wine of this office at 501-513-4488 or mitch_wine@fws.gov.

Sincerely,



Melvin Tobin
Deputy Project Leader

cc:
Cindy Osborne, Arkansas Natural Heritage Commission
Jennifer Sheehan, Arkansas Game and Fish Commission
Sarah Davis, U.S. Forest Service
Dwayne Rambo, U.S. Forest Service

C:\Documents and Settings\MSW\My Documents\Transportation\Transportation_FY2013\Hwy. 7 Pope County Passing Lanes near Pelsor

APPENDIX E

Farmland Conversion Impact Rating

**FARMLAND CONVERSION IMPACT RATING
FOR CORRIDOR TYPE PROJECTS**

PART I (To be completed by Federal Agency)		3. Date of Land Evaluation Request 2/4/13	4. Sheet 1 of _____
1. Name of Project AHTD Job 080464 Newton Co. Line - South (Passing Lane)		5. Federal Agency Involved FHWA	
2. Type of Project Passing Lane		6. County and State Pope Arkansas	
PART II (To be completed by NRCS)		1. Date Request Received by NRCS	2. Person Completing Form
3. Does the corridor contain prime, unique statewide or local important farmland? (If no, the FPPA does not apply - Do not complete additional parts of this form).		YES NO	4. Acres Irrigated Average Farm Size
5. Major Crop(s)	6. Farmable Land in Government Jurisdiction Acres: %		7. Amount of Farmland As Defined in FPPA Acres: %
8. Name Of Land Evaluation System Used	9. Name of Local Site Assessment System	10. Date Land Evaluation Returned by NRCS	

PART III (To be completed by Federal Agency)	Alternative Corridor For Segment			
	Corridor A	Corridor B	Corridor C	Corridor D
A. Total Acres To Be Converted Directly	8.4			
B. Total Acres To Be Converted Indirectly, Or To Receive Services				
C. Total Acres In Corridor				

PART IV (To be completed by NRCS) Land Evaluation Information				
A. Total Acres Prime And Unique Farmland	1.2			
B. Total Acres Statewide And Local Important Farmland				
C. Percentage Of Farmland In County Or Local Govt. Unit To Be Converted				
D. Percentage Of Farmland In Govt. Jurisdiction With Same Or Higher Relative Value				

PART V (To be completed by NRCS) Land Evaluation Information Criterion Relative value of Farmland to Be Serviced or Converted (Scale of 0 - 100 Points)				
--	--	--	--	--

PART VI (To be completed by Federal Agency) Corridor Assessment Criteria (These criteria are explained in 7 CFR 658.5(c))		Maximum Points			
1. Area in Nonurban Use	15	15			
2. Perimeter in Nonurban Use	10	10			
3. Percent Of Corridor Being Farmed	20	5			
4. Protection Provided By State And Local Government	20	0			
5. Size of Present Farm Unit Compared To Average	10	0			
6. Creation Of Nonfarmable Farmland	25	0			
7. Availability Of Farm Support Services	5	5			
8. On-Farm Investments	20	0			
9. Effects Of Conversion On Farm Support Services	25	0			
10. Compatibility With Existing Agricultural Use	10	0			
TOTAL CORRIDOR ASSESSMENT POINTS	160	35			

PART VII (To be completed by Federal Agency)				
Relative Value Of Farmland (From Part V)	100	100		
Total Corridor Assessment (From Part VI above or a local site assessment)	160	35		
TOTAL POINTS (Total of above 2 lines)	260	135		

1. Corridor Selected: Existing	2. Total Acres of Farmlands to be Converted by Project: 1.2	3. Date Of Selection: 2/4/13	4. Was A Local Site Assessment Used? YES <input type="checkbox"/> NO <input type="checkbox"/>
-----------------------------------	--	---------------------------------	--

5. Reason For Selection:

Signature of Person Completing this Part:



DATE

12/4/13

NOTE: Complete a form for each segment with more than one Alternate Corridor

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APPENDIX F

State Historic Preservation Officer Clearance



The Department of Arkansas Heritage

Mike Beebe
Governor

Cathie Matthews
Director

Arkansas Arts Council

Arkansas Natural Heritage
Commission

Delta Cultural Center

Historic Arkansas Museum

Mosaic Templars
Cultural Center

Old State House Museum



Arkansas Historic Preservation Program

1500 Tower Building
323 Center Street
Little Rock, AR 72201
(501) 324-9880

fax: (501) 324-9184
tdd: (501) 324-9811

e-mail:

info@arkansaspreservation.org

website:

www.arkansaspreservation.com

An Equal Opportunity Employer



October 31, 2011

Mr. Lynn P. Malbrough
Division Head
Environmental Division
Arkansas State Highway and Transportation Department
P.O. Box 2261
Little Rock, Arkansas 72203-2261

RE: Pope County – General
Section 106 Review – FHWA
Report Titled “A Cultural Resources Survey of
AHTD Job Number 080392, Newton County
Line – South (Passing Lanes), Pope County
AHPP Tracking Number 78816

Dear Mr. Malbrough:

My staff has reviewed the referenced cultural resources survey report. We concur with the findings and conclusions presented therein. Specifically, there are no properties in the area of potential effect (APE) that are listed in or eligible for inclusion in the National Register of Historic Places. Therefore, we issue a no historic properties affected finding and have no objection to the proposed undertaking.

Thank you for your interest and concern for the cultural heritage of Arkansas. If you have any questions, please contact George McCluskey of my staff at (501) 324-9880.

Sincerely,

Frances McSwain
Deputy State Historic Preservation Officer

cc: Mr. Randal Looney, Federal Highway Administration
Dr. Richard Allen, Cherokee Nation of Oklahoma
Ms. Lisa Larue, United Keetoowah Band of Cherokee Indians
Dr. Andrea A. Hunter, Osage Nation
Dr. Ann Early, Arkansas Archeological Survey

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DIVISION
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APPENDIX G

Scoping Letters

ARKANSAS STATE HIGHWAY
AND
TRANSPORTATION DEPARTMENT

Scott E. Bennett
Director
Telephone (501) 569-2000
Voice/TTY 711



P.O. Box 2261
Little Rock, Arkansas 72203-2261
Telefax (501) 569-2400
www.arkansashighways.com

June 28, 2012

Property Owner
Street Address
City, State Zip

Re: Job Number 080464
Newton Co. Line-South (Passing Lane)
(Ph. II)
Pope County

Dear Property Owner:

The Arkansas Highway and Transportation Department (AHTD), in cooperation with the Federal Highway Administration (FHWA), is proposing to add a northbound passing lane on Highway 7 in Pope County. The total length of the project is 1.2 miles. A map is enclosed that illustrates the project area.

The proposed improvements consist of two 12-foot wide travel lanes and a 12-foot wide passing lane with a six-foot wide shoulder on the passing lane side and an eight-foot wide shoulder on the opposite side. Existing right of way is approximately 130 feet wide. Proposed right of way widths will vary; in some sections no new right of way or only temporary construction easements will be required, while others, due to the large slopes in the project area, may require total right of way widths of up to approximately 350 feet.

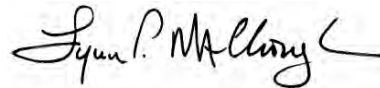
The AHTD will be conducting the environmental analysis in cooperation with the FHWA and the U.S. Forest Service. The opportunity for a public hearing will be offered as part of the National Environmental Policy Act (NEPA) process, although landowners and other interested parties are encouraged to contact the AHTD with any questions or concerns. If you are a landowner along the project and additional right of way will be needed from your property, personnel from the AHTD Right of Way Division will be contacting you when the environmental process and design plans are completed.

The Ozark-St. Francis National Forest, Big Piney Ranger District is a cooperating agency in the environmental process due to the required right of way the project will need from

the National Forest. You will receive a letter from the Big Piney Ranger District concerning this passing lane project and its potential effects on **National Forest land only**. If you have questions or concerns about the portion of this project occurring on National Forest lands, your questions should be directed to Mike Mulford at the Big Piney District Ranger's office in Jasper, AR at (870) 446-5122, ext. 5136.

If you have any questions about the proposed project, please call Susan Staffeld of the AHTD Environmental Division at (501) 569-2611.

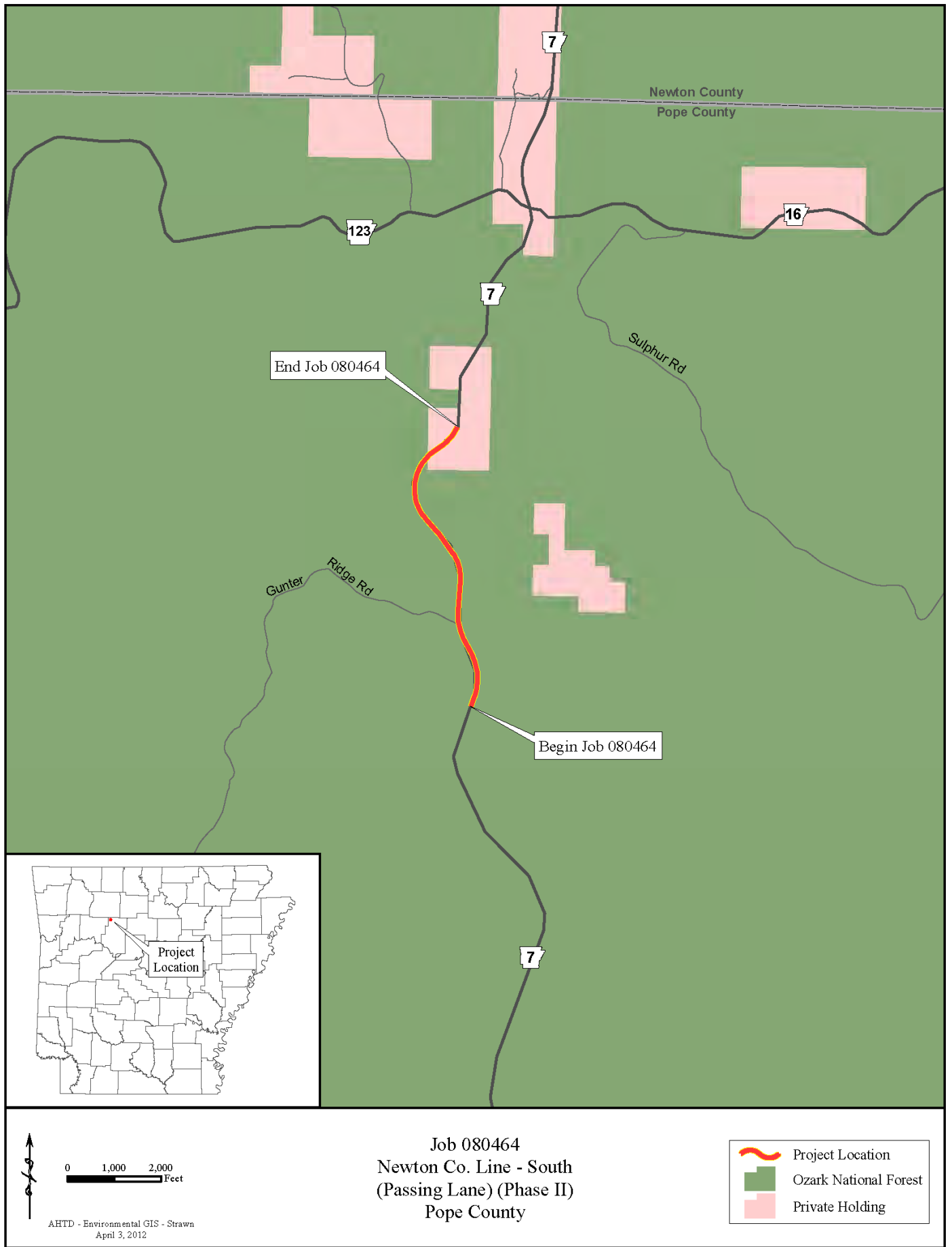
Sincerely,



Lynn P. Malbrough
Division Head
Environmental Division

Enclosure

LPM:SS:fc



File Code: 1950

Date: April 24th, 2013

Dear Friend of the Ozark-St. Francis National Forests,

The Arkansas Highway and Transportation Department (AHTD) is proposing to add a 1.2 mile north bound passing lane on Highway 7 in northern Pope County. Most (90%) of the project is within National Forest lands on the Big Piney Ranger District. At the location of this project, Highway 7 (a state scenic byway) is the western boundary of the Pedestal Rocks Inventoried Roadless Area (IRA). The passing lane project would result in a taking of three acres of the IRA outside the existing State Highway Rights-of-Way. The total additional rights-of-way needed for the entire project (IRA section plus what is needed on the opposite (west) side of the highway) is 6.9 acres. The attached map illustrates the proposed project location. The Federal Highway Administration (FHWA), in cooperation with AHTD and US Forest Service is preparing an environmental assessment (EA) for this project.

The U.S. Forest Service will be the deciding agency which would allow or not allow for an amendment to the AHTD's current right-of-way easement due to the potential effect to National Forest lands.

The proposed improvements consist of widening the existing 10-foot wide travel lanes to 12 feet and adding a 12-foot wide north bound passing lane with a 6-foot wide shoulder on the north bound passing lane side and an 8-foot wide shoulder on the south bound lane, currently the shoulder width is 3 feet. This would result in the right-of-way being expanded by 80 feet to a total of 130 feet.

An Environmental Assessment is being prepared for this project. The Biological Evaluation (BE) was completed on March 6th, 2013, and the US Fish and Wildlife Service concurred with the findings of the BE on March 18th, 2013. A Heritage Resource Survey and Report was completed in September 2011. The State Historic Preservation Office concurred that this project would cause no adverse effects to historical properties on October 31st, 2011.

This letter is directed to people interested in commenting on the National Forest portion of the project only. If you have any questions about the private land portion of the project, please call Susan Staffeld of the AHTD Environmental Division at 501-569-2611.



I would like to hear your project specific comments regarding the activities proposed in this project. I am particularly interested in identifying any extraordinary circumstances that may exist in the project area and/or any activity that when implemented would negatively affect the environment and/or its inhabitants.

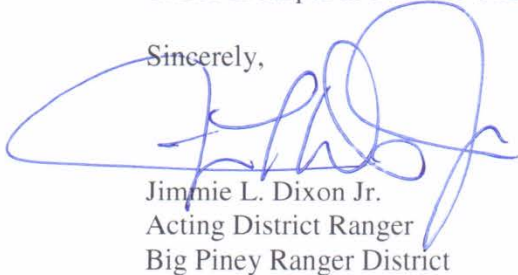
The proposed project is an activity subject to the pre-decisional objection process at 36 CFR 218 Subparts A and B. In order to continue to be informed about this project proposal, you **must** respond to this project initiation letter in one of the ways listed below.

Please address your comments to: Jimmie L. Dixon Jr., Acting District Ranger, Big Piney Ranger District, 12,000 SR Hector, AR 72843 or email your responses to: comments-southern-ozark-stfrancis-bayou@fs.fed.us. This proposal may be viewed on the Ozark-St. Francis National Forest website at the following web address;

<http://www.fs.usda.gov/detail/osfnf/landmanagement/planning/?cid=stelprdb5212222>

In order to proceed in a timely manner, your comments need to be postmarked or received within 30 days starting the day after publication of the legal notice for this project in Russellville's *The Courier*. For additional information contact Mike Mulford at the Big Piney Ranger District Office in Jasper at 870-446-5122 ext. 5136.

Sincerely,

A handwritten signature in blue ink, appearing to read "Jimmie L. Dixon Jr.", is written over the typed name and title.

Jimmie L. Dixon Jr.
Acting District Ranger
Big Piney Ranger District

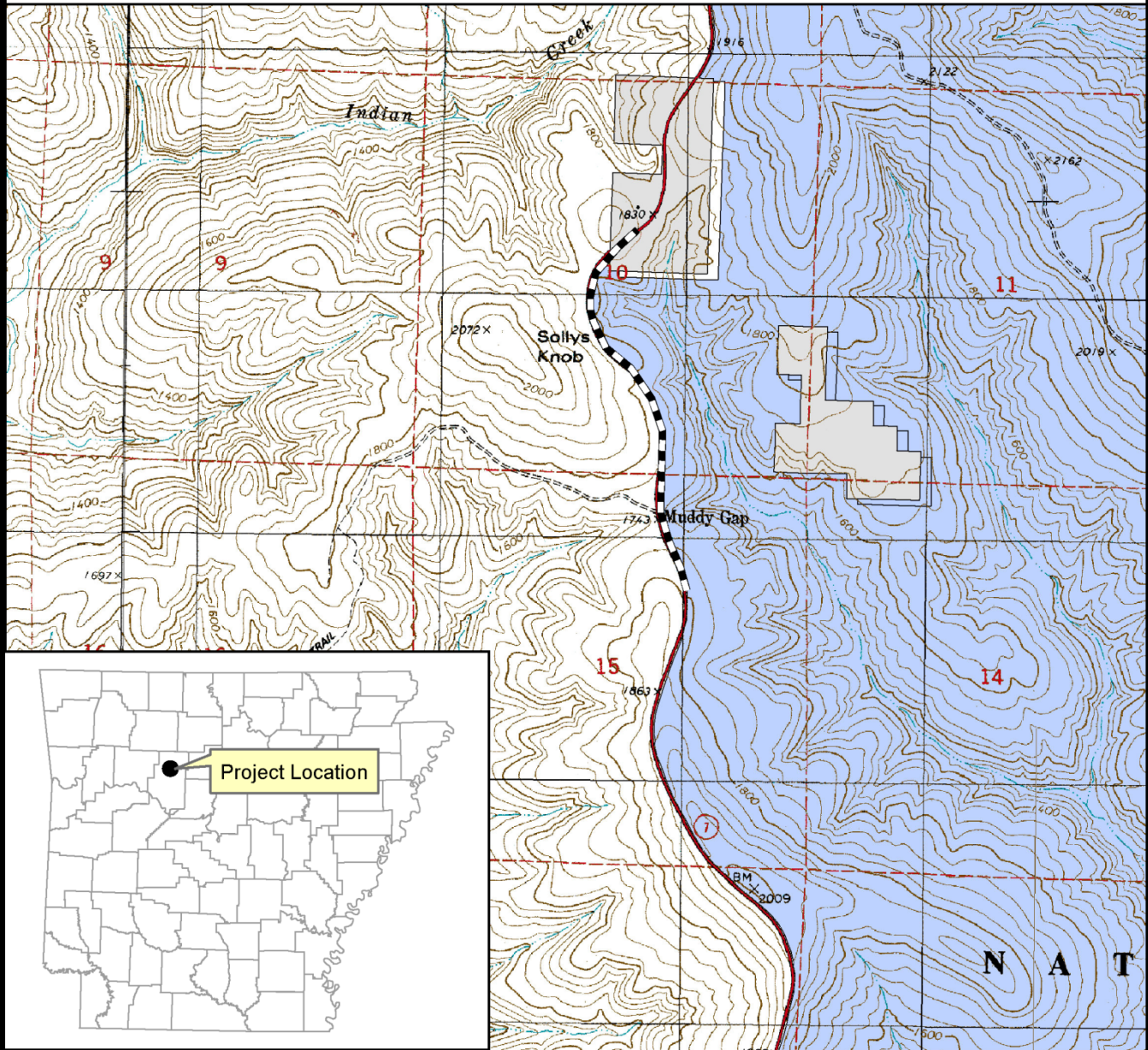
Date: April 24th, 2013



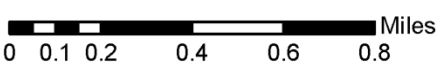
**Arkansas Highway and Transportation Dept.
Rights of Way Special Use (Proposed Amendment)
State Highway 7 Northbound Passing Lane
T 12 N, R 20 W, Sections 10 & 15**



Big Piney Ranger District, Ozark-St. Francis National Forests



- Passing Lane
- Private
- Inventoried Roadless Areas



The Forest Service uses the most current and complete data available. GIS data and product accuracy may vary. They may be developed from sources of differing accuracy, accurate only at certain scales, based on modeling or interpretation, incomplete while being created or revised, etc. Using GIS products for purposes other than those for which they were created, may yield inaccurate or misleading results.

The Forest Service reserves the right to correct, update, modify, or replace GIS products without notification. For more information, contact:
Ozark-St. Francis National Forest, 605 West Main, Russellville, AR 72801-3614, (479) 964-7211

APPENDIX H

U.S. Fish & Wildlife Service Comments and Responses

The U.S. Fish and Wildlife Service (USFWS) was provided a draft Environmental Assessment (EA) for review on February 11, 2014. They responded with the following comments on February 13, 2014. The AHTD responses and any action taken in the EA are included.

DRAFT EA REFERENCE (Purpose and Need)

In 2013, the average daily traffic on Highway 7 in the study area was approximately 1,000 vehicles per day (vpd), with approximately 14% of this volume consisting of truck traffic. Future (2033) traffic on Highway 7 in the study area is forecasted to be approximately 1,200 vpd.

USFWS COMMENT

What kind of large trucks, what were they carrying and what were their destination points? The types of traffic on Hwy. 7 currently can be a guide to what types of traffic will use an improved roadway and help shed light on any potential shift in future traffic composition and demands that could affect both communities and wildlife populations.

AHTD RESPONSE

In 2012, the truck % on this segment of Highway 7 was 16%. Heavy trucks (5-axle tractor-trailers) accounted for 11% of total traffic or 67% of the truck traffic. Three-axle single units accounted for 3% of the total traffic or 16% of the truck traffic. We do not have information on the loads or destinations. However, because of the terrain, it is unlikely that truck traffic would utilize this route unless they are traveling between Russellville (I-40 area) and Harrison (Highways 62 and or 65) or have a destination in between. Because the Ozark National Forest allows logging, and private properties within the area are heavily forested and often logged, previous observations by Department employees have identified log trucks as a significant component of heavy truck traffic. Log trucks may be tractor-trailers with a pole axle, or, entering the area to pick up a load or having delivered a load, may be classified as a 3-axle single unit with the pole axle reversed and placed on the single unit for travel. Fuel tankers also travel this route, as well as other type deliveries. Because vehicle classifications are conducted with automated counters and not direct observation, some recreational vehicles may classify as 3-axle or 4-axle tractor-trailers.

The addition of passing lanes does not alter traffic volumes and/or the composition of traffic. Passing lanes encourage through traffic and do not lead to more development in an area. Passing lanes also encourage traffic to continue traveling at speed. This will be clarified in the purpose and need section of the EA.

DRAFT EA REFERENCE (Purpose and Need)

Because LOS D is considered unacceptable for this type of facility, there is a need to provide improvements to accommodate the current and projected traffic through the study period.

USFWS COMMENT

Portions of Hwy. 7 that will not be altered by passing lanes will still operate at LOS D. Does this mean AHTD plans to alter the rest of the roadway in the future to attain an acceptable LOS for all portions of Hwy. 7? Was LOS calculated by a traffic study, commuter survey or by some other means? Please explain the data used to arrive at this determination in the EA.

AHTD RESPONSE

As indicated in the planning study, the segments identified for the proposed passing lanes are areas where LOS is low and/or safety problems exist and where cost-efficient measures such as passing lanes can be feasibly constructed. This allows AHTD to improve safety and accommodate passenger vehicles and slower moving traffic with less impacts and costs than providing for additional capacity throughout the whole corridor.

A passing lane segment benefits the LOS both upstream and downstream of the actual passing lane by breaking up platoons. This is supported by the Highway Capacity Manual 2010. Additionally, not all segments of Highway 7 have the same grade and/or horizontal curves as this location, resulting in higher and lower LOS results for different segments of the same highway. AHTD does not need to alter all of Highway 7 to see improved traffic flow throughout the corridor.

LOS is calculated using Highway Capacity Manual 2010 software. Variables include traffic volume and peak hour split, % of trucks and RVs, % no-passing zones, grade (level, rolling, mountainous, or specific grade), lane width and shoulder width and a peak hour factor based on rural or urban characteristics. Volume, classification and lane and shoulder widths are from AHTD databases. Percent no-passing zones is determined from the AHTD video van recording of the study segment. This location is considered mountainous due to the posting as “crooked and steep.”

DRAFT EA REFERENCE (Alternatives)

By taking no action other than routine maintenance, the No Action Alternative would not address the existing and forecasted unacceptable levels of traffic operation within this highway corridor. With the No Action Alternative, the LOS would remain at D throughout the 20-year study period, an unacceptable LOS for this type of facility.

USFWS COMMENT

As mentioned earlier, the LOS of many parts of Hwy. 7 will continue to operate at LOS D after construction of the 15 different passing lanes programmed or completed for Highway 7 between Russellville and Harrison. If some portions of Hwy. 7 will be left unimproved, why not avoid USFS and other public lands whenever possible or evaluate other options listed above to minimize project footprint in areas where public land is affected?

AHTD RESPONSE

Passing lanes were identified as the best type of highway improvement that would fit the purpose and need and address traffic delays for this project area. Project planning and development included identification of areas for placement of these facilities that took into account various factors that included, but were not limited to, impacts on both public and private lands.

USFWS COMMENT (Same reference)

Why is the Pedestal Rocks IRA not considered a 4f property since it is designated by the USFS as an IRA? FHWA 4f guidance dictates that: “When applying Section 4(f) to multiple-use public land holdings, FHWA must comply with 23 CFR 774.11(d). Section 4(f) applies only to those portions of a multiple-use public property that are designated by statute or...”

AHTD RESPONSE

The policy paper continues “...as being primarily for public park, recreation, or wildlife and waterfowl refuge purposes, and are determined to be significant for such purposes.” The Inventoried Roadless Areas function as multiple-use public land holdings within the Forest (a broader multiple-use public land holding). The Pedestal Rocks recreation area, which features hiking trails, bathrooms, parking lot, and a picnic area, would qualify for Section 4(f) protection while the IRA as a whole does not. The corridor along Highway 7, on both sides of the highway in this section, is managed as a scenic byway corridor. The policy paper talks specifically about scenic byways that “the reconstruction, rehabilitation, or relocation of a publicly-owned scenic byway would not trigger Section 4(f) unless they are significant historic sites.” This will be clarified in the Section 4(f) section of the EA.

DRAFT EA REFERENCE (Alternatives)

Two alternatives, the No Action Alternative and Build Alternative, were considered for this project. Non-traditional highway improvement alternatives (public transit, pedestrian facilities, bike lanes, etc.) were not evaluated as they would not meet the purpose and need for this project and do not adequately address the identified traffic delays in this setting.

USFWS COMMENT

Scenic overlooks and shoulder widening were suggested in previous management plans and planning studies for Hwy. 7 to improve safety, enhance motorist experience and allow opportunities to pass slower moving vehicles. Why were these not evaluated?

AHTD RESPONSE

Wider shoulders, while offering additional recovery width for vehicles that may veer from the travel lane or a place to remove a disabled vehicle from the travel lane, are not designed as driving lanes. Vehicles moving freight (trucks) are typically through traffic, and their goal is continuous movement. Previous planning studies identified passing lanes as the best solution for the improvements needed in this corridor, as explained in the EA.

DRAFT EA REFERENCE (Impact Assessment)

Neither alternative is likely to have substantial social or community impacts due to the area largely being comprised of USFS lands.

USFWS COMMENT

There could be substantial social and community impacts if the composition of traffic on Hwy. 7 shifts to favor large trucks or if an improved transportation facility induces growth in an otherwise rural area. These types of impacts should be addressed or at least mentioned in the EA.

AHTD RESPONSE

The addition of passing lanes does not alter traffic volumes and/or the composition of traffic. Passing lanes encourage through traffic and do not lead to more development in an area. Passing lanes also encourage traffic to continue traveling at speed.

DRAFT EA REFERENCE (Impact Assessment)

Public Lands Cumulative Impacts section

USFWS COMMENT

This section is written as if cumulative impacts are only going to occur on USFS lands. Cumulative impacts will occur throughout the project area (from Dover to Harrison) as a result of further habitat fragmentation from increased traffic, induced development, noise pollution, water quality degradation, etc. And again, there should be some discussion of the types of truck traffic that currently uses the roadway and how that might increase or change with an improved facility.

AHTD RESPONSE

This section is a sub-heading under the Public Lands impact section, so it only deals with USFS lands. Natural and Visual Environment has its own cumulative impacts sections. The addition of passing lanes does not alter traffic volumes and/or the composition of traffic. Passing lanes encourage through traffic and do not lead to more development in an area. Passing lanes also encourage traffic to continue traveling at speed. Cumulative impacts sections for the Water Quality and Streams sections will be added to the EA.

DRAFT EA REFERENCE (Impact Assessment)

Water Quality Section

USFWS COMMENT

There should be more discussion of how erosion from cuts and fills (and borrow/waste areas) for such projects can adversely affect water quality over time due to natural processes. This should be discussed for this project and cumulatively for all projects on Hwy. 7 and how AHTD plans to minimize the risk of such degradation.

AHTD RESPONSE

Cumulative impacts for the Water Quality and Streams sections will be added to the EA.

DRAFT EA REFERENCE (Impact Assessment)

Any increases in roadway noise levels will not be the result of the proposed project, but instead a result of traffic volume increases during the planning period (Year 2033).

USFWS COMMENT

If large truck volume (and traffic volume in general) is expected to increase on Hwy. 7 as a result of the many planned passing lanes, increases in noise levels would be a direct result of said improvements. Hikers, canoers, communities, and other users of USFS lands and other lands adjacent to Hwy. 7 would be affected as well as wildlife both during and after construction.

AHTD RESPONSE

The addition of passing lanes does not alter traffic volumes and/or the composition of traffic. Passing lanes encourage through traffic and do not lead to more development in an area. Passing lanes also encourage traffic to continue traveling at speed.

DRAFT EA REFERENCE (Safety Analysis)

Based on an analysis of the crash records, 21 of the 24 crashes (88%) reported from 2009 through 2011 were single vehicle crashes. The steep grades, sharp curves, and lack of shoulders with widths meeting current design standards along this two-lane section of Highway 7 have contributed to the high percentage of single-vehicle crashes.

USFWS COMMENT

Why is safety not listed in the purpose and need as a reason for the project on page one? The crash rate for a rural two lane undivided road was listed as 0.81 per mvm for year 2009 in the Dover Bypass EA, yet is listed as 0.79 per mvm in this document for the same year. Is this an inaccuracy and are the other numbers accurate? What were the causes of these crashes? I looked on the Arkansas State Police crash rates synopsis for year 2011 and can't find these specific data so I assume there is another report used?

AHTD RESPONSE

Safety will be added to the purpose and need to fulfill USFS requirements. Crash rate has been corrected and the rest of the numbers checked. Using the crash records provided in the Arkansas State Police (ASP) statewide crash database and the State Highway Inventory, AHTD Traffic Safety Section develops a statewide crash rate for highway types (e.g., two-lane, two-way, undivided rural highways; four-lane, divided, full control of access urban highways; etc.). Study segment crash rates are developed using the length of the study segment, the average annual daily traffic (AADT), the number of days in the year and the crash data in the ASP database to determine the number of crashes on the study segment. Equation is $[(\# \text{ of crashes} \times 1,000,000) / (\text{segment length} \times \text{AADT} \times \# \text{ of days in the year})]$ for a study segment. This is not considered representative for study segments of less than one mile. Crash rates are calculated per million vehicle miles (mvm).

Research has shown that passing or climbing lanes reduce crashes by 25% (Highway Safety Manual 2010, AASHTO and Crash Modification Factor Clearinghouse, FHWA), based on a FHWA study cited in the Highway Safety Manual. The crashes on the study segment of Highway 7 were comprised mainly (88%) of single-vehicle crashes during the study period (2009-2011). The Crash Modification Factor indicates that passing and climbing lanes improve safety related to every type and severity of crash on rural two-lane roads.

DRAFT EA REFERENCE (Impact Analysis)

Safety Analysis Section

USFWS COMMENT

The Table 2 Crash analysis summary indicates that traffic decreased from 1,100 vpd in 2009 to 650 vpd in 2011, a decrease of 41% yet crash rates increased during that time. This would suggest that increased traffic levels actually improve safety on the roadway. This table demonstrates that ADT estimates can vary greatly from year to year on Hwy. 7 making future predictions of traffic flow seemingly problematic.

AHTD RESPONSE

Normal fluctuations in traffic occur on all routes in the state. Traffic volumes are not declining on the route based on historic data. Because we only analyze the most recent three years of crash data, the volumes published for this analysis can be misleading. Traffic counts are provided by the AHTD Systems Information and Research Division, Traffic Information Systems Section. Counts are 48 hour weekday (Monday – Thursday) counts, taken once during the year, averaged and seasonally adjusted (monthly) based on a seasonal adjustment factor derived from the previous year's counts on all similar routes in the state (similar, in this case means the same functional class and same rural or urban classification). A count can be accurate but not as representative as we would like due to any number of influences including participation events, weather, crashes, road conditions (e.g., lane slide), etc.

The District 8 Engineer provided the following information related to Highway 7, as its recreational component does affect traffic counts:

1. There are only a few destinations along the route, and those are tourist destinations, logging operations (when allowed) or residential destinations.
2. Local car and motorcycle clubs will schedule rides without pre-ride publicity. Club members only. Both sports car and motorcycle enthusiasts like to drive the “fun” steep and windy route. If a count is taken during one of these unpublicized events, counts could be uncharacteristically high. For these events, the ride/road is the destination.
3. Mack's Pines (camping, cabins and RV park north of Dover) has dirt bike and ATV trails in the National Forest and holds sponsored events for those riders. As sponsored events, these are not necessarily open to the general public, but may occur any time during the year. AHTD's data collectors would not have advance knowledge of these events.
4. Moccasin Gap Horse Trail in the National Forest has been greatly expanded in recent years.
5. Slides occasionally occur on this route. In 2009 there was a slide near Pelsor that closed one lane. Not sure date or for how long. If we counted not long after it reopened, there could have been a “rush” to run the route from folks who had been waiting because of the slide or fewer vehicles because the travelers might not yet be aware that the road had reopened.
6. Traffic volumes on Highway 7 really do fluctuate day to day, summer is the peak season and we only capture a snapshot.

The purpose and need and environmental analysis do not rely on forecasted ADTs for the subject project.